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CANBERRA.

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OFFICIAL

# YEAR BOOK

OF THE

# COMMONWEALTH OF AUSTRALIA.

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No. 48—1962.

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Prepared under Instructions from  
The Right Honorable the Treasurer

BY

K. M. ARCHER,  
COMMONWEALTH STATISTICIAN.



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## PREFACE.

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By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered, subject to the Constitution, "to make laws for the peace, order, and good government of the Commonwealth, with respect to . . . . . Census and statistics." In the exercise of the power so conferred, a "Census and Statistics Act" was passed in 1905, and in the year following the "Commonwealth Bureau of Census and Statistics" was created. The first Official Year Book was published early in 1908. The publication here presented is the forty-eighth Official Year Book issued under the authority of the Commonwealth Government.

The Synopsis on pp. xi to xxxii following shows the general arrangement of the work. The special index (preceding the General Index) provided at the end of the volume, together with certain references given in the various chapters, will assist in tracing in previous issues special articles and other more or less important miscellaneous matter which, owing to limitations of space, have been omitted or abbreviated in the present volume. Where, in the General Index, more than one reference to a subject is given, the chief reference (or references) has been specially indicated wherever possible.

Among the new matter included and existing matter revised or rearranged in this volume, the following items may be especially mentioned.

Chapter VI.—Manufacturing Industry. Transfer of sections from Chapter XXX.—Miscellaneous—The Standards Association of Australia (pp. 156–7); Industrial Design Council of Australia (p. 157).

Chapter XII.—Labour, Wages and Prices. New section relating to Annual Leave and Long Service Leave (p. 445).

Chapter XIV.—Transport and Communication. Transfer of sections from Chapter XXX.—Miscellaneous—Australian Shipbuilding Board (p. 514); Road Safety Organizations (pp. 553–4). New sections on the Australian Stevedoring Industry Authority (p. 514); International Air Agreements between Australia and other countries (pp. 555–6).

Chapter XV.—Education and Research. The scope of the former Chapter on Education has been widened to include research, and certain sections were transferred from Chapter XXX.—Miscellaneous—Film Censorship Board (p. 626); Australian National Film Board and the Film Division (pp. 627–8); Commonwealth Scientific and Industrial Research Organization (pp. 628–30); Mount Stromlo Observatory (pp. 630–1); Australian Atomic Energy Commission (pp. 631–3).

Chapter XVII.—Public Health. New section giving particulars of Private Hospitals (pp. 694–5).

Chapter XX.—Private Finance. Revised and enlarged section dealing with Instalment Credit for Retail Sales (pp. 809–11); new section relating to Unit Trusts, Land Trusts and Mutual Funds (p. 814).

Chapter XXVII.—Mineral Industry. Special article contributed by the Bureau of Mineral Resources, Geology and Geophysics, dealing with Oil Exploration in Australia (pp. 1094–8).

Chapter XXXI.—Statistical Organization and Sources of Information. Detailed list of publications issued by the Deputy Commonwealth Statistician in each State (pp. 1163–65).

Appendix.—Summarized results of the 1961 Census of Population dealing with the Characteristics of the Population and of Dwellings at 30th June, 1961.

The material in the Year Book has been carefully checked throughout, but I shall be grateful to those who will be kind enough to point out defects or make suggestions.

The statistics contained in the majority of the chapters of this volume relate to the years ended June or December, 1961, and the Appendix contains a selection of the more significant data which have become available since the chapters were prepared. As with previous Year Books, the contents of this issue have already been published in separate Parts as the successive chapters or groups of chapters were printed. More detailed statistics on the subjects dealt with in the Year Book are available in the various annual printed reports issued by this Bureau. (For particulars of Year Book Parts and Annual Statistical Reports see Price List of Publications at the end of this volume.) Official Year Books published by the Deputy Commonwealth Statisticians in New South Wales, Victoria, Queensland and Western Australia provide detailed information for their respective States.

The most recent statistics published by this Bureau are contained in the *Digest of Current Economic Statistics* (monthly), the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics*, and in the other publications issued monthly, quarterly, half-yearly, or yearly, which are listed in § 2, Statistical Publications of Australia, Chapter XXXI.—Statistical Organization and Sources of Information, which contains also a complete list of the publications issued by the Bureau of Census and Statistics in each State.

This Preface is the first since Year Book No. 38, 1951, which has not borne the signature of my immediate predecessor, Mr. S. R. Carver. Except for two periods between 1946 and 1951, Mr. (now Sir Stanley) Carver occupied the position of Commonwealth Statistician, initially in an acting capacity, since 2nd December, 1940. He held office during a period which included years of war and years of post-war readjustment. It was a period of great development in Australian official statistics, and constituted a phase which culminated in the integration of the Commonwealth and State statistical services. This achievement stands as a monument to Sir Stanley Carver, since it was largely through his ceaseless and untiring efforts that what was first thought of only as an ideal was finally realized. Much of the work involved in this development had to be performed with insufficient resources. In consequence, severe strain was imposed on the staff of the Bureau, and on none more than its chief. Throughout this period of strain, in face of continued and urgent demands for more and better statistics, Sir Stanley Carver never compromised with his statistical principles; his insistence that the results of any new statistic should always be in keeping with his own rigorous standards did much to keep those standards alive at a time when any relaxing of them would have had the most adverse effects for years to come. To Sir Stanley the integrity of statistics was his lode-star, and although he has now gone from the Bureau, his presence will remain in the precepts he inculcated.

My thanks are tendered to the Statisticians in each State, who have collected and compiled the data on which a great part of the information given in the Official Year Book is based. Thanks are also tendered to the responsible officers of the various Commonwealth and State Departments, and to others who have kindly, and often at considerable trouble, supplied information.

I also desire to express my keen appreciation of the valuable work performed by Mr. J. M. Jones, B.A., Editor of Publications, Mr. E. H. Harry, B.A., B.Com., Mr. W. H. D. Morris, B.Com. and Mr. J. L. Melhuish, B.A., Assistant Editors, and the other officers of the Publications Division, and of the services rendered by the officers in charge of the several Branches of the Commonwealth Bureau of Census and Statistics upon whom has devolved the duty of revising the chapters relative to their respective Branches, and by the Government Printer and his staff in printing this Year Book and in assisting and advising throughout its preparation.

K. M. ARCHER,  
Commonwealth Statistician.

COMMONWEALTH BUREAU OF CENSUS AND STATISTICS,  
Canberra, A.C.T., October, 1962.

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## GENERAL INDEX (p. 1256).

## CORRIGENDA.

(i) See Appendix, p. 1216 (Commonwealth Parliaments and Elections, p. 66), p. 1218 (Growth of Population, p. 287, and Mean Population, p. 292), and p. 1243 (State Government Expenditure on Education, Science and Art, p. 634).

(ii) P. 851.—Total Revenue (£'000)—1959–60, Tasmania, should read 25,099.

P. 859.—Surplus Revenue per Head of Population—1959–60, should read Victoria 2s. 5d.; Queensland — 2s. 2d.; 1960–61, should read Victoria 1s. 3d., Queensland — 8s. 2d.

**OFFICIAL YEAR BOOK**  
OF THE  
**COMMONWEALTH OF AUSTRALIA.**

**CHAPTER I.**

**DISCOVERY, COLONIZATION AND FEDERATION OF AUSTRALIA.**

**§ 1. Early Knowledge and Discovery of Australia.**

1. **Introduction.**—The following paragraphs contain only a bare outline of the more important facts relating to the early history of Australian discovery. A more detailed summary of these facts may be found in Official Year Book No. 39 (see p. 1) and earlier issues.

2. **Terra Australis.**—There was, apparently, an early Chaldean tradition as to the existence of an Austral land to the south of India and rumours to that effect found their way in the course of time to Europe. References to this *Terra Australis* are found in the works of Ælianus (A.D. 205–234), Manilius (probably a contemporary of Augustus or Tiberius Caesar), and Ptolemy (A.D. 107–161). Evidence pointing to knowledge of such a land appeared in maps and manuscripts of the Middle Ages and the fourteenth and fifteenth centuries but there is no definite evidence connecting this so-called *Terra Australis* with Australia.

Reference by Marco Polo (1254–1324) to a land called Locac and several indications on maps and globes in the fifteenth and sixteenth centuries have been assumed to relate to Australia, but little weight can now be attached to these suppositions. Cornelius Wytfliet's map of 1597, however, indicates roughly the eastern and western coasts of Australia, as well as the Gulf of Carpentaria, although the oft-quoted passage in his *Descriptionis Ptolemaicae Augmentum* describing the *Australis Terra* has been considered to have had its origin in the voyages through the Straits of Magellan and the discovery of Tierra del Fuego rather than that of Australia.

3. **Discovery of Australia.**—(i) *The Spaniards.* Disregarding the suggestion, for which there is no evidence, that the Arabs had come to Australia long before the Portuguese, the Spaniards, or the Dutch, and apart from the possibility that the Portuguese may have discovered part of the Australian coast before 1542, the coastal exploration of Australia may be taken as having begun with the Spaniards and the Dutch.

In 1606, the Spaniard Quiros, on reaching the island that has retained the name of *Espiritu Santo* (the largest island of the New Hebrides group), thought he had discovered the great land of the south, and therefore named the group *La Australia del Espiritu Santo*. After leaving the New Hebrides, Quiros sailed eastward, but Torres, his second-in-command, took a westerly course and passed through the strait that now bears his name. In all probability, he sighted the Australian continent, but no mention of it is made in his records. This voyage marks the close of Spanish activity in the work of discovery in the South Seas.

(ii) *The Dutch.* The Dutch discovered Australia when the Dutch East India Company sent the *Duyfken* from Bantam, Java, to explore the islands of New Guinea. During March, 1606, the *Duyfken* coasted along the southern shores of New Guinea and followed the west coast of Cape York peninsula as far as Cape Keer-Weer (Turn Again).

During the following thirty years, there were nine visits of Dutch navigators to Australian waters; by 1636, through their efforts, the coast of Australia from Cape York westward around to the Great Australian Bight had been discovered.

In 1642, Abel Janszoon Tasman set out from Batavia to ascertain the extent of the great southern continent. He named Van Diemen's Land, imagining it to be part of Australia proper, and sailing north-easterly discovered New Zealand and returned to Batavia. In his second voyage, in 1644, Tasman visited the northern coast of Australia, sailing round the Gulf of Carpentaria and along the north-west coast as far south as the tropic of Capricorn. This voyage of Tasman's may be said to have ended the period of Dutch discoveries, although there were subsequent visits by the Dutch to Australia (de Vlamingh in 1696 and Van Delft in 1705).



4. Discoveries by the English.—In the meantime, the English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier, as supercargo of the *Cygnets*, a trading vessel whose crew had turned buccaneers. In 1699, he again visited Australia, in command of H.M.S. *Roebuck*, and on his return to England published an account in which a description is given of trees, flowers, birds and reptiles observed, and of encounters with natives.

At the end of the seventeenth century, it was uncertain whether Tasmania and New Zealand were parts of Australia or whether they were separated from it but themselves formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though primarily undertaken for the purpose of observing the transit of Venus from Tahiti, had also the objective of ascertaining whether the unexplored part of the southern hemisphere was only an immense mass of water or contained another continent. In command of H.M.S. *Endeavour*, a barque of 370 tons burden carrying about 85 persons, and accompanied by Sir Joseph Banks the botanist, Dr. Solander the naturalist, Green the astronomer, draughtsmen and servants, Cook, after observing the transit of Venus at Tahiti, turned toward New Zealand, sighting that land on 7th October, 1769, in the neighbourhood of Poverty Bay. Circumnavigating the North and South Islands, he proved that New Zealand was connected neither with the supposed Antarctic Continent nor with Australia, and took formal possession thereof in the name of the British Crown. On 20th April, 1770, at 6 a.m., Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who first saw it. Coasting northwards, Botany Bay was discovered on 29th April, 1770. The *Endeavour* dropped anchor and Cook landed on the same day. Cook sailed along the coast in a northerly direction for nearly 1,300 miles until 11th June, 1770, when the *Endeavour* was seriously damaged by striking a coral reef in the vicinity of Trinity Bay. Repairs occupied nearly two months and the *Endeavour* then again set her course to the north, sailing through Torres Strait and anchoring in the Downs on 13th July, 1771. In 1772, Cook was put in command of the ships *Resolution* and *Adventure*, with a view to ascertaining whether a great southern continent existed. Having satisfied himself that, even if it did, it lay so far to the south as to be useless for trade and settlement, he returned to England in 1774. Cook's last voyage was undertaken in 1776, and he met his death on 14th February, 1779, by which date practically the whole coast of Australia had been explored. The only remaining discovery of importance was the existence of a channel between Tasmania and Australia. This was made by Bass and Flinders in 1798.

## § 2. The Annexation of Australia.

1. Annexation of the Eastern Part of Australia, 1770.—Although representatives of the nations mentioned in the previous section landed or claimed to have landed on the shores of Australia on various occasions during the sixteenth and seventeenth centuries, it was not until 23rd August, 1770, that the history of Australia was brought into definite political connexion with Western civilization. It was on that date that Captain Cook took possession "of the whole eastern coast, from latitude 38° S. to this place, latitude 10½° S., in right of His Majesty King George the Third". Cook, however, proclaimed British sovereignty over only what are now the eastern parts of New South Wales and Queensland, and formal possession, on behalf of the British Crown, of the whole of the eastern part of the Australian continent and Tasmania was not taken until 26th January, 1788. It was on this last date that Captain Phillip's commission, first issued to him on 12th October, 1786, and amplified on 2nd April, 1787, was read to the people whom he had brought with him in the "First Fleet".

A full historical account of the period referred to may be found in the *Historical Records of New South Wales*, Vol. I., parts 1 and 2.

2. Original Extent of New South Wales.—The commission appointed Phillip "Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south, and of all the country inland westward as far as the one hundred and thirty-fifth degree of east longitude reckoning from the meridian of Greenwich, including all the islands adjacent in the Pacific Ocean within the latitudes aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south".

Although Captain Cook had taken possession of the North Island of New Zealand in November, 1769, and of the South Island in January, 1770, it is doubtful whether, at the time when Captain Phillip's commission was drawn up, New Zealand was considered as one of the "islands adjacent in the Pacific Ocean". The fact that under the Supreme Court Act (Imperial) of 1823 British residents in New Zealand were brought under the

jurisdiction of the Court at Sydney, and that in 1839 there was a proposal on the part of the British Government to appoint a consul in New Zealand, would leave this an open question, as nothing more than extra-territorial jurisdiction may have been intended. Various hoistings of flags notwithstanding, New Zealand does not appear to have become British territory unequivocally until 1840. In that year, on 29th January, Captain Hobson arrived at the Bay of Islands. On the following day, he read the commission, which extended the boundaries of the Colony of New South Wales so as to embrace and comprehend the islands of New Zealand. On 5th February, the Treaty of Waitangi, made with the native chiefs, was signed. Finally, on 21st May, British sovereignty over the islands of New Zealand was explicitly proclaimed.

3. *Extension of New South Wales Westward, 1825.*—On 17th February, 1824, Earl Bathurst notified Sir Thomas Brisbane that he had recommended to His Majesty the dispatch of a ship of war to the north-west coast of New Holland for the purpose of taking possession of the coast between the western coast of Bathurst Island and the eastern side of Coburg Peninsula. Captain James J. Gordon Bremer of H.M.S. *Tamar*, who was selected for the purpose, took possession on 20th September, 1824, of the coast from the 135th to the 129th degree of east longitude. On 16th July, 1825, the whole territory between those boundaries was described in Darling's commission as being within the boundaries of New South Wales, thus increasing its area by 518,134 square miles, and making it, including New Zealand and excluding Tasmania, 2,076,308 square miles, or also excluding New Zealand, 1,972,446 square miles.

4. *Annexation of Western Australia, 1827.*—An expedition under Major Lockyer, sent by Lieutenant-General Sir Ralph Darling, then Governor of New South Wales, to found a settlement at King George Sound, sailed from Sydney on 9th November, 1826, landed at the Sound on 26th December following, and on 21st January, 1827, hoisted the British flag. Captain Stirling, in command of H.M.S. *Success*, arrived at Sydney a few weeks after the departure of the expedition to King George Sound. He obtained the Governor's permission to visit Swan River with a view to seizing a position on the western coast and reporting upon its suitability as a place of settlement. Captain Stirling left Sydney on 17th January, 1827, and on his return in the following April submitted a glowing report on what he described as a "rich and romantic country", urging its occupation for the purpose of settlement. He left for England in July, 1827, continuing his advocacy— notwithstanding much discouragement—with unabated enthusiasm. He was at last successful, the result being mainly due to the formation of an association of prospective settlers having capital at their disposal. He was appointed Lieutenant-Governor and with a party of settlers arrived at Garden Island, near the Swan River, in the ship *Parmelia* in June, 1829. On the 2nd of the preceding month, Captain Fremantle, in command of H.M.S. *Challenge*, arrived and hoisted the British flag on the south head of Swan River, again asserting possession of "all that part of New Holland which is not included within the territory of New South Wales". Thus, before the middle of 1829, the whole territory now known as the Commonwealth of Australia had been constituted a dependency of the United Kingdom.

### § 3. The Exploration of Australia.

A summary of the more important facts relating to the exploration of Australia was embodied in this Chapter in issues of the Official Year Book up to and including No. 22.

### § 4. The Creation of the Several Colonies.

1. *New South Wales.*—In Governor Phillip's commission of 1786, the mainland of Australia was divided by the 135th meridian of east longitude into two parts. The earliest colonists believed that the present State of Tasmania was actually joined to the mainland, and it was not until 1798 that the contrary was known. In that year, Bass and Flinders proved that it was an island by sailing through Bass Strait. The territory of New South Wales, as originally constituted, and of New Zealand, which may be included although Cook's annexation was not properly given effect to until 1840, consisted of 1,584,389 square miles. A further area of 518,134 square miles was added in 1825, when the western boundary was extended to the 129th east meridian. The territory was subsequently reduced by the separation of various areas to form the other colonies, and at the time of the establishment of the Commonwealth the area of New South Wales was 310,372 square miles.

Lord Howe Island, which is a dependency of New South Wales and for political purposes is included in one of the electorates of Sydney, is situated in latitude 31° 30' south, longitude 159° 5' east, about 436 miles north-east of Sydney, and has an area of

3,220 acres. The climate is mild and the rainfall abundant, but on account of the rocky formation of its surface only about 300 acres are suitable for cultivation, most of which are devoted to the production of *Kentia* palm seed. The land belongs to the Crown and is occupied rent-free on sufferance. Discovered in 1788, the Island was first settled by a small party of Maoris in 1853; afterwards a colony was settled from Sydney. A Board of Control at Sydney manages the affairs of the Island and supervises the palm seed industry. The population was 249 at the Census of 30th June, 1961.

2. **Tasmania.**—In 1825, Van Diemen's Land, as Tasmania was then called, was politically separated from New South Wales, being constituted a separate colony on 14th June of that year. The area of the colony was 26,215 square miles.

Macquarie Island, about 1,000 miles south-east of Hobart, together with a few rocky islets nearby, has been a dependency of Tasmania since the nineteenth century. In December, 1911, five members of the Australian National Antarctic Expedition landed on the island and remained there until 1915. On 3rd March, 1948, another party was landed to man a new station and this has since been maintained as a scientific base. The island is about 21 miles long and two miles wide.

3. **Western Australia.**—The territory westward of the 129th meridian, comprising 975,920 square miles, was constituted a colony under the name of Western Australia in June, 1829. It was always distinct and independent of New South Wales, except for the settlement on King George Sound (*see* p. 3), which remained under the jurisdiction of New South Wales until 1831.

4. **South Australia.**—On 15th August, 1834, the Act 4 and 5 William IV., cap. 95, was passed, creating South Australia a "province", and settlement took place towards the end of the year 1836. The first Governor, Captain Hindmarsh, R.N., arrived at Holdfast Bay on 28th December, 1836, and on the same day the new colony was officially proclaimed. The new colony embraced 309,850 square miles of territory, lying south of the 26th parallel of south latitude and between the 141st and 132nd meridians of east longitude. On 10th December, 1861, by authority of the Imperial Act 24 and 25 Vict., cap. 44, the western boundary of South Australia was extended to coincide with the eastern boundary of Western Australia, namely, the 129th east meridian. The area of the extension was approximately 70,220 square miles. Nearly two years later, on 6th July, 1863, the Northern Territory, comprising 523,620 square miles, was brought under the jurisdiction of South Australia, which thereupon controlled an area of 903,690 square miles.

5. **New Zealand.**—New Zealand, nominally annexed by Captain Cook and formally declared by proclamation in 1840 as a dependency of New South Wales, by letters patent of 16th November of that year was constituted a separate colony under the powers of the Act 3 and 4 Vict., cap. 62, of 7th August, 1840. Proclamation of the separation was made on 3rd May, 1841. The area of the colony was 103,862 square miles.

6. **Victoria.**—In 1851, what was known as the "Port Phillip District" of New South Wales was constituted the colony of Victoria, "bounded on the north and north-west by a straight line drawn from Cape Howe to the nearest source of the River Murray and thence by the course of that river to the eastern boundary of the colony of South Australia". The area of the new colony was 87,884 square miles, and its separate existence took effect from 1st July, 1851, upon the issuing of the writs for the first election of elective members of the Legislative Council.

7. **Queensland.**—The northern squatting districts of Moreton, Darling Downs, Burnett, Wide Bay, Maranoa, Leichhardt and Port Curtis, together with the reputed county of Stanley, were granted an independent administration and formed into a distinct colony under the name of Queensland by letters patent dated 6th June, 1859, although separation from New South Wales was not completed until 10th December of the same year, upon the assumption of office of the first Governor. The territory comprised in the new colony was "so much of the colony of New South Wales as lies northwards of a line commencing on the sea-coast at Point Danger in latitude about 28° 8' south, running westward along the Macpherson and Dividing Ranges and the Dumaresq River to the MacIntyre River, thence downward to the 29th parallel of south latitude, and following that parallel westerly to the 141st meridian of east longitude, which is the eastern boundary of South Australia, together with all the adjacent islands, their members, and appurtenances in the Pacific Ocean". The area of the colony thus constituted was 554,300 square miles. By letters patent dated 13th March, 1861, forwarded by the Colonial Secretary to the Governor of Queensland on 12th April, 1862, the area of Queensland was increased by the annexation of "so much of the colony of New South Wales as lies to the northward of the 26th parallel

of south latitude, and between the 141st and 138th meridians of east longitude, together with all and every the adjacent islands, their members, and appurtenances, in the Gulf of Carpentaria." With this addition, the area of Queensland became 670,500 square miles. Following a thorough revision of the area of each Local Government Area of Queensland, based on the most recent maps available, the Surveyor-General, in 1958, determined the area of Queensland as 667,000 square miles—a reduction of 3,500 square miles from the area previously determined.

### § 5. The Establishment of the Commonwealth of Australia.

1. **General.**—On 1st January, 1901, the colonies mentioned, with the exception of New Zealand, were federated under the name of the "Commonwealth of Australia," the designation of "Colonies"—except in the case of the Northern Territory, to which the designation "Territory" is applied—being at the same time changed to that of "States".

2. **Transfer of the Northern Territory to the Commonwealth.**—On 7th December, 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under The Northern Territory Surrender Act 1907 (assented to on 14th May, 1908) and by the Commonwealth Parliament under the Northern Territory Acceptance Act 1910 (assented to on 16th November, 1910). The Territory was formally transferred to the Commonwealth on 1st January, 1911, and became the Northern Territory of Australia.

By Imperial Order in Council, dated 23rd July, 1931, Ashmore Islands, known as Middle, East and West Islands, and Cartier Island, situated in the Indian Ocean off the north-west coast of Australia, were placed under the authority of the Commonwealth. The islands were accepted by the Commonwealth in the Ashmore and Cartier Islands Acceptance Act 1933, under the name of the Territory of Ashmore and Cartier Islands, on 10th May, 1934. The Act authorized the Governor of Western Australia to make ordinances having the force of law in and in relation to the Territory. An amendment to the Act in July, 1938, annexed the islands to the Northern Territory, whose laws, ordinances and regulations, wherever applicable, thereupon applied.

3. **Transfer of the Australian Capital Territory to the Commonwealth.**—On 18th October, 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 911 square miles as the Seat of Government of the Commonwealth. In December, 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5th December, 1910, a proclamation was issued vesting the Territory in the Commonwealth on and from 1st January, 1911. By the Jervis Bay Territory Acceptance Act 1915, an area of 28 square miles at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth, and was transferred as from 4th September, 1915.

4. **Present Composition of the Commonwealth.**—Following the revision of the area of Queensland, as mentioned in § 4 above, the total area of the Commonwealth of Australia has been determined as 2,971,081 square miles. The dates of creation and the areas of its component States and Territories are shown below.

#### THE COMMONWEALTH OF AUSTRALIA: AREA, ETC., OF COMPONENT STATES AND TERRITORIES.

State or Territory.	Year of Formation into Separate Colony or Territory.	Present Area in Square Miles.	State or Territory.	Year of Formation into Separate Colony or Territory.	Present Area in Square Miles.
New South Wales	1786	309,433	Northern Territory	1863	523,620
Victoria ..	1851	87,884	Australian Capital Territory ..	1911	939
Queensland ..	1859	667,000			
South Australia ..	1834	380,070			
Western Australia	1829	975,920	Commonwealth of		
Tasmania ..	1825	26,215	Australia ..	..	2,971,081

### § 6. The Constitutions of the States and of the Commonwealth.

1. **General.**—Information regarding the development of the Constitutions of the various Colonies (now States), together with a brief history of the Federal movement in Australia, was embodied in this Chapter in issues of the Official Year Book up to and including No. 22.

2. **Commonwealth Constitution Act.**—The Commonwealth of Australia Constitution Act, 63 and 64 Vict., Chapter 12, namely: "An Act to constitute the Commonwealth of Australia", as amended by the Constitution Alteration (Senate Elections) 1906, the Constitution Alteration (State Debts) 1909, the Constitution Alteration (State Debts) 1928, and the Constitution Alteration (Social Services) 1946, is given *in extenso* hereunder, and the text contains all the alterations of the Constitution which have been made up to and including 31st December, 1961.

#### THE COMMONWEALTH OF AUSTRALIA CONSTITUTION ACT, 63 & 64 VICT., CHAPTER 12.

*An Act to constitute the Commonwealth of Australia. (9th July, 1900.)*

**W**HEREAS the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, humbly relying on the blessing of Almighty God, have agreed to unite in one indissoluble Federal Commonwealth under the Crown of the United Kingdom of Great Britain and Ireland, and under the Constitution hereby established:

And whereas it is expedient to provide for the admission into the Commonwealth of other Australian Colonies and possessions of the Queen:

Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:—

1. This Act may be cited as the Commonwealth of Australia Constitution Act.
2. The provisions of this Act referring to the Queen shall extend to Her Majesty's heirs and successors in the sovereignty of the United Kingdom.
3. It shall be lawful for the Queen, with the advice of the Privy Council, to declare by proclamation that, on and after a day therein appointed, not being later than one year after the passing of this Act, the people of New South Wales, Victoria, South Australia, Queensland, and Tasmania, and also, if Her Majesty is satisfied that the people of Western Australia have agreed thereto, of Western Australia, shall be united in a Federal Commonwealth under the name of the Commonwealth of Australia. But the Queen may, at any time after the proclamation, appoint a Governor-General for the Commonwealth.
4. The Commonwealth shall be established, and the Constitution of the Commonwealth shall take effect, on and after the day so appointed. But the Parliaments of the several colonies may at any time after the passing of this Act make any such laws, to come into operation on the day so appointed, as they might have made if the Constitution had taken effect at the passing of this Act.
5. This Act, and all laws made by the Parliament of the Commonwealth under the Constitution, shall be binding on the courts, judges, and people of every State and of every part of the Commonwealth, notwithstanding anything in the laws of any State; and the laws of the Commonwealth shall be in force on all British ships, the Queen's ships of war excepted, whose first port of clearance and whose port of destination are in the Commonwealth.
6. "The Commonwealth" shall mean the Commonwealth of Australia as established under this Act.  
 "The States" shall mean such of the colonies of New South Wales, New Zealand, Queensland, Tasmania, Victoria, Western Australia, and South Australia, including the northern territory of South Australia, as for the time being are parts of the Commonwealth, and such colonies or territories as may be admitted into or established by the Commonwealth as States; and each of such parts of the Commonwealth shall be called "a State."  
 "Original States" shall mean such States as are parts of the Commonwealth at its establishment.

7. The Federal Council of Australasia Act, 1885, is hereby repealed, but so as not to affect any laws passed by the Federal Council of Australasia and in force at the establishment of the Commonwealth.

Any such law may be repealed as to any State by the Parliament of the Commonwealth, or as to any colony not being a State by the Parliament thereof.

8. After the passing of this Act the Colonial Boundaries Act, 1895, shall not apply to any colony which becomes a State of the Commonwealth; but the Commonwealth shall be taken to be a self-governing colony for the purposes of that Act.

9. The Constitution of the Commonwealth shall be as follows:—

### THE CONSTITUTION.

This Constitution is divided as follows:—

- Chapter I.—The Parliament:
    - Part I.—General:
    - Part II.—The Senate:
    - Part III.—The House of Representatives:
    - Part IV.—Both Houses of the Parliament:
    - Part V.—Powers of the Parliament:
  - Chapter II.—The Executive Government:
  - Chapter III.—The Judicature:
  - Chapter IV.—Finance and Trade:
  - Chapter V.—The States:
  - Chapter VI.—New States:
  - Chapter VII.—Miscellaneous:
  - Chapter VIII.—Alteration of the Constitution.
- The Schedule.

### CHAPTER I.—THE PARLIAMENT.

#### PART I.—GENERAL.

1. The legislative power of the Commonwealth shall be vested in a Federal Parliament, which shall consist of the Queen, a Senate, and a House of Representatives, and which is hereinafter called “ The Parliament ”, or “ The Parliament of the Commonwealth ”.

2. A Governor-General appointed by the Queen shall be Her Majesty’s representative in the Commonwealth, and shall have and may exercise in the Commonwealth during the Queen’s pleasure, but subject to this Constitution, such powers and functions of the Queen as Her Majesty may be pleased to assign to him.

3. There shall be payable to the Queen out of the Consolidated Revenue Fund of the Commonwealth, for the salary of the Governor-General, an annual sum which, until the Parliament otherwise provides, shall be ten thousand pounds.

The salary of a Governor-General shall not be altered during his continuance in office.

4. The provisions of this Constitution relating to the Governor-General extend and apply to the Governor-General for the time being, or such person as the Queen may appoint to administer the Government of the Commonwealth; but no such person shall be entitled to receive any salary from the Commonwealth in respect of any other office during his administration of the Government of the Commonwealth.

5. The Governor-General may appoint such times for holding the sessions of the Parliament as he thinks fit, and may also from time to time, by Proclamation or otherwise prorogue the Parliament, and may in like manner dissolve the House of Representatives.

After any general election the Parliament shall be summoned to meet not later than thirty days after the day appointed for the return of the writs.

The Parliament shall be summoned to meet not later than six months after the establishment of the Commonwealth.

6. There shall be a session of the Parliament once at least in every year, so that twelve months shall not intervene between the last sitting of the Parliament in one session and its first sitting in the next session.

## PART II.—THE SENATE.

7. The Senate shall be composed of senators for each State, directly chosen by the people of the State, voting, until the Parliament otherwise provides, as one electorate.

But until the Parliament of the Commonwealth otherwise provides, the Parliament of the State of Queensland, if that State be an Original State, may make laws dividing the State into divisions and determining the number of senators to be chosen for each division, and in the absence of such provision the State shall be one electorate.

Until the Parliament otherwise provides there shall be six senators for each Original State.\* The Parliament may make laws increasing or diminishing the number of senators for each State, but so that equal representation of the several Original States shall be maintained and that no Original State shall have less than six senators.

The senators shall be chosen for a term of six years, and the names of the senators chosen for each State shall be certified by the Governor to the Governor-General.

8. The qualification of electors of senators shall be in each State that which is prescribed by this Constitution, or by the Parliament, as the qualification for electors of members of the House of Representatives; but in the choosing of senators each elector shall vote only once.

9. The Parliament of the Commonwealth may make laws prescribing the method of choosing senators, but so that the method shall be uniform for all the States. Subject to any such law, the Parliament of each State may make laws prescribing the method of choosing the senators for that State.

The Parliament of a State may make laws for determining the times and places of elections of senators for the State.

10. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State, for the time being, relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections of senators for the State.

11. The Senate may proceed to the despatch of business, notwithstanding the failure of any State to provide for its representation in the Senate.

12. The Governor of any State may cause writs to be issued for elections of senators for the State. In case of the dissolution of the Senate the writs shall be issued within ten days from the proclamation of such dissolution.

13. As soon as may be after the Senate first meets, and after each first meeting of the Senate following a dissolution thereof, the Senate shall divide the senators chosen for each State into two classes, as nearly equal in number as practicable; and the places of the senators of the first class shall become vacant at the expiration of [the third year] *three years*,† and the places of those of the second class at the expiration of [the sixth year] *six years*,† from the beginning of their term of service; and afterwards the places of senators shall become vacant at the expiration of six years from the beginning of their term of service.

The election to fill vacant places shall be made [in the year at the expiration of which] *within one year before*† the places are to become vacant.

For the purposes of this section the term of service of a senator shall be taken to begin on the first day of [January] *July*† following the day of his election, except in the cases of the first election and of the election next after any dissolution of the Senate, when it shall be taken to begin on the first day of [January] *July*† preceding the day of his election.

14. Whenever the number of senators for a State is increased or diminished, the Parliament of the Commonwealth may make such provision for the vacating of the places of senators for the State as it seems necessary to maintain regularity in the rotation.

15. If the place of a senator becomes vacant before the expiration of his term of service, the Houses of Parliament of the State for which he was chosen shall, sitting and voting together, choose a person to hold the place until the expiration of the term, or until the election of a successor as hereinafter provided, whichever first happens. But if the Houses of Parliament of the State are not in session at the time when the vacancy is notified,

\* The Parliament has otherwise provided, by means of the Representation Act 1948, that the number of senators shall be ten for each State from the first meeting of Parliament after the first dissolution of the House of Representatives occurring after the commencement of the Act (18th May, 1948).

† As amended by Section 2 of the Constitution Alteration (Senate Elections) 1906. The words in square brackets have been repealed; amendments are shown in italics.

the Governor of the State, with the advice of the Executive Council thereof, may appoint a person to hold the place until the expiration of fourteen days after the beginning of the next session of the Parliament of the State, or until the election of a successor, whichever first happens.

At the next general election of members of the House of Representatives, or at the next election of senators for the State, whichever first happens, a successor shall, if the term has not then expired, be chosen to hold the place from the date of his election until the expiration of the term.

The name of any senator so chosen or appointed shall be certified by the Governor of the State to the Governor-General.

16. The qualifications of a senator shall be the same as those of a member of the House of Representatives.

17. The Senate shall, before proceeding to the despatch of any other business, choose a senator to be the President of the Senate; and as often as the office of President becomes vacant the Senate shall again choose a senator to be the President.

The President shall cease to hold his office if he ceases to be a senator. He may be removed from office by a vote of the Senate, or he may resign his office or his seat by writing addressed to the Governor-General.

18. Before or during any absence of the President, the Senate may choose a senator to perform his duties in his absence.

19. A senator may, by writing addressed to the President, or to the Governor-General if there is no President or if the President is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

20. The place of a senator shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the Senate, fails to attend the Senate.

21. Whenever a vacancy happens in the Senate, the President, or if there is no President or if the President is absent from the Commonwealth the Governor-General, shall notify the same to the Governor of the State in the representation of which the vacancy has happened.

22. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the senators shall be necessary to constitute a meeting of the Senate for the exercise of its powers.

23. Questions arising in the Senate shall be determined by a majority of votes, and each senator shall have one vote. The President shall in all cases be entitled to a vote; and when the votes are equal the question shall pass in the negative.

### PART III.—THE HOUSE OF REPRESENTATIVES.

24. The House of Representatives shall be composed of members directly chosen by the people of the Commonwealth, and the number of such members shall be, as nearly as practicable, twice the number of the senators.

The number of members chosen in the several States shall be in proportion to the respective numbers of their people, and shall, until the Parliament otherwise provides, be determined, whenever necessary, in the following manner:—

- (i) A quota shall be ascertained by dividing the number of the people of the Commonwealth, as shown by the latest statistics of the Commonwealth, by twice the number of the senators;
- (ii) The number of members to be chosen in each State shall be determined by dividing the number of the people of the State, as shown by the latest statistics of the Commonwealth, by the quota; and if on such division there is a remainder greater than one-half of the quota, one more member shall be chosen in the State.

But notwithstanding anything in this section five members at least shall be chosen in each Original State.

25. For the purposes of the last section, if by the law of any State all persons of any race are disqualified from voting at elections for the more numerous House of the Parliament of the State, then, in reckoning the number of the people of the State or of the Commonwealth, persons of that race resident in that State shall not be counted.



26. Notwithstanding anything in section twenty-four, the number of members to be chosen in each State at the first election shall be as follows:—

New South Wales ..	23	South Australia .. ..	6
Victoria .. ..	20	Tasmania .. ..	5
Queensland .. ..	8		

Provided that if Western Australia is an Original State, the numbers shall be as follows:—

New South Wales ..	26	South Australia .. ..	7
Victoria .. ..	23	Western Australia .. ..	5
Queensland .. ..	9	Tasmania .. ..	5

27. Subject to this Constitution, the Parliament may make laws for increasing or diminishing the number of the members of the House of Representatives.

28. Every House of Representatives shall continue for three years from the first meeting of the House, and no longer, but may be sooner dissolved by the Governor-General.

29. Until the Parliament of the Commonwealth otherwise provides, the Parliament of any State may make laws for determining the divisions in each State for which members of the House of Representatives may be chosen, and the number of members to be chosen for each division. A division shall not be formed out of parts of different States.

In the absence of other provision, each State shall be one electorate.

30. Until the Parliament otherwise provides, the qualification of electors of members of the House of Representatives shall be in each State that which is prescribed by the law of the State as the qualification of electors of the more numerous House of Parliament of the State; but in the choosing of members each elector shall vote only once.\*

31. Until the Parliament otherwise provides, but subject to this Constitution, the laws in force in each State for the time being relating to elections for the more numerous House of the Parliament of the State shall, as nearly as practicable, apply to elections in the State of members of the House of Representatives.

32. The Governor-General in Council may cause writs to be issued for general elections of members of the House of Representatives.

After the first general election, the writs shall be issued within ten days from the expiry of a House of Representatives or from the proclamation of a dissolution thereof.

33. Whenever a vacancy happens in the House of Representatives, the Speaker shall issue his writ for the election of a new member, or if there is no Speaker or if he is absent from the Commonwealth the Governor-General in Council may issue the writ.

34. Until the Parliament otherwise provides, the qualifications of a member of the House of Representatives shall be as follows:—

(i) He must be of the full age of twenty-one years, and must be an elector entitled to vote at the election of members of the House of Representatives, or a person qualified to become such elector, and must have been for three years at the least a resident within the limits of the Commonwealth as existing at the time when he is chosen:

(ii) He must be a subject of the Queen, either natural-born or for at least five years naturalized under a law of the United Kingdom, or of a Colony which has become or becomes a State, or of the Commonwealth, or of a State.†

35. The House of Representatives shall, before proceeding to the despatch of any other business, choose a member to be the Speaker of the House, and as often as the office of Speaker becomes vacant the House shall again choose a member to be the Speaker.

The Speaker shall cease to hold his office if he ceases to be a member. He may be removed from office by a vote of the House, or he may resign his office or his seat by writing addressed to the Governor-General.

36. Before or during any absence of the Speaker, the House of Representatives may choose a member to perform his duties in his absence.

\* The Parliament has otherwise provided, by means of the Commonwealth Electoral Act 1918-1953, Sections 39 and 39A (repealing an earlier provision made by the Commonwealth Franchise Act 1902). For present qualifications see Chapter III.—General Government.

† The Parliament has otherwise provided, by means of the Commonwealth Electoral Act 1918-1953, Section 69. For present qualifications see Chapter III.—General Government.

37. A member may by writing addressed to the Speaker, or to the Governor-General if there is no Speaker or if the Speaker is absent from the Commonwealth, resign his place, which thereupon shall become vacant.

38. The place of a member shall become vacant if for two consecutive months of any session of the Parliament he, without the permission of the House, fails to attend the House.

39. Until the Parliament otherwise provides, the presence of at least one-third of the whole number of the members of the House of Representatives shall be necessary to constitute a meeting of the House for the exercise of its powers.

40. Questions arising in the House of Representatives shall be determined by a majority of votes other than that of the Speaker. The Speaker shall not vote unless the numbers are equal, and then he shall have a casting vote.

PART IV.—BOTH HOUSES OF THE PARLIAMENT.

41. No adult person who has or acquires a right to vote at elections for the more numerous House of the Parliament of a State shall, while the right continues, be prevented by any law of the Commonwealth from voting at elections for either House of the Parliament of the Commonwealth.

42. Every senator and every member of the House of Representatives shall before taking his seat make and subscribe before the Governor-General, or some person authorized by him, an oath or affirmation of allegiance in the form set forth in the schedule to this Constitution.

43. A member of either House of the Parliament shall be incapable of being chosen or of sitting as a member of the other House.

44. Any person who—

- (i) Is under any acknowledgment of allegiance, obedience, or adherence to a foreign power, or is a subject or a citizen or entitled to the rights or privileges of a subject or a citizen of a foreign power: or
- (ii) Is attainted of treason, or has been convicted and is under sentence, or subject to be sentenced, for any offence punishable under the law of the Commonwealth or of a State by imprisonment for one year or longer: or
- (iii) Is an undischarged bankrupt or insolvent: or
- (iv) Holds any office of profit under the Crown, or any pension payable during the pleasure of the Crown out of any of the revenues of the Commonwealth: or
- (v) Has any direct or indirect pecuniary interest in any agreement with the Public Service of the Commonwealth otherwise than as a member and in common with the other members of an incorporated company consisting of more than twenty-five persons:

shall be incapable of being chosen or of sitting as a senator or a member of the House of Representatives.

But sub-section iv. does not apply to the office of any of the Queen's Ministers of State for the Commonwealth, or of any of the Queen's Ministers for a State, or to the receipt of pay, half-pay, or a pension by any person as an officer or member of the Queen's navy or army, or to the receipt of pay as an officer or member of the naval or military forces of the Commonwealth by any person whose services are not wholly employed by the Commonwealth.

45. If a senator or member of the House of Representatives—

- (i) Becomes subject to any of the disabilities mentioned in the last preceding section: or
- (ii) Takes the benefit, whether by assignment, composition, or otherwise, of any law relating to bankrupt or insolvent debtors: or
- (iii) Directly or indirectly takes or agrees to take any fee or honorarium for services rendered to the Commonwealth, or for services rendered in the Parliament to any person or State:

his place shall thereupon become vacant.

46. Until the Parliament otherwise provides, any person declared by this Constitution to be incapable of sitting as a senator or as a member of the House of Representatives shall, for every day on which he so sits, be liable to pay the sum of one hundred pounds to any person who sues for it in any court of competent jurisdiction.

47. Until the Parliament otherwise provides, any question respecting the qualification of a senator or of a member of the House of Representatives, or respecting a vacancy in either House of the Parliament, and any question of a disputed election to either House shall be determined by the House in which the question arises.

48. Until the Parliament otherwise provides, each senator and each member of the House of Representatives shall receive an allowance of four hundred pounds a year, to be reckoned from the day on which he takes his seat.\*

49. The powers, privileges, and immunities of the Senate and of the House of Representatives, and of the members and the committees of each House, shall be such as are declared by the Parliament, and until declared shall be those of the Commons House of Parliament of the United Kingdom, and of its members and committees, at the establishment of the Commonwealth.

50. Each House of the Parliament may make rules and orders with respect to—

- (i) The mode in which its powers, privileges, and immunities may be exercised and upheld;
- (ii) The order and conduct of its business and proceedings either separately or jointly with the other House.

#### PART V.—POWERS OF THE PARLIAMENT.†

51. The Parliament shall, subject to this Constitution, have power to make laws for the peace, order, and good government of the Commonwealth with respect to:—

- (i) Trade and commerce with other countries, and among the States:
- (ii) Taxation; but so as not to discriminate between States or parts of States:
- (iii) Bounties on the production or export of goods, but so that such bounties shall be uniform throughout the Commonwealth:
- (iv) Borrowing money on the public credit of the Commonwealth:
- (v) Postal, telegraphic, telephonic, and other like services:
- (vi) The naval and military defence of the Commonwealth and of the several States, and the control of the forces to execute and maintain the laws of the Commonwealth:
- (vii) Lighthouses, lightships, beacons and buoys:
- (viii) Astronomical and meteorological observations:
- (ix) Quarantine:
- (x) Fisheries in Australian waters beyond territorial limits:
- (xi) Census and statistics:
- (xii) Currency, coinage, and legal tender:
- (xiii) Banking, other than State banking; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money:
- (xiv) Insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned:
- (xv) Weights and measures:
- (xvi) Bills of exchange and promissory notes:
- (xvii) Bankruptcy and insolvency:
- (xviii) Copyrights, patents of inventions and designs, and trade marks:
- (xix) Naturalization and aliens:
- (xx) Foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth:
- (xxi) Marriage:

\* The Parliamentary allowance has been varied from time to time (see pp. 69 and 70 of Official Year Book No. 42). In 1959, it was increased to £2,750, while additional allowances of £1,500 and £3 250, respectively, were granted to the Leaders of the Opposition in the Senate and the House of Representatives, and an additional allowance of £750 to the Leader in the House of Representatives (other than the Leader of the Opposition) of a recognized political party which has not less than ten members in the House of Representatives and of which no member is a Minister.

† Particulars of proposed laws which were submitted to referendums are referred to in Chapter III.—General Government.

- (xxii) Divorce and matrimonial causes; and in relation thereto, parental rights, and the custody and guardianship of infants;
- (xxiii) Invalid and old-age pensions:
- (xxiiiA) \**The provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances:*
- (xxiv) The service and execution throughout the Commonwealth of the civil and criminal process and the judgments of the courts of the States:
- (xxv) The recognition throughout the Commonwealth of the laws, the public Acts and records, and the judicial proceedings of the States:
- (xxvi) The people of any race, other than the aboriginal race in any State, for whom it is deemed necessary to make special laws:
- (xxvii) Immigration and emigration:
- (xxviii) The influx of criminals:
- (xxix) External affairs:
- (xxx) The relations of the Commonwealth with the islands of the Pacific:
- (xxxi) The acquisition of property on just terms from any State or person for any purpose in respect of which the Parliament has power to make laws:
- (xxxii) The control of railways with respect to transport for the naval and military purposes of the Commonwealth:
- (xxxiii) The acquisition, with the consent of a State, of any railways of the State on terms arranged between the Commonwealth and the State:
- (xxxiv) Railway construction and extension in any State with the consent of that State:
- (xxxv) Conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State:
- (xxxvi) Matters in respect of which this Constitution makes provision until the Parliament otherwise provides:
- (xxxvii) Matters referred to the Parliament of the Commonwealth by the Parliament or Parliaments of any State or States, but so that the law shall extend only to States by whose Parliaments the matter is referred, or which afterwards adopt the law:
- (xxxviii) The exercise within the Commonwealth, at the request or with the concurrence of the Parliaments of all the States directly concerned, of any power which can at the establishment of this Constitution be exercised only by the Parliament of the United Kingdom or by the Federal Council of Australasia:
- (xxxix) Matters incidental to the execution of any power vested by this Constitution in the Parliament or in either House thereof, or in the Government of the Commonwealth, or in the Federal Judicature, or in any department or officer of the Commonwealth.

52. The Parliament shall, subject to this Constitution, have exclusive power to make laws for the peace, order, and good government of the Commonwealth with respect to—

- (i) The seat of Government of the Commonwealth, and all places acquired by the Commonwealth for public purposes:
- (ii) Matters relating to any department of the public service the control of which is by this Constitution transferred to the Executive Government of the Commonwealth:
- (iii) Other matters declared by this Constitution to be within the exclusive power of the Parliament.

53. Proposed laws appropriating revenue or moneys, or imposing taxation, shall not originate in the Senate. But a proposed law shall not be taken to appropriate revenue or moneys, or to impose taxation, by reason only of its containing provisions for the imposition or appropriation of fines or other pecuniary penalties, or for the demand or payment or appropriation of fees for licences, or fees for services under the proposed law.

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\* Under Section 2 of the Constitution Alteration (Social Services) 1946, the Constitution was amended by the insertion of this paragraph.

The Senate may not amend proposed laws imposing taxation, or proposed laws appropriating revenue or moneys for the ordinary annual services of the Government.

The Senate may not amend any proposed law so as to increase any proposed charge or burden on the people.

The Senate may at any stage return to the House of Representatives any proposed law which the Senate may not amend, requesting, by message, the omission or amendment of any items or provisions therein. And the House of Representatives may, if it thinks fit, make any of such omissions or amendments, with or without modifications.

Except as provided in this section, the Senate shall have equal power with the House of Representatives in respect of all proposed laws.

54. The proposed law which appropriates revenue or moneys for the ordinary annual services of the Government shall deal only with such appropriation.

55. Laws imposing taxation shall deal only with the imposition of taxation, and any provision therein dealing with any other matter shall be of no effect.

Laws imposing taxation, except laws imposing duties of customs or of excise, shall deal with one subject of taxation only; but laws imposing duties of customs shall deal with duties of customs only, and laws imposing duties of excise shall deal with duties of excise only.

56. A vote, resolution, or proposed law for the appropriation of revenue or moneys shall not be passed unless the purpose of the appropriation has in the same session been recommended by message of the Governor-General to the House in which the proposal originated.

57. If the House of Representatives passes any proposed law, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, and if after an interval of three months the House of Representatives, in the same or the next session, again passes the proposed law with or without any amendments which have been made, suggested, or agreed to by the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may dissolve the Senate and the House of Representatives simultaneously. But such dissolution shall not take place within six months before the date of the expiry of the House of Representatives by effluxion of time.

If after such dissolution the House of Representatives again passes the proposed law, with or without any amendments which have been made, suggested, or agreed to by the Senate, and the Senate rejects or fails to pass it, or passes it with amendments to which the House of Representatives will not agree, the Governor-General may convene a joint sitting of the members of the Senate and of the House of Representatives.

The members present at the joint sitting may deliberate and shall vote together upon the proposed law as last proposed by the House of Representatives, and upon amendments, if any, which have been made therein by one House and not agreed to by the other, and any such amendments which are affirmed by an absolute majority of the total number of the members of the Senate and House of Representatives shall be taken to have been carried, and if the proposed law, with the amendments, if any, so carried is affirmed by an absolute majority of the total number of members of the Senate and House of Representatives, it shall be taken to have been duly passed by both Houses of the Parliament, and shall be presented to the Governor-General for the Queen's assent.

58. When a proposed law passed by both Houses of the Parliament is presented to the Governor-General for the Queen's assent, he shall declare, according to his discretion, but subject to this Constitution, that he assents in the Queen's name, or that he withholds assent, or that he reserves the law for the Queen's pleasure.

The Governor-General may return to the House in which it originated any proposed law so presented to him, and may transmit therewith any amendments which he may recommend, and the Houses may deal with the recommendation.

59. The Queen may disallow any law within one year from the Governor-General's assent, and such disallowance on being made known by the Governor-General by speech or message to each of the Houses of the Parliament, or by Proclamation, shall annul the law from the day when the disallowance is so made known.

60. A proposed law reserved for the Queen's pleasure shall not have any force unless and until within two years from the day on which it was presented to the Governor-General for the Queen's assent the Governor-General makes known, by speech or message to each of the Houses of the Parliament, or by Proclamation, that it has received the Queen's assent.

CHAPTER II.—THE EXECUTIVE GOVERNMENT.

61. The executive power of the Commonwealth is vested in the Queen and is exercisable by the Governor-General as the Queen's representative, and extends to the execution and maintenance of this Constitution, and of the laws of the Commonwealth.

62. There shall be a Federal Executive Council to advise the Governor-General in the government of the Commonwealth, and the members of the Council shall be chosen and summoned by the Governor-General and sworn as Executive Councillors, and shall hold office during his pleasure.

63. The provisions of this Constitution referring to the Governor-General in Council shall be construed as referring to the Governor-General acting with the advice of the Federal Executive Council.

64. The Governor-General may appoint officers to administer such departments of State of the Commonwealth as the Governor-General in Council may establish.

Such officers shall hold office during the pleasure of the Governor-General. They shall be members of the Federal Executive Council, and shall be the Queen's Ministers of State for the Commonwealth.

After the first general election no Minister of State shall hold office for a longer period than three months unless he is or becomes a senator or a member of the House of Representatives.

65. Until the Parliament otherwise provides, the Ministers of State shall not exceed seven in number, and shall hold such offices as the Parliament prescribes, or, in the absence of provision, as the Governor-General directs.\*

66. There shall be payable to the Queen, out of the Consolidated Revenue Fund of the Commonwealth, for the salaries of the Ministers of State, an annual sum which until the Parliament otherwise provides, shall not exceed twelve thousand pounds a year.\*

67. Until the Parliament otherwise provides, the appointment and removal of all other officers of the Executive Government of the Commonwealth shall be vested in the Governor-General in Council, unless the appointment is delegated by the Governor-General in Council or by a law of the Commonwealth to some other authority.

68. The command in chief of the naval and military forces of the Commonwealth is vested in the Governor-General as the Queen's representative.

69. On a date or dates to be proclaimed by the Governor-General after the establishment of the Commonwealth the following departments of the public service in each State shall become transferred to the Commonwealth:—

Posts, telegraphs, and telephones:	Lighthouses, lightships, beacons, and buoys:
Naval and military defence:	

But the Departments of customs and of excise in each State shall become transferred to the Commonwealth on its establishment.

70. In respect of matters which, under this Constitution, pass to the Executive Government of the Commonwealth, all powers and functions which at the establishment of the Commonwealth are vested in the Governor of a Colony, or in the Governor of a Colony with the advice of his Executive Council, or in any authority of a Colony, shall vest in the Governor-General, or in the Governor-General in Council, or in the authority exercising similar powers under the Commonwealth, as the case requires.

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\* The number of Ministers of State has been increased from time to time (see Chapter III. para. 4 (vi.), p. 64, for details) and has been 22 since 1956. The annual appropriation for Ministers' salaries has been correspondingly increased and has been £66,600 since 1959.

## CHAPTER III.—THE JUDICATURE.

71. The judicial power of the Commonwealth shall be vested in a Federal Supreme Court, to be called the High Court of Australia, and in such other federal courts as the Parliament creates, and in such other courts as it invests with federal jurisdiction. The High Court shall consist of a Chief Justice, and so many other Justices, not less than two, as the Parliament prescribes.\*

72. The Justices of the High Court and of the other Courts created by the Parliament—

- (i) Shall be appointed by the Governor-General in Council;
- (ii) Shall not be removed except by the Governor-General in Council, on an address from both Houses of the Parliament in the same session, praying for such removal on the ground of proved misbehaviour or incapacity;
- (iii) Shall receive such remuneration as the Parliament may fix; but the remuneration shall not be diminished during their continuance in office.\*

73. The High Court shall have jurisdiction, with such exceptions and subject to such regulations as the Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders, and sentences—

- (i) Of any Justice or Justices exercising the original jurisdiction of the High Court;
  - (ii) Of any other federal court, or court exercising federal jurisdiction: or of the Supreme Court of any State, or of any other court of any State from which at the establishment of the Commonwealth an appeal lies to the Queen in Council;
  - (iii) Of the Inter-State Commission, but as to questions of law only:
- and the judgment of the High Court in all such cases shall be final and conclusive.

But no exception or regulation prescribed by the Parliament shall prevent the High Court from hearing and determining any appeal from the Supreme Court of a State in any matter in which at the establishment of the Commonwealth an appeal lies from such Supreme Court to the Queen in Council.

Until the Parliament otherwise provides, the conditions of and restrictions on appeals to the Queen in Council from the Supreme Courts of the several States shall be applicable to appeals from them to the High Court.

74. No appeal shall be permitted to the Queen in Council from a decision of the High Court upon any question, howsoever arising, as to the limits *inter se* of the Constitutional powers of the Commonwealth and those of any State or States, or as to the limits *inter se* of the Constitutional powers of any two or more States, unless the High Court shall certify that the question is one which ought to be determined by Her Majesty in Council.

The High Court may so certify if satisfied that for any special reason the certificate should be granted, and thereupon an appeal shall lie to Her Majesty in Council on the question without further leave.

Except as provided in this section, this Constitution shall not impair any right which the Queen may be pleased to exercise by virtue of Her Royal prerogative to grant special leave of appeal from the High Court to Her Majesty in Council. The Parliament may make laws limiting the matters in which such leave may be asked, but proposed laws containing any such limitation shall be reserved by the Governor-General for Her Majesty's pleasure.

75. In all matters—

- (i) Arising under any treaty;
- (ii) Affecting consuls or other representatives of other countries;
- (iii) In which the Commonwealth, or a person suing or being sued on behalf of the Commonwealth, is a party;
- (iv) Between States, or between residents of different States, or between a State and a resident of another State;
- (v) In which a writ of Mandamus or prohibition or an injunction is sought against an officer of the Commonwealth:

the High Court shall have original jurisdiction.

\* The Judiciary Act 1903 provided for a Chief Justice and two other Justices, increased by subsequent amendments to six. The Judiciary Act 1903 also provided for the payment of a salary of £3,500 a year to the Chief Justice and of £3,000 a year to each other Justice, later increased to £8,000 and £6,500 a year, respectively.

76. The Parliament may make laws conferring original jurisdiction on the High Court in any matter—

- (i) Arising under this Constitution, or involving its interpretation:
- (ii) Arising under any laws made by the Parliament:
- (iii) Of Admiralty and maritime jurisdiction:
- (iv) Relating to the same subject-matter claimed under the laws of different States.

77. With respect to any of the matters mentioned in the last two sections the Parliament may make laws—

- (i) Defining the jurisdiction of any federal court other than the High Court:
- (ii) Defining the extent to which the jurisdiction of any federal court shall be exclusive of that which belongs to or is invested in the courts of the States:
- (iii) Investing any court of a State with federal jurisdiction.

78. The Parliament may make laws conferring rights to proceed against the Commonwealth or a State in respect of matters within the limits of the judicial power.

79. The federal jurisdiction of any court may be exercised by such number of judges as the Parliament prescribes.

80. The trial on indictment of any offence against any law of the Commonwealth shall be by jury, and every such trial shall be held in the State where the offence was committed, and if the offence was not committed within any State the trial shall be held at such place or places as the Parliament prescribes.

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#### CHAPTER IV.—FINANCE AND TRADE.

81. All revenues or moneys raised or received by the Executive Government of the Commonwealth shall form one Consolidated Revenue Fund, to be appropriated for the purposes of the Commonwealth in the manner and subject to the charges and liabilities imposed by this Constitution.

82. The costs, charges, and expenses incident to the collection, management, and receipt of the Consolidated Revenue Fund shall form the first charge thereon; and the revenue of the Commonwealth shall in the first instance be applied to the payment of the expenditure of the Commonwealth.

83. No money shall be drawn from the Treasury of the Commonwealth except under appropriation made by law.

But until the expiration of one month after the first meeting of the Parliament the Governor-General in Council may draw from the Treasury and expend such moneys as may be necessary for the maintenance of any department transferred to the Commonwealth and for the holding of the first elections for the Parliament.

84. When any department of the public service of a State becomes transferred to the Commonwealth, all officers of the department shall become subject to the control of the Executive Government of the Commonwealth.

Any such officer who is not retained in the service of the Commonwealth shall, unless he is appointed to some other office of equal emolument in the public service of the State, be entitled to receive from the State any pension, gratuity, or other compensation, payable under the law of the State on the abolition of his office.

Any such officer who is retained in the service of the Commonwealth shall preserve all his existing and accruing rights, and shall be entitled to retire from office at the time, and on the pension or retiring allowance, which would be permitted by the law of the State if his service with the Commonwealth were a continuation of his service with the State. Such pension or retiring allowance shall be paid to him by the Commonwealth; but the State shall pay to the Commonwealth a part thereof, to be calculated on the proportion which his term of service with the State bears to his whole term of service, and for the purpose of the calculation his salary shall be taken to be that paid to him by the State at the time of the transfer.

Any officer who is, at the establishment of the Commonwealth, in the public service of a State, and who is, by consent of the Governor of the State with the advice of the Executive Council thereof, transferred to the public service of the Commonwealth, shall have the same rights as if he had been an officer of a department transferred to the Commonwealth and were retained in the service of the Commonwealth.



85. When any department of the public service of a State is transferred to the Commonwealth—

- (i) All property of the State of any kind, used exclusively in connexion with the department, shall become vested in the Commonwealth; but, in the case of the departments controlling customs and excise and bounties, for such time only as the Governor-General in Council may declare to be necessary: The Commonwealth may acquire any property of the State, of any kind used, but not exclusively used in connexion with the department; the value thereof shall, if no agreement can be made, be ascertained in, as nearly as may be, the manner in which the value of land, or of an interest in land, taken by the State for public purposes is ascertained under the law of the State in force at the establishment of the Commonwealth:
- (iii) The Commonwealth shall compensate the State for the value of any property passing to the Commonwealth under this section; if no agreement can be made as to the mode of compensation, it shall be determined under laws to be made by the Parliament:
- (iv) The Commonwealth shall, at the date of the transfer, assume the current obligations of the State in respect of the department transferred.

86. On the establishment of the Commonwealth, the collection and control of duties of customs and of excise, and the control of the payment of bounties, shall pass to the Executive Government of the Commonwealth.

87. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, of the net revenue of the Commonwealth from duties of customs and of excise not more than one-fourth shall be applied annually by the Commonwealth towards its expenditure.

The balance shall, in accordance with this Constitution, be paid to the several States, or applied towards the payment of interest on debts of the several States taken over by the Commonwealth.

88. Uniform duties of customs shall be imposed within two years after the establishment of the Commonwealth.

89. Until the imposition of uniform duties of customs—

- (i) The Commonwealth shall credit to each State the revenues collected therein by the Commonwealth.
- (ii) The Commonwealth shall debit to each State—
  - (a) The expenditure therein of the Commonwealth incurred solely for the maintenance or continuance, as at the time of transfer, of any department transferred from the State to the Commonwealth;
  - (b) The proportion of the State, according to the number of its people, in the other expenditure of the Commonwealth.
- (iii) The Commonwealth shall pay to each State month by month the balance (if any) in favour of the State.

90. On the imposition of uniform duties of customs the power of the Parliament to impose duties of customs and of excise, and to grant bounties on the production or export of goods, shall become exclusive.

On the imposition of uniform duties of customs all laws of the several States imposing duties of customs or of excise, or offering bounties on the production or export of goods, shall cease to have effect, but any grant of or agreement for any such bounty lawfully made by or under the authority of the Government of any State shall be taken to be good if made before the thirtieth day of June, one thousand eight hundred and ninety-eight, and not otherwise.

91. Nothing in this Constitution prohibits a State from granting any aid to or bounty on mining for gold, silver, or other metals, nor from granting, with the consent of both Houses of the Parliament of the Commonwealth expressed by resolution, any aid to or bounty on the production or export of goods.

92. On the imposition of uniform duties of customs, trade, commerce, and intercourse among the States, whether by means of internal carriage or ocean navigation, shall be absolutely free.

But notwithstanding anything in this Constitution, goods imported before the imposition of uniform duties of customs into any State, or into any Colony which, whilst the goods remain therein, becomes a State, shall, on thence passing into another State within two

years after the imposition of such duties, be liable to any duty chargeable on the importation of such goods into the Commonwealth, less any duty paid in respect of the goods on their importation.

93. During the first five years after the imposition of uniform duties of customs, and thereafter until the Parliament otherwise provides—

(i) The duties of customs chargeable on goods imported into a State and afterwards passing into another State for consumption, and the duties of excise paid on goods produced or manufactured in a State and afterwards passing into another State for consumption, shall be taken to have been collected not in the former but in the latter State:

(ii) Subject to the last sub-section, the Commonwealth shall credit revenue, debit expenditure, and pay balances to the several States as prescribed for the period preceding the imposition of uniform duties of customs.

94. After five years from the imposition of uniform duties of customs, the Parliament may provide, on such basis as it deems fair, for the monthly payment to the several States of all surplus revenue of the Commonwealth.

95. Notwithstanding anything in this Constitution, the Parliament of the State of Western Australia, if that State be an Original State, may, during the first five years after the imposition of uniform duties of customs, impose duties of customs on goods passing into that State and not originally imported from beyond the limits of the Commonwealth; and such duties shall be collected by the Commonwealth.

But any duty so imposed on any goods shall not exceed during the first of such years the duty chargeable on the goods under the law of Western Australia in force at the imposition of uniform duties, and shall not exceed during the second, third, fourth, and fifth of such years respectively, four-fifths, three-fifths, two-fifths, and one-fifth of such latter duty, and all duties imposed under this section shall cease at the expiration of the fifth year after the imposition of uniform duties.

If at any time during the five years the duty on any goods under this section is higher than the duty imposed by the Commonwealth on the importation of the like goods, then such higher duty shall be collected on the goods when imported into Western Australia from beyond the limits of the Commonwealth.

96. During a period of ten years after the establishment of the Commonwealth and thereafter until the Parliament otherwise provides, the Parliament may grant financial assistance to any State on such terms and conditions as the Parliament thinks fit.

97. Until the Parliament otherwise provides, the laws in force in any Colony which has become or becomes a State with respect to the receipt of revenue and the expenditure of money on account of the Government of the Colony, and the review and audit of such receipt and expenditure, shall apply to the receipt of revenue and the expenditure of money on account of the Commonwealth in the State in the same manner as if the Commonwealth, or the Government or an officer of the Commonwealth, were mentioned whenever the Colony, or the Government or an officer of the Colony, is mentioned.

98. The power of the Parliament to make laws with respect to trade and commerce extends to navigation and shipping, and to railways the property of any State.

99. The Commonwealth shall not, by any law or regulation of trade, commerce, or revenue, give preference to one State or any part thereof over another State or any part thereof.

100. The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.

101. There shall be an Inter-State Commission, with such powers of adjudication and administration as the Parliament deems necessary for the execution and maintenance, within the Commonwealth, of the provisions of this Constitution relating to trade and commerce, and of all laws made thereunder.

102. The Parliament may by any law with respect to trade or commerce forbid, as to railways, any preference or discrimination by any State, or by any authority constituted under a State, if such preference or discrimination is undue and unreasonable, or unjust to any State; *due regard being had to the financial responsibilities incurred by any State in connexion with the construction and maintenance of its railways.* But no preference or discrimination shall, within the meaning of this section, be taken to be undue and unreasonable, or unjust to any State, unless so adjudged by the Inter-State Commission.

## 103. The members of the Inter-State Commission—

- (i) Shall be appointed by the Governor-General in Council;
- (ii) Shall hold office for seven years, but may be removed within that time by the Governor-General in Council, on an address from both Houses of the Parliament in the same session praying for such removal on the ground of proved misbehaviour or incapacity;
- (iii) Shall receive such remuneration as the Parliament may fix; but such remuneration shall not be diminished during their continuance in office.

104. Nothing in this Constitution shall render unlawful any rate for the carriage of goods upon a railway, the property of a State, if the rate is deemed by the Inter-State Commission to be necessary for the development of the territory of the State, and if the rate applies equally to goods within the State and to goods passing into the State from other States.

105. The Parliament may take over from the States their public debts [as existing at the establishment of the Commonwealth],\* or a proportion thereof according to the respective numbers of their people as shown by the latest statistics of the Commonwealth, and may convert, renew, or consolidate such debts, or any part thereof; and the States shall indemnify the Commonwealth in respect of the debts taken over, and thereafter the interest payable in respect of the debts shall be deducted and retained from the portions of the surplus revenue of the Commonwealth payable to the several States, or if such surplus is insufficient, or if there is no surplus, then the deficiency or the whole amount shall be paid by the several States.

105A.† (1.) *The Commonwealth may make agreements with the States with respect to the public debts of the States, including—*

- (a) *the taking over of such debts by the Commonwealth;*
- (b) *the management of such debts;*
- (c) *the payment of interest and the provision and management of sinking funds in respect of such debts;*
- (d) *the consolidation, renewal, conversion, and redemption of such debts;*
- (e) *the indemnification of the Commonwealth by the States in respect of debts taken over by the Commonwealth; and*
- (f) *the borrowing of money by the States or by the Commonwealth, or by the Commonwealth for the States.*

(2.) *The Parliament may make laws for validating any such agreement made before the commencement of this section.*

(3.) *The Parliament may make laws for the carrying out by the parties thereto of any such agreement.*

(4.) *Any such agreement may be varied or rescinded by the parties thereto.*

(5.) *Every such agreement and any such variation thereof shall be binding upon the Commonwealth and the States parties thereto notwithstanding anything contained in this Constitution or the Constitution of the several States or in any law of the Parliament of the Commonwealth or of any State.*

(6.) *The powers conferred by this section shall not be construed as being limited in any way to the provisions of section one hundred and five of this Constitution.*

## CHAPTER V.—THE STATES.

106. The Constitution of each State of the Commonwealth shall, subject to this Constitution, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be, until altered in accordance with the Constitution of the State.

107. Every power of the Parliament of a Colony which has become or becomes a State, shall, unless it is by this Constitution exclusively vested in the Parliament of the Commonwealth or withdrawn from the Parliament of the State, continue as at the establishment of the Commonwealth, or as at the admission or establishment of the State, as the case may be.

\* Under Section 2 of the Constitution Alteration (State Debts) 1909, the words in square brackets were omitted.

† Under Section 2 of the Constitution Alteration (State Debts) 1928, the Constitution was amended by the insertion of this section.

108. Every law in force in a Colony which has become or becomes a State, and relating to any matter within the powers of the Parliament of the Commonwealth, shall, subject to this Constitution, continue in force in the State: and, until provision is made in that behalf by the Parliament of the Commonwealth, the Parliament of the State shall have such powers of alteration and of repeal in respect of any such law as the Parliament of the Colony had until the Colony became a State.

109. When a law of a State is inconsistent with a law of the Commonwealth, the latter shall prevail, and the former shall, to the extent of the inconsistency, be invalid.

110. The provisions of this Constitution relating to the Governor of a State extend and apply to the Governor for the time being of the State, or other chief executive officer or administrator of the government of the State.

111. The Parliament of a State may surrender any part of the State to the Commonwealth; and upon such surrender, and the acceptance thereof by the Commonwealth, such part of the State shall become subject to the exclusive jurisdiction of the Commonwealth.

112. After uniform duties of customs have been imposed, a State may levy on imports or exports, or on goods passing into or out of the State, such charges as may be necessary for executing the inspection laws of the State; but the net produce of all charges so levied shall be for the use of the Commonwealth; and any such inspection laws may be annulled by the Parliament of the Commonwealth.

113. All fermented, distilled, or other intoxicating liquids passing into any State or remaining therein for use, consumption, sale, or storage, shall be subject to the laws of the State as if such liquids had been produced in the State.

114. A State shall not, without the consent of the Parliament of the Commonwealth, raise or maintain any naval or military force, or impose any tax on property of any kind belonging to the Commonwealth, nor shall the Commonwealth impose any tax on property of any kind belonging to a State.

115. A State shall not coin money, nor make anything but gold and silver coin a legal tender in payment of debts.

116. The Commonwealth shall not make any law for establishing any religion, or for imposing any religious observance, or for prohibiting the free exercise of any religion, and no religious test shall be required as a qualification for any office or public trust under the Commonwealth.

117. A subject of the Queen, resident in any State, shall not be subject in any other State to any disability or discrimination which would not be equally applicable to him if he were a subject of the Queen resident in such other State.

118. Full faith and credit shall be given, throughout the Commonwealth, to the laws, the public Acts and records, and the judicial proceedings of every State.

119. The Commonwealth shall protect every State against invasion and, on the application of the Executive Government of the State, against domestic violence.

120. Every State shall make provision for the detention in its prisons of persons accused or convicted of offences against the laws of the Commonwealth, and for the punishment of persons convicted of such offences, and the Parliament of the Commonwealth may make laws to give effect to this provision.

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#### CHAPTER VI.—NEW STATES.

121. The Parliament may admit to the Commonwealth or establish new States, and may upon such admission or establishment make or impose such terms and conditions, including the extent of representation in either House of the Parliament, as it thinks fit.

122. The Parliament may make laws for the government of any territory surrendered by any State to and accepted by the Commonwealth, or of any territory placed by the Queen under the authority of and accepted by the Commonwealth, or otherwise acquired by the Commonwealth, and may allow the representation of such territory in either House of the Parliament to the extent and on the terms which it thinks fit.

123. The Parliament of the Commonwealth may, with the consent of the Parliament of a State, and the approval of the majority of the electors of the State voting upon the question, increase, diminish, or otherwise alter the limits of the State, upon such terms and conditions as may be agreed on, and may, with the like consent, make provision respecting the effect and operation of any increase or diminution or alteration of territory in relation to any State affected.

124. A new State may be formed by separation of territory from a State, but only with the consent of the Parliament thereof, and a new State may be formed by the union of two or more States or parts of States, but only with the consent of the Parliaments of the States affected.

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#### CHAPTER VII.—MISCELLANEOUS.

125. The seat of Government of the Commonwealth shall be determined by the Parliament, and shall be within territory which shall have been granted to or acquired by the Commonwealth, and shall be vested in and belong to the Commonwealth, and shall be in the State of New South Wales, and be distant not less than one hundred miles from Sydney.

Such territory shall contain an area of not less than one hundred square miles, and such portion thereof as shall consist of Crown lands shall be granted to the Commonwealth without any payment therefor.

The Parliament shall sit at Melbourne until it meet at the Seat of Government.

126. The Queen may authorize the Governor-General to appoint any person, or any persons jointly or severally, to be his deputy or deputies within any part of the Commonwealth, and in that capacity to exercise during the pleasure of the Governor-General such powers and functions of the Governor-General as he thinks fit to assign to such deputy or deputies, subject to any limitations expressed or directions given by the Queen; but the appointment of such deputy or deputies shall not affect the exercise by the Governor-General himself of any power or function.

127. In reckoning the numbers of the people of the Commonwealth, or of a State or other part of the Commonwealth, aboriginal natives shall not be counted.

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#### CHAPTER VIII.—ALTERATION OF THE CONSTITUTION.

128. This Constitution shall not be altered except in the following manner:—

The proposed law for the alteration thereof must be passed by an absolute majority of each House of the Parliament, and not less than two nor more than six months after its passage through both Houses the proposed law shall be submitted in each State to the electors qualified to vote for the election of members of the House of Representatives.

But if either House passes any such proposed law by an absolute majority, and the other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, and if after an interval of three months the first-mentioned House in the same or the next session again passes the proposed law by an absolute majority with or without any amendment which has been made or agreed to by the other House, and such other House rejects or fails to pass it or passes it with any amendment to which the first-mentioned House will not agree, the Governor-General may submit the proposed law as last proposed by the first-mentioned House, and either with or without any amendments subsequently agreed to by both Houses, to the electors in each State qualified to vote for the election of the House of Representatives.

When a proposed law is submitted to the electors the vote shall be taken in such manner as the Parliament prescribes. But until the qualification of electors of members of the House of Representatives becomes uniform throughout the Commonwealth, only one-half the electors voting for and against the proposed law shall be counted in any State in which adult suffrage prevails.

And if in a majority of the States a majority of the electors voting approve the proposed law, and if a majority of all the electors voting also approve the proposed law, it shall be presented to the Governor-General for the Queen's assent.

No alteration diminishing the proportionate representation of any State in either House of the Parliament, or the minimum number of representatives of a State in the House of Representatives, or increasing, diminishing, or otherwise altering the limits of the State, or in any manner affecting the provisions of the Constitution in relation thereto, shall become law unless the majority of the electors voting in that State approve the proposed law.

## SCHEDULE.

## OATH.

I, *A.B.*, do swear that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law. SO HELP ME GOD!

## AFFIRMATION.

I, *A.B.*, do solemnly and sincerely affirm and declare that I will be faithful and bear true allegiance to Her Majesty Queen Victoria, Her heirs and successors according to law.

(NOTE.—*The name of the King or Queen of the United Kingdom of Great Britain and Ireland for the time being is to be substituted from time to time.*)

3. The Royal Proclamation.—The preceding Act received the Royal assent on 9th July, 1900. This made it lawful to declare that the people of Australia should be united in a Federal Commonwealth. This proclamation, made on 17th September, 1900, constituted the Commonwealth as from 1st January, 1901; it read as follows:—

## BY THE QUEEN.

## A PROCLAMATION.

(Signed) VICTORIA R.

WHEREAS by an Act of Parliament passed in the Sixty-third and Sixty-fourth Years of Our Reign, intituled "An Act to constitute the Commonwealth of *Australia*," it is enacted that it shall be lawful for the Queen, with the advice of the Privy Council, to declare by Proclamation, that, on and after a day therein appointed, not being later than One year after the passing of this Act, the people of *New South Wales, Victoria, South Australia, Queensland, and Tasmania*, and also, if Her Majesty is satisfied that the people of *Western Australia* have agreed thereto, of *Western Australia*, shall be united in a Federal Commonwealth under the name of the Commonwealth of *Australia*.

And whereas We are satisfied that the people of *Western Australia* have agreed thereto accordingly.

We therefore, by and with the advice of Our Privy Council, have thought fit to issue this Our Royal Proclamation, and We do hereby declare that on and after the First day of *January* One thousand nine hundred and one, the people of *New South Wales, Victoria, South Australia, Queensland, Tasmania, and Western Australia* shall be united in a Federal Commonwealth under the name of the Commonwealth of *Australia*.

Given at Our Court at *Balmoral* this Seventeenth day of *September*, in the Year of Our Lord One thousand nine hundred, and in the Sixty-fourth Year of Our Reign.

GOD SAVE THE QUEEN.

## § 7. The External Territories of Australia.

1. *Transfer of Norfolk Island*.—In 1856, Norfolk Island was created a distinct and separate settlement under the jurisdiction of New South Wales. Later, in 1896, it was made a dependency under the Governor of that colony and finally by the passage of the Norfolk Island Act 1913 it was accepted as a Territory of the Commonwealth of Australia. The island is situated in latitude 29° 3' 3" S., longitude 167° 57' 5" E., and comprises an area of 8,528 acres.

2. *Transfer of British New Guinea or Papua*.—Under the administration of the Commonwealth, but not included in it, is British New Guinea or Papua, finally annexed by the British Government in 1884. This Territory was for a number of years administered by the Queensland Government, but was transferred to the Commonwealth by proclamation on 1st September, 1906, under the authority of the Papua Act (Commonwealth) of 16th November, 1905. The area of Papua is about 90,540 square miles.

3. *Territory of New Guinea*.—In 1919, it was agreed by the Principal Allied and Associated Powers that a mandate should be conferred on Australia for the government of the former German territories and islands situated in latitude between the Equator and 8° S., and in longitude between 141° E. and 159° 25' E. The mandate was issued

by the League of Nations on 17th December, 1920. The Governor-General of the Commonwealth was authorized to accept the mandate by the New Guinea Act 1920, which also declared the area to be a Territory under the authority of the Commonwealth by the name of the Territory of New Guinea. The Territory comprises about 93,000 square miles, and the administration under the mandate dated from 9th May, 1921. New Guinea is now administered under a Trusteeship Agreement with the United Nations, approved on 13th December, 1946.

4. **Nauru.**—In 1919, the Governments of the United Kingdom, Australia and New Zealand entered into an agreement to make provision for the exercise of the mandate conferred on the British Empire for the administration of the island of Nauru, and for the mining of the phosphate deposits thereon. The island is situated in latitude  $0^{\circ} 32'$  S., and longitude  $166^{\circ} 55'$  E. and comprises about 5,263 acres. The agreement provided that the administration of the island should be vested in an administrator, the first appointment to be made by the Commonwealth Government, and thereafter in such manner as the three Governments decided. The agreement was approved by the Commonwealth Parliament in the Nauru Island Agreement Act 1919, and a supplementary agreement of 30th May, 1923, which gave the Government immediately responsible for the administration greater powers of control over the Administrator, was approved in 1932. So far, the administrators have been appointed by the Commonwealth Government. The administration under the mandate operated from 17th December, 1920, to 1st November, 1947, since when Nauru has been administered under a Trusteeship Agreement with the United Nations.

5. **Australian Antarctic Territory.**—An Imperial Order in Council of 7th February, 1933, placed under Australian authority "all the islands and territories other than Adélie Land which are situated south of the 60th degree of South Latitude and lying between the 160th degree of East Longitude and the 45th degree of East Longitude."

The Order came into force with a proclamation issued by the Governor-General on 24th August, 1936, after the Commonwealth Parliament had passed the Australian Antarctic Territory Acceptance Act on 13th June, 1933. The boundaries of Adélie Land were definitely fixed by a decree of 1st April, 1938, as latitude  $60^{\circ}$  S., longitude  $136^{\circ}$  E. and longitude  $142^{\circ}$  E.

6. **Territory of Heard and McDonald Islands.**—Heard and McDonald Islands, about 2,500 miles south-west of Fremantle, were transferred from United Kingdom to Australian control as from 26th December, 1947.

7. **Territory of Cocos (Keeling) Islands.**—The Cocos (Keeling) Islands Act 1955 provided for the acceptance of the Cocos Islands, in the Indian Ocean, as a Territory under the authority of the Commonwealth of Australia and was parallel to an Act of the United Kingdom Parliament transferring authority over the islands to the Commonwealth. Consequent on the passing of these Acts, Her Majesty, by Order in Council, specified 23rd November, 1955, as the date of transfer. From that date, the islands came under Australian administration and an Official Representative of Australia was appointed to take charge of the local administration of the islands.

8. **Territory of Christmas Island.**—The Christmas Island Act 1958 provided for the acceptance of Christmas Island, in the Indian Ocean, as a Territory under the authority of the Commonwealth of Australia. Complementary legislation having been passed by the Parliament of the United Kingdom, the island was transferred to the Australian administration on 1st October, 1958, and an Official Representative was appointed to administer the Territory.

## CHAPTER II.

### PHYSIOGRAPHY.

#### § 1. General Description of Australia.

1. *Geographical Position.*—(i) *General.* The Australian Commonwealth, which includes the island continent of Australia proper and the island of Tasmania, is situated in the Southern Hemisphere, and comprises an area of 2,971,081 square miles, the mainland alone containing 2,944,866 square miles. Bounded on the west and east by the Indian and Pacific Oceans respectively, it lies between longitudes 113° 9' E. and 153° 39' E., while its northern and southern limits are the parallels of latitude 10° 41' S. and 43° 39' S., or, excluding Tasmania, 39° 8' S. On its north are the Timor and Arafura Seas and Torres Strait, on its south the Southern Ocean. The extreme points are Steep Point on the west, Cape Byron on the East, Cape York on the north, and South-East Cape or, if Tasmania be excluded, Wilson's Promontory, on the south.

(ii) *Tropical and Temperate Regions.* Of the total area of Australia, nearly 39 per cent. lies within the tropics. Taking the latitude of the Tropic of Capricorn as 23° 30' S., the areas within the tropical and temperate zones are approximately as follows:—

#### AUSTRALIA: AREAS OF TROPICAL AND TEMPERATE REGIONS.

(Square miles.)

Area.	N.S.W. ( <i>u</i> )	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	N. Terr.	Total.
Within Tropical Zone ..			360,642		364,000		426,320	1,150,962
„ Temperate Zone	310,372	87,884	306,358	380,070	611,920	26,215	97,300	1,820,119
Total Area ..	310,372	87,884	667,000	380,070	975,920	26,215	523,620	2,971,081

(*u*) Includes Australian Capital Territory (939 square miles).

Fifty-four per cent. of Queensland lies within the tropical zone and 46 per cent. in the temperate zone; 37 per cent. of Western Australia is tropical and 63 per cent. temperate; while 81 per cent. of the Northern Territory is tropical and 19 per cent. temperate. All of the remaining States lie within the temperate zone. The tropical part of Australia thus comprises about 39 per cent. of the whole of the continent.

2. *Area of Australia compared with Areas of other Countries.*—The area of Australia is almost as great as that of the United States of America excluding Alaska, four-fifths of that of Canada, more than half as large again as Europe excluding the U.S.S.R., and about 25 times that of Great Britain and Ireland. The areas of Australia and of certain other countries are shown in the table on the following page.



CHAPTER II.—PHYSIOGRAPHY.

AREA OF AUSTRALIA AND OF OTHER COUNTRIES, *circa* 1959.

('000 square miles.)

Country.	Area.	Country.	Area.
<b>Continental Divisions—</b>		<b>Africa—<i>continued.</i></b>	
Europe (a) .. .. .	1,903	Rhodesia and Nyasaland ..	484
Asia (a) .. .. .	10,492	Angola .. .. .	481
U.S.S.R. (Europe and Asia)	8,650	Union of South Africa ..	472
Africa .. .. .	11,695	Mali .. .. .	465
North and Central America		Niger .. .. .	459
and West Indies .. .. .	9,360	United Arab Republic (b) ..	457
South America .. .. .	6,870	Ethiopia and Eritrea .. ..	457
Oceania .. .. .	3,301	Mauritania .. .. .	419
<i>Total, excluding Arctic</i>		Nigeria and Protectorate (c)	373
<i>and Antarctic Conts. ..</i>	<i>52,271</i>	Tanganyika .. .. .	362
<b>Europe (a)—</b>		South-West Africa .. .. .	318
France .. .. .	213	Mozambique .. .. .	302
Spain (incl. possessions) ..	194	Bechuanaland Protectorate	275
Sweden .. .. .	174	Somaliland .. .. .	246
Finland .. .. .	130	Central African Republic ..	238
Norway .. .. .	125	Malagasy Republic .. .. .	228
Poland .. .. .	120	Other .. .. .	1,691
Italy .. .. .	116	<i>Total .. .. .</i>	<i>11,695</i>
Yugoslavia .. .. .	99	<b>North and Central America—</b>	
Germany, Federal Republic		Canada .. .. .	3,852
of .. .. .	96	United States of America (d)	3,609
United Kingdom .. .. .	94	Greenland .. .. .	840
Romania .. .. .	92	Mexico .. .. .	760
Other .. .. .	450	Nicaragua .. .. .	57
<i>Total (a) .. .. .</i>	<i>1,903</i>	Cuba .. .. .	44
<b>Asia (a)—</b>		Honduras .. .. .	43
China, Mainland .. .. .	3,692	Other .. .. .	155
India .. .. .	1,260	<i>Total .. .. .</i>	<i>9,360</i>
Iran .. .. .	636	<b>South America—</b>	
Saudi Arabia .. .. .	618	Brazil .. .. .	3,287
Mongolian People's Republic	591	Argentina .. .. .	1,073
Indonesia .. .. .	576	Peru .. .. .	496
Pakistan .. .. .	365	Colombia (excl. of Panama)	440
Turkey .. .. .	301	Bolivia .. .. .	424
Burma .. .. .	262	Venezuela .. .. .	352
Afghanistan .. .. .	251	Chile .. .. .	286
Thailand .. .. .	198	Paraguay .. .. .	157
Iraq .. .. .	172	Ecuador .. .. .	105
Other .. .. .	1,570	Other .. .. .	250
<i>Total (a) .. .. .</i>	<i>10,492</i>	<i>Total .. .. .</i>	<i>6,870</i>
<b>U.S.S.R. .. .. .</b>	<b>8,650</b>	<b>Oceania—</b>	
<b>Africa—</b>		Commonwealth of Australia	2,971
Sudan .. .. .	968	New Zealand .. .. .	104
Algeria .. .. .	920	New Guinea (e) .. .. .	93
Congo (Leopoldville) .. ..	905	Papua .. .. .	91
Libya .. .. .	679	Other .. .. .	42
Chad .. .. .	496	<i>Total .. .. .</i>	<i>3,301</i>

(a) Excludes U.S.S.R., shown below. (b) Egypt and Syria. (c) Includes British Cameroons.  
 (d) Excludes State of Hawaii, which is included in Other Oceania. (e) Australian Trust Territory.  
 Netherlands New Guinea is included in Other Asia.

The areas shown in the table are obtained from the *Demographic Yearbook*, 1960, published by the Statistical Office of the United Nations and the countries have been arranged in accordance with the continental groups used therein.

3. Areas of States and Territories, Coastal Configuration and Standard Times.—As already stated, Australia consists of six States and the Northern and Australian Capital Territories. Particulars of areas, coastline and standard times are shown in the following table.

AUSTRALIA: AREAS OF STATES AND TERRITORIES, COASTLINE AND STANDARD TIMES.

State or Territory.	Area.	Percentage of Total Area.	Coastline.	Area per Mile of Coastline.	Standard Times.	
					Meridian Selected.	Ahead of G.M.T.
	Sq. miles.		Miles.	Sq. miles.		Hours.
New South Wales ..	309,433	10.42	(a) 700	(a) 443	150° E.	10
Victoria .. ..	87,884	2.96	680	129	150° E.	10
Queensland .. ..	667,000	22.45	3,000	222	150° E.	10
South Australia ..	380,070	12.79	1,540	247	142°30' E.	9½
Western Australia ..	975,920	32.85	4,350	224	120° E.	8
Northern Territory ..	523,620	17.62	1,040	503	142°30' E.	9½
Australian Capital Territory .. ..	939	0.03	..	..	150° E.	10
<i>Mainland</i> .. ..	<i>2,944,866</i>	<i>99.12</i>	<i>11,310</i>	<i>260</i>	..	..
Tasmania .. ..	26,215	0.88	900	29	150° E.	10
<b>Australia</b> .. ..	<b>2,971,081</b>	<b>100.00</b>	<b>12,210</b>	<b>243</b>	..	..

(a) Includes Australian Capital Territory.

There are few striking features in the configuration of the coast; the most remarkable indentations are the Gulf of Carpentaria on the north and the Great Australian Bight on the south. The Cape York Peninsula on the extreme north is the only other remarkable feature in the outline. In Official Year Book No. 1, an enumeration was given of the features of the coastline of Australia.

Prior to 1895, the official time adopted in the several colonies was for most purposes the mean solar time of the capital city of each. In 1894 and 1895, after several conferences had been held, legislation was enacted by each of the colonies whereby the mean solar times of the meridians of east longitude 120° (Western Australia), 135° (South Australia and Northern Territory) and 150° (Queensland, New South Wales, Victoria and Tasmania) were adopted. In 1898, however, the South Australian legislature amended its earlier provision and adopted the mean solar time of the meridian 142° 30' E. longitude as the standard time for that colony (and the Northern Territory). For further information on this subject, see Official Year Book No. 39, page 65.

4. Geographical Features of Australia.—(i) *General*. The following description is only a broad summary of the main physical characteristics of the Australian continent. For greater detail concerning particular geographical elements, earlier issues of the Official Year Book should be consulted. The list of special articles, etc., at the end of this volume indicates the nature of the information available and its position in the various issues.

(ii) *Orography of Australia*. (a) *General Description of the Surface*. Owing to the absence of any very high mountain chains, and to the great depression in the centre of Australia, the average elevation of the Australian continent above the level of the surrounding oceans is less than that of any of the other continents. Three-quarters of the land-mass lies between the 600 and 1,500 feet contours in the form of a huge plateau.

A section through the continent from east to west, at the point of its greatest breadth, shows first a narrow belt of coastal plain. This plain, extending north and south along the whole eastern coast, is well watered by rivers. It is of variable width, seldom more than sixty or seventy miles, and occasionally only a few miles, the average being roughly about forty to fifty miles. Bordering this plain is the Great Dividing Range which extends from the north of Queensland to the south of New South Wales and thence sweeps westward through Victoria. This range which rises, often abruptly, from the plain, frequently presents bold escarpments on its eastern face, but the descent on its western slopes is gradual, until, in the country to the north of Spencer's Gulf, the plain is not above sea-level and occasionally even below it. Thence there is another almost imperceptible rise until the mountain ranges of Western Australia are reached, and beyond these lies another coastal plain.

The great central plain or plateau is the most distinctive feature of the Australian continent and the peculiarities of Australia's climate can probably be largely ascribed thereto.

(b) *Mountain Systems.* The main mountain feature of Australia is the Great Dividing Range, which runs along the whole eastern coast of the continent and can be traced over the islands of Torres Strait to New Guinea, while in the south one branch sweeps westwards towards the boundary of Victoria and South Australia and the other, the main branch, terminates in Tasmania.

This mountain system is at no place more than 250 miles from the eastern coastline and it approaches to less than 30 miles. On the whole, it is much closer to the coast in both New South Wales and Victoria than it is in Queensland, the corresponding average distances being about 70, 65 and 130 miles respectively. There is no connexion between the mountains of the eastern and other States of Australia.

The mountains of Australia are relatively low. Thus, in Queensland, the Great Dividing Range reaches a height above sea-level of less than 5,500 feet, the highest peak being Mount Bartle Frere. Mount Kosciusko, in New South Wales, is only about 7,300 feet, and Mount Bogong, in Victoria, about 6,500 feet high. In South Australia and Western Australia, heights of three to five thousand feet are attained. In Tasmania, the greatest height is only a little more than 5,000 feet. The fact that there are no high mountains in Australia is also of considerable importance in considering the climate of Australia.

It is probable that at one time Tasmania was connected with the mainland. As the Great Dividing Range can, in the north, be traced from Cape York across Torres Strait to New Guinea, so its main axis can be followed across the shallow waters of Bass Strait and its islands from Wilson's Promontory to Tasmania, which may be said to be completely occupied by ramifications of the chain. The central part of the island is occupied by an elevated plateau, roughly triangular in shape, and presenting bold fronts to the east, west and north. This does not extend in any direction more than about 60 miles. The plateau rests upon a more extensive tableland, the contour of which closely follows the coastline, and occasionally broadens out into low-lying tracts not much above sea-level. The extreme south of the island is rugged in character.

(iii) *Hydrology of Australia.* (a) *Rainfall.* On the whole, Australia is a country with a limited rainfall. This is immediately evident on studying its river systems, its lakes, and its artesian areas. Its one large river system is that of the Murray and Darling Rivers, of which the former stream is the larger and more important. Many of the rivers of the interior run only after heavy rains. Depending almost entirely on rainfall, a consequence of the absence of high mountains, they drain large areas with widely varying relation between rainfall and flow. Thus it has been estimated that not more than 10 per cent. of the rainfall on the catchment area of the Darling River above Bourke (New South Wales) discharges itself past that town. The rate of fall is often very slight.

(b) *Rivers.* The rivers of Australia may be divided into two major classes, those of the coastal plains with moderate rates of fall; and those of the central plains with very slight fall. Of the former, not many are navigable for any distance from their mouths and bars make many of them difficult of access or inaccessible from the sea.

The two longest rivers of the northern part of the eastern coast are the Burdekin, discharging into Upstart Bay, with a catchment area of 53,500 square miles, and the Fitzroy, which reaches the sea at Keppel Bay and drains about 55,600 square miles.

The Hunter is the largest coastal river of New South Wales, draining about 11,000 square miles before it reaches the sea at Newcastle. The Murray River, with its great tributary the Darling, drains a considerable part of Queensland, the major part of New South Wales and a large part of Victoria. It debouches into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The total length of the Murray is about 1,600 miles, 400 being in South Australia and 1,200 constituting the boundary between New South Wales and Victoria. The total length of the Murray-Darling from the source of the Darling to the mouth of the Murray is about 2,300 miles. In good seasons, the river is navigable for a considerable proportion of its length.

The rivers of the north-west coast of Australia (Western Australia) are of considerable size, e.g., the Murchison, Gascoyne, Ashburton, Fortesque, De Grey, Fitzroy, Drysdale and Ord. So also are those in the Northern Territory, e.g., the Victoria and Daly. The former of these, estimated to drain 90,000 square miles, is said to be navigable for 50 miles.

The rivers on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert and Mitchell, are also of considerable size.

Owing to the small amount of fall of many of the interior rivers, they may flood hundreds of miles of country in wet seasons, while in dry seasons they form a mere succession of waterholes or are entirely dry. It is this fact that explains the apparently conflicting reports of the early explorers, one regarding the interior as an inland sea, and another as a desert.

The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

(c) *Lakes.* The "lakes" of Australia may be divided into three classes, true permanent lakes; lakes which, being very shallow, become mere morasses in dry seasons or even dry up and finally present a cracked surface of salt and dry mud; and lakes which are really inlets of the ocean, opening out into a lake-like expanse.

The second class is the only one which seems to demand special mention. These are a characteristic of the great central plain of Australia. Some of them, such as Lakes Torrens, Gairdner, Eyre and Frome, are of considerable extent.

(d) *Artesian Areas.* A considerable tract of the plain country of New South Wales and Queensland carries a water-bearing stratum, usually at a great depth. A large number of artesian bores have been put down, from which there is a considerable flow. These are of great value and render usable large areas which otherwise would be difficult to occupy even for pastoral purposes.

For further information on this subject, see Chapter VIII.—Water Conservation and Irrigation.

5. *Fauna, Flora, Geology and Seismology of Australia.*—Special articles dealing with these features have appeared in previous issues of the Official Year Book, and their nature and location can be readily ascertained from the list of special articles preceding the general index at the end of this volume.

## § 2 Climate and Meteorology of Australia.

NOTE.—This Section has been prepared by the Director of the Commonwealth Bureau of Meteorology, and the various States and Territories have been arranged in the standard order adopted by that Bureau.

1. *Introductory.*—Previous issues of the Official Year Book, notably No. 3, pages 79–83. and No. 4, pages 84 and 87, contained outlines of the history of Australian meteorology and the creation and organization of the Commonwealth Bureau of Meteorology. Official Year Book No. 38, pages 30–32, contained paragraphs devoted to (i) Organization of the Meteorological Service; (ii) Meteorological Publications; (iii) Equipment; and (iv) Meteorological Divisions.

By reason of its insular geographical position and the absence of striking physical features, whether in marine gulfs or in important mountains, Australia is, on the whole, less subject to extremes of weather than are regions of similar area in other parts of the globe, and latitude for latitude Australia is generally more temperate.

The average elevation of the surface of the land is low, probably close to 900 feet above the sea. The altitudes range up to a little more than 7,300 feet, hence the Australian climate displays a great many features, from the characteristically tropical to what is essentially alpine, a fact indicated in some measure by the name Australian Alps given to the southern portion of the Great Dividing Range.

On the coast, more particularly the tropical sections, the rainfall is often abundant and the atmosphere moist, but in some portions of the interior it is very limited, and the atmosphere dry. The distribution of forest, therefore, with its climatic influence, is very uneven. In the interior, in places, there are fine belts of trees, but there are also large areas which are treeless, and here the air is hot and parching in summer. Again, on the coast, even so far south as latitude 35°, the vegetation is tropical in its luxuriance, and to some extent also in character.

2. *Temperature.*—(i) *Effective Temperature.* When a meteorologist speaks of temperature, he means the temperature of the air indicated by a thermometer sheltered from precipitation, from direct rays of the sun and from radiation of heat from the ground and neighbouring objects, yet freely exposed to the circulation of the air. In other words, he means temperature measured under conditions standardized as nearly as possible in a Stevenson Screen, which is the standard housing for meteorological thermometers.

This shade temperature as measured by a "dry bulb" thermometer shows only the actual temperature experienced by dry inorganic substances, not the *sensible* temperatures felt by organic bodies. In the case of human beings, *sensible* temperature is affected by the rate of conduction of heat to or from the body by moving air and also by the rate of cooling due to evaporation from the skin and respiratory passages. The wind and humidity therefore determine the *sensible* temperature.

The humidity (relative humidity) is determined from the readings of the dry and wet bulb thermometers. More recently, however, with increasing interest in human comfort in tropical climates, another term, *effective* temperature, has come into use. It may be defined as "the temperature of a still, saturated atmosphere which would on the average produce the same feeling of warmth or cold as the atmosphere in question".\*

The 80° F. isotherm is confined to a very narrow tract of country extending from the north-west coast of Western Australia through the Northern Rivers section of the Northern Territory to the seaboard area around the Gulf of Carpentaria. The 75° F. isotherm extends, broadly, from Onslow on the north-west coast of Western Australia to Tennant Creek, to Boulia, to the southern part of Cape York Peninsula, thence southward along the Queensland coast to Townsville, following in a general way the coastline of Northern Australia but from 100 to 300 miles inland.

Later investigations have established "comfort zones"† bounded by limits of effective temperature within which people will feel comfortable. American research workers have determined the following figures‡:—

#### COMFORT ZONES: EFFECTIVE TEMPERATURES.

Season.	No subjects feel comfortable below—	Fifty per cent. of subjects feel comfortable between—	No subjects feel comfortable above—
Winter.. .. .	60° F.	63° and 71° F.	74° F.
Summer .. .. .	64° F.	66° and 75° F.	79° F.

Queensland investigators§ have divided some towns of Queensland into three classes on the basis of deviation from comfort:—

Class 1 (Sub-tropics).—Quite suitable for Caucasian habitation—Rockhampton, Bundaberg, Brisbane, Longreach, Charleville.

Class 2 (Marginal tropics).—Suitable for Caucasian habitation, but requires adaptation in summer—Mackay, Townsville.

Class 3 (Tropics).—(a) Permissible for Caucasian habitation but requires selection and marked adaptation—Cardwell, Cairns, Cloncurry. (b) Not suitable for continuous Caucasian habitation—Cape York, Burketown.

These results bear out investigations made previously in Australia|| in which the atmospheric vapour pressure was used as a measure of comfort, its value for this purpose being that it has equal effect in both indoor and outdoor climates. The limits of comfort range from 0.2 to 0.5 inch of vapour pressure. After drawing isopleths for effective temperature (not corrected for altitude), mean vapour pressure reduced to a logarithmic scale, and mean wet bulb temperature, it is found that there is close agreement in defining zones of relative discomfort.

(ii) *Seasons*. The Australian seasons are:—Summer, December to February; autumn, March to May; winter, June to August; spring, September to November. In most parts of Australia, January is the hottest month, but in Tasmania and southern Victoria, February is the hottest; in the tropical north, probably because the cooling "monsoon" rains occur in late summer, December is the hottest month, and at Darwin, November.

On a rainfall basis, in the tropical north, the year is divisible into "wet" and "dry" seasons, but on the basis of temperatures and physical comfort the "dry" season can be further sub-divided into two parts—"cool dry" and "warm dusty".¶

(a) "*Cool dry*" Season. From May to August. The average maximum temperature ranges from 80° to 85° F., the relative humidity is low and in inland areas cold nights are experienced when the temperature drops to 40° F. The skies generally are cloudless, but in about one year in three during June or July one to two inches of rain fall.

\* Houghton, F. C., Teague, W. W. and Miller, W. E. (1926) Amer. Soc. Heat. Vent. Engrs.  
 † Yaglou, C. P. (1926) J. Industr. Hyg. ‡ Yaglou, C. P. (1927) Ibid. § Lee, D. H. K.  
 Trans. Roy. Soc. Trop. Med. and Hyg. (1940) Vol. XXXII. || Barkley, H. Zones of Relative  
 Physical Comfort in Australia, Met. Bull. 20, 1934. ¶ Maze, W. H. Austr. Geog., June, 1945.  
 Settlement in E. Kimberleys.

(b) "*Warm dusty*" Season. From the end of August, temperatures rise and reach a maximum in October or the beginning of November. Temperatures of over 120°F. have been recorded.

(c) "*Wet*" Season. After the first of the heavy storms, the maximum temperatures fall but still remain high with high relative humidity. At Wyndham during January, 1944, the minimum temperature did not drop below 75°F. for fourteen consecutive days. A maximum of over 100°F. was recorded on each rainless day.

In Central and Northern Australia, during the hottest months, the average temperatures range from 80° to 85° F., whereas in Southern Australia they vary from 65° to 70° F. (see maps pp. 33, 34).

Throughout Australia, the coldest month is July, when only a very narrow strip of the northern sea-board has an average temperature as high as 75° F. Over the southern half of the continent, July temperatures range from 55° to 45° F. at elevations below 1,500 feet and fall as low as 35° on the Australian Alps (see maps pp. 35, 36). Here the temperature seldom, if ever, reaches 100° F. even in the hottest of seasons. Hotham Heights (6,100 feet above Mean Sea Level) recorded the highest maximum of 82.0° F. on 20th January, 1935. In winter, readings slightly below zero are occasionally recorded on the extreme heights.

Tasmania, as a whole, enjoys a moderate and equable range of temperature throughout the year, although occasionally hot winds may cause the temperature to rise to 100° F. in the eastern part of the State.

(iii) *Comparisons with other Countries.* In respect of Australian temperatures generally, it may be pointed out that the mean annual isotherm for 70° F. extends in South America and South Africa as far south as latitude 33° S., while in Australia it reaches only as far south as latitude 28° S., thus showing that, on the whole, Australia has, latitude for latitude, a more temperate climate than other places in the Southern Hemisphere.

The comparison is even more favourable when the Northern Hemisphere is included, for in the United States of America the 70° F. isotherm extends in several of the western States as far north as latitude 41° N. In Europe, the same isotherm reaches almost to the southern shores of Spain, passing afterwards, however, along the northern shores of Africa till it reaches the Red Sea, when it bends northward along the eastern shore of the Mediterranean till it reaches Syria. In Asia, nearly the whole of the land area south of latitude 40° N. has a mean annual temperature higher than 70° F.

The extreme range of temperature is less than 100° F. over practically the whole of Australia, that figure being only slightly exceeded at a very few places; it is mostly 70° to 90° F. over inland areas, and somewhat less on the coast. In parts of Asia and North America, the extreme range exceeds 130° and 150° F. in some localities.

Along the northern shores of Australia, the temperatures are very equable. At Darwin, for example, the difference in the means for the hottest and coldest month is only 8.5° F., and the extreme readings, or the highest maximum on record and the lowest minimum, show a difference of about 50° F.

The highest temperature recorded in Australia was 127.5° F. at Cloncurry on 16th January, 1889. The world's highest (136° F.) was recorded at Azizia (Tripoli) on 13th August, 1922. The lowest temperature ever recorded in Australia was -8° F. at Charlotte Pass on 14th July, 1945, and again on 22nd August, 1947, as contrasted with the lowest recorded temperature in other temperate zones. Readings of -50° F. and lower have been registered at places in Northern Europe, with an extreme of -67° F. at Ust' Shchugor (Russia), while in Siberian Asia, readings have been lower than -60° F. at a number of stations, the lowest being -90° F. at Oimyekon and Verkhoyansk, and in North America -76° F. has been recorded at Tanana (Alaska) and -74° F. at Watson Lake (Canada). In the polar regions, minimum readings of lower than -100° F. have been registered in Antarctica, the lowest being -125.3° F. on 25th August, 1958, and -126.9° F. on 24th August, 1960, both at Vostok.

The mean temperatures and the range from the extreme maximum to the extreme minimum temperatures (in whole degrees) of the capital cities of Australia, and a comparison with those of the main cities of some other countries are presented in tabular form in Official Year Book No. 38, page 42.

(iv) *Hottest and Coldest Parts.* A comparison of the temperatures recorded at coast and inland stations shows that in Australia, as in other continents, the range increases, within certain limits, with increasing distance from the coast.

In the interior of Australia, and during exceptionally dry summers, the temperature occasionally reaches or exceeds 120° F. in the shade. The hottest area of the continent is situated in the northern part of Western Australia about the Marble Bar and Nullagine goldfields, where the maximum shade temperature during the summer sometimes exceeds 100° F. continuously for days and weeks. The longest recorded period was 160 days from 31st October, 1923, to 7th April, 1924.

The area affected and the period of duration of the longest heat waves in Australia are shown in the map and diagram on page 37.

(v) *Tabulated Data for Selected Climatological Stations in Australia.* Tables showing normal mean temperature, extreme temperatures and normal rainfall for each month for selected climatological stations in each State and the Northern Territory appear in Official Year Book No. 40, pages 16–23, and similar data for other selected stations in the Commonwealth in Official Year Book No. 39, pages 41–48. Pages 53–50 of this issue contain this information in respect of Canberra, Darwin and the six State capitals.

(vi) *Frosts.*\* The Observer's Handbook of the Meteorological Office, London, gives the following definition:—"Injury to the tissues of growing plants is not caused until the temperature has fallen considerably below the freezing point of water (32° F.) and a 'ground frost' is regarded as having occurred when the thermometer on the grass has fallen to 30.4° F. or below".

In Australia, this definition is adopted for stations equipped with terrestrial minimum thermometers. However, these are few in number, so although many rainfall observers record "hoar frost" when seen, for statistical purposes a screen temperature of 36° F. is taken as indicating light frosts at ground level. For heavy frosts, a screen temperature of 32° F. is taken.

In America, a "killing" frost is defined as a frost "that is generally destructive of vegetation". A "black frost" is the phenomenon arising out of a combination of low temperature and low humidity causing rupturing of plant cells by expansion when freezing of the water which they contain takes place, though frost crystals are not formed on the ground.

The parts of Australia most subject to low temperature are the eastern highlands from about Omeo in Victoria northward to Cambooya and Bybera in Queensland. Most stations in this region experience more than ten nights a month with readings of 32° F. or under for three to five months of the year. In Tasmania, districts on the Central Plateau are subject to such conditions for three to six months of the year. Minimum temperatures of 32° F. are comparatively infrequent in Western Australia except in parts of the south and south-west. In South Australia, the Yongala district is much more subject to such temperatures than other parts of the State. Much of the south-east of Queensland has a higher frequency of such readings than South Australia. Generally speaking, the frequency is controlled by altitude, latitude and, to a lesser degree, by proximity to the sea.

Frosts may occur within a few miles of the coastline over the whole continent, except in the Northern Territory and a considerable part of Northern Queensland. Regions subject to frost in all months of the year comprise portions of the tablelands of New South Wales, the Eastern Highlands and parts of the Central Divide and Western district in Victoria, practically the whole of Tasmania and a small area in the south-west of Western Australia.

A map showing the average annual number of frost-free days (i.e., days on which the temperature does not fall below 36° F.) appears on page 39.

Over most of the interior of the continent, and on the Highlands in Queensland as far north as the Atherton Plateau, frosts appear in April and end in September, but they are infrequent in these months. Minimum temperatures of 32° F. are experienced in most of the sub-tropical interior in June and July.

3. **Humidity.**—After temperature, humidity is the most important element of climate as regards its effects on human comfort, rainfall supply and conservation and related problems.

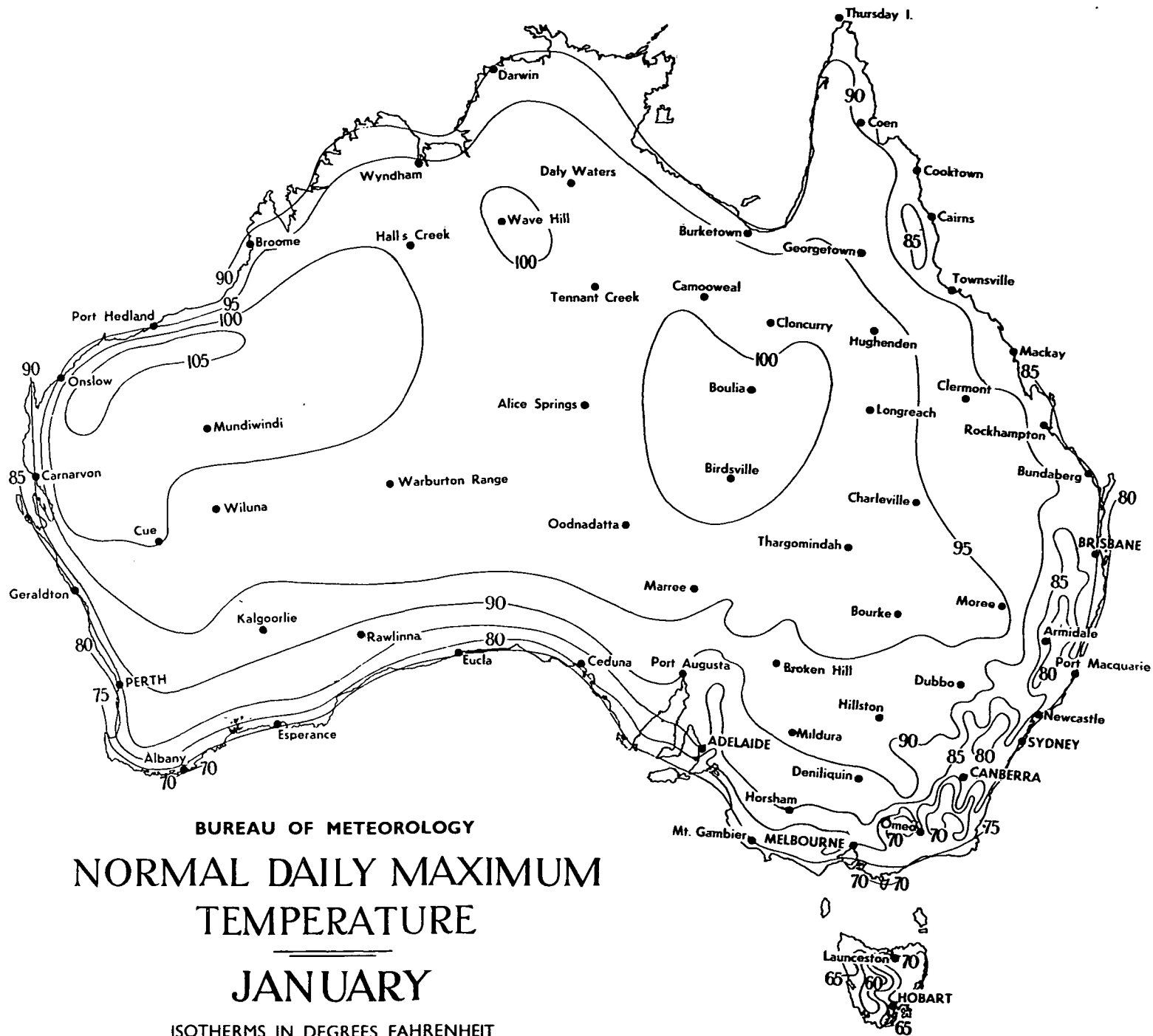
"Vapour pressure" is the pressure exerted by the water vapour in the atmosphere. At any given temperature there is a definite upper limit to the amount of water that can exist as vapour in the atmosphere. When this limit is reached, the air is said to be saturated and the pressure of the water vapour is equal to the "saturation vapour pressure".

In this publication, the humidity of the air has been expressed by the relative humidity, which is the quotient of the vapour pressure divided by the saturation vapour pressure and multiplied by one hundred. The mean 9 a.m. relative humidity, as well as its highest and lowest recorded mean values at 9 a.m., are shown in the tables of climatological data for the capital cities (see pp. 53–60). The mean monthly vapour pressure has also been added to these tables.

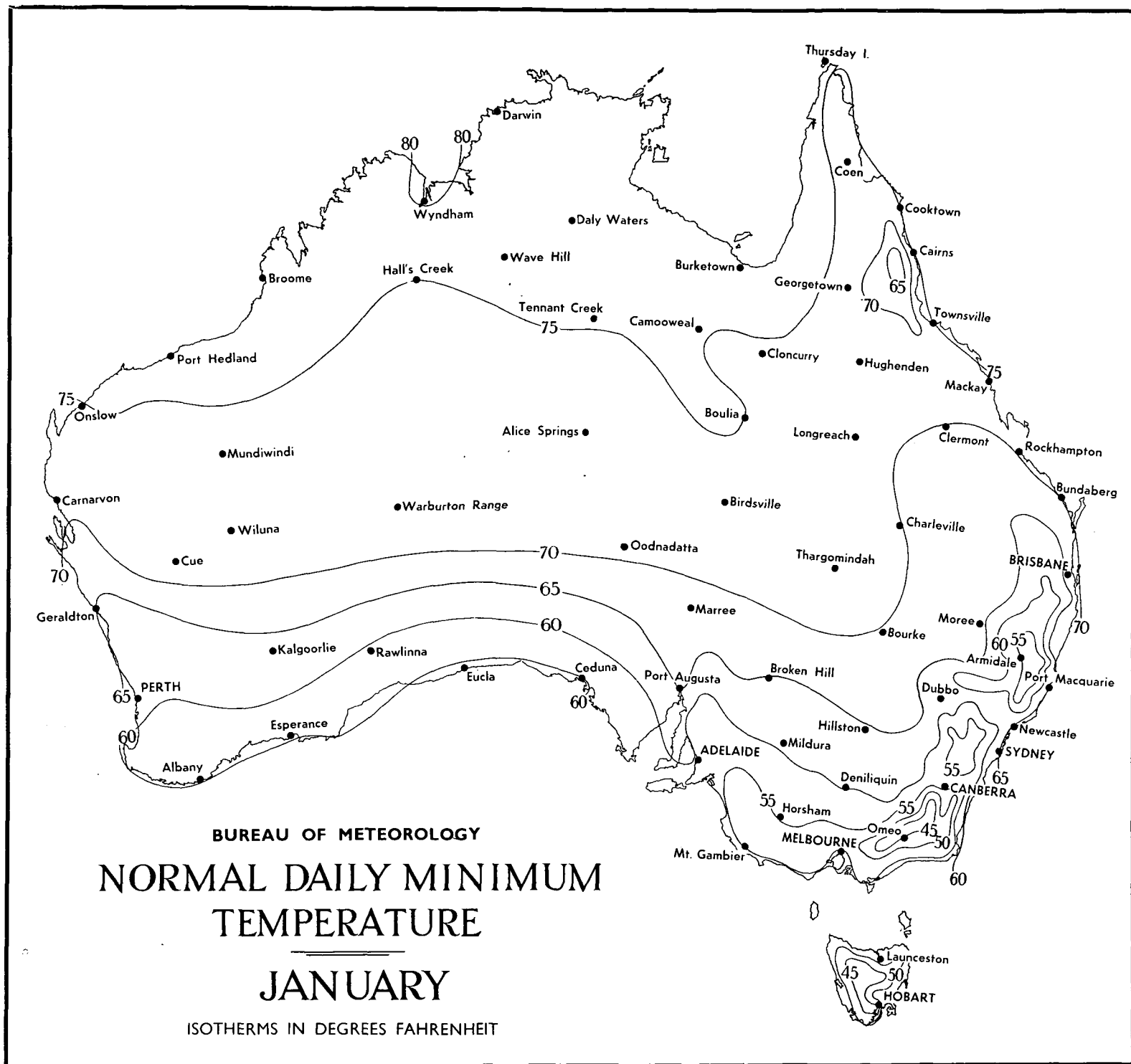
The annual curve of vapour pressure derived from the normal monthly values for this element is comparable with the maximum and minimum temperature curves, but the relative humidities, consisting as they do of the extremes for each month, do not show the normal annual fluctuation which would be approximately midway between the extremes.

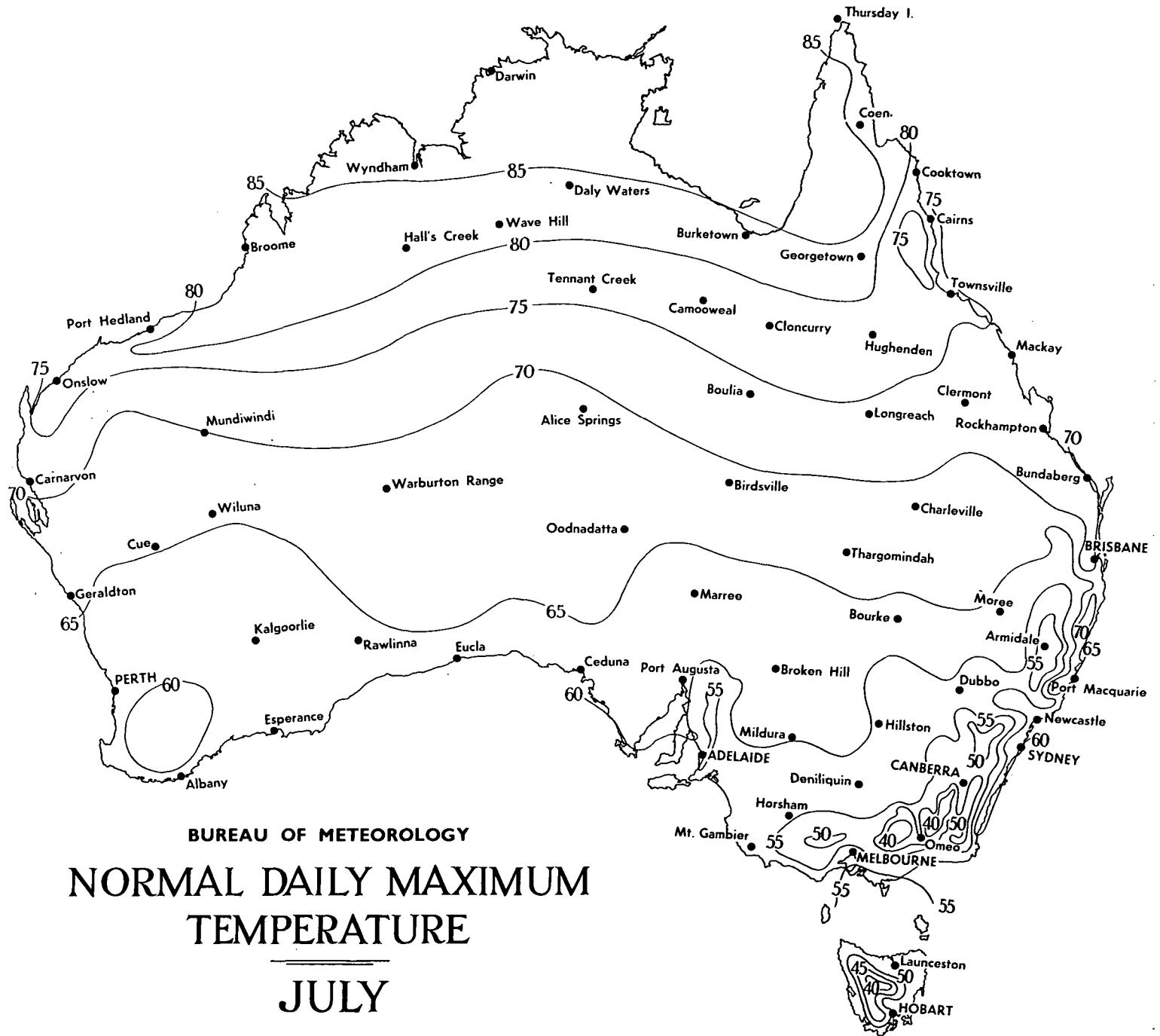
The order of stations in descending values of 9 a.m. vapour pressure is Darwin, Brisbane, Sydney, Perth, Melbourne, Adelaide, Canberra, Hobart and Alice Springs, while the relative humidity at 9 a.m. diminishes in the order, Melbourne, Sydney, Darwin, Brisbane, Canberra, Hobart, Perth, Adelaide and Alice Springs.

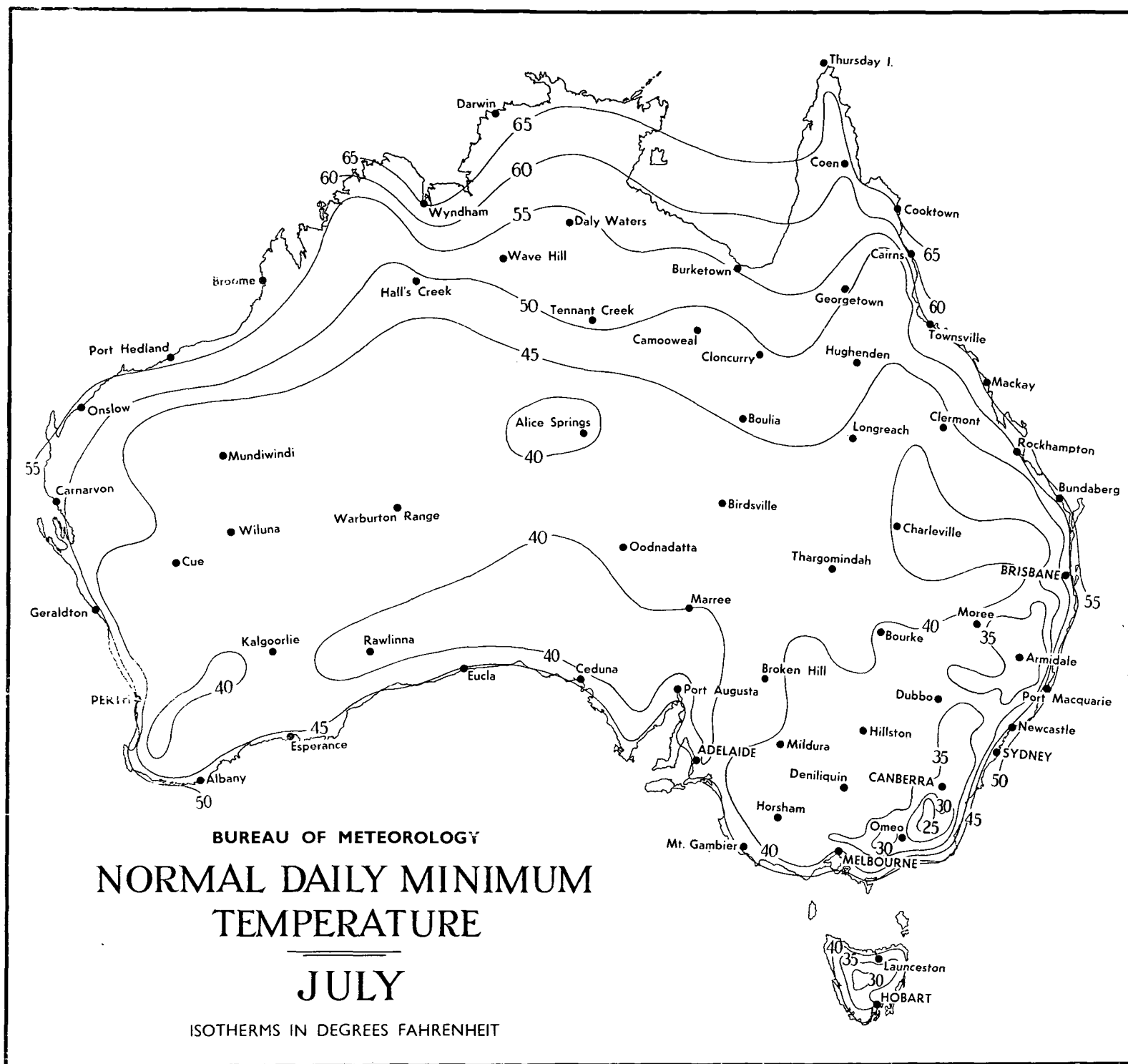
\* See also Foley, J. C. Frost in the Australian Region (Bull. 32, 1945).



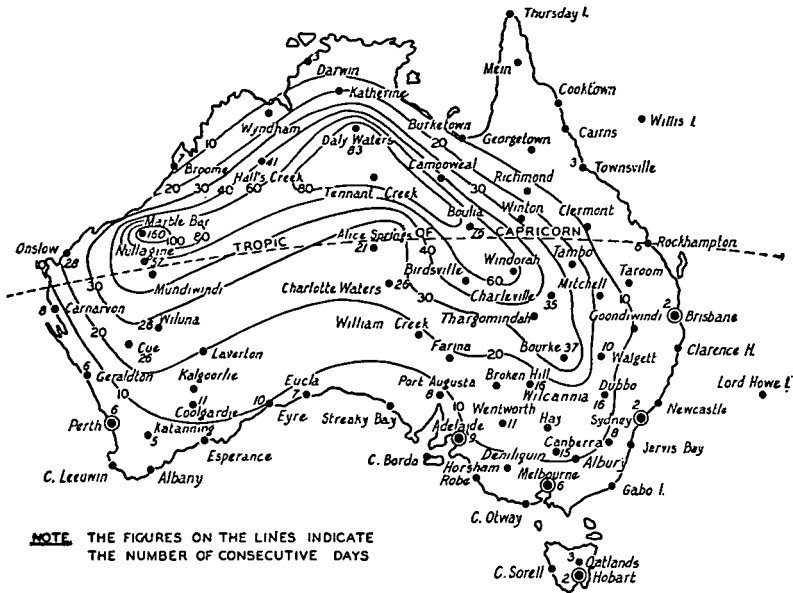






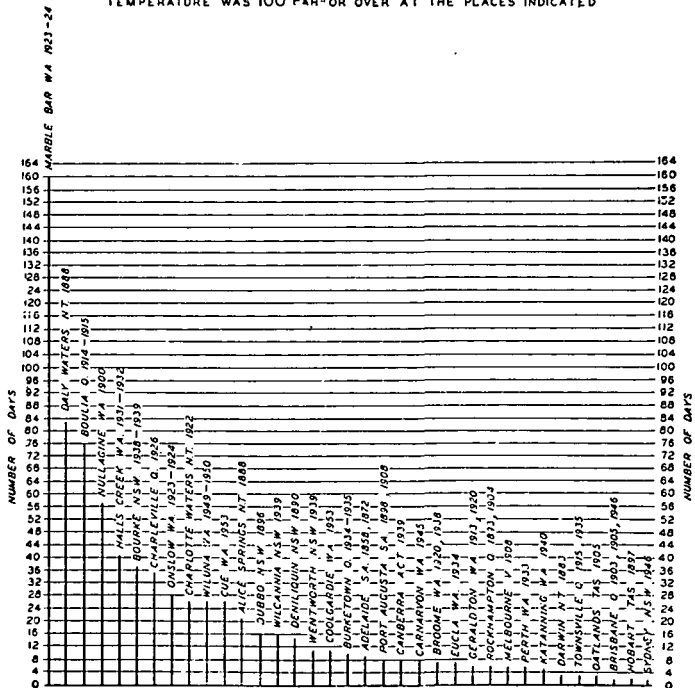


AREA AFFECTED AND PERIOD OF DURATION OF THE LONGEST HEAT WAVES WHEN THE MAXIMUM TEMPERATURE FOR CONSECUTIVE 24 HOURS REACHED OR EXCEEDED 100°F.



**NOTE.** THE FIGURES ON THE LINES INDICATE THE NUMBER OF CONSECUTIVE DAYS

GREATEST NUMBER OF CONSECUTIVE DAYS ON WHICH THE SHADE TEMPERATURE WAS 100°F<sup>8</sup> OR OVER AT THE PLACES INDICATED

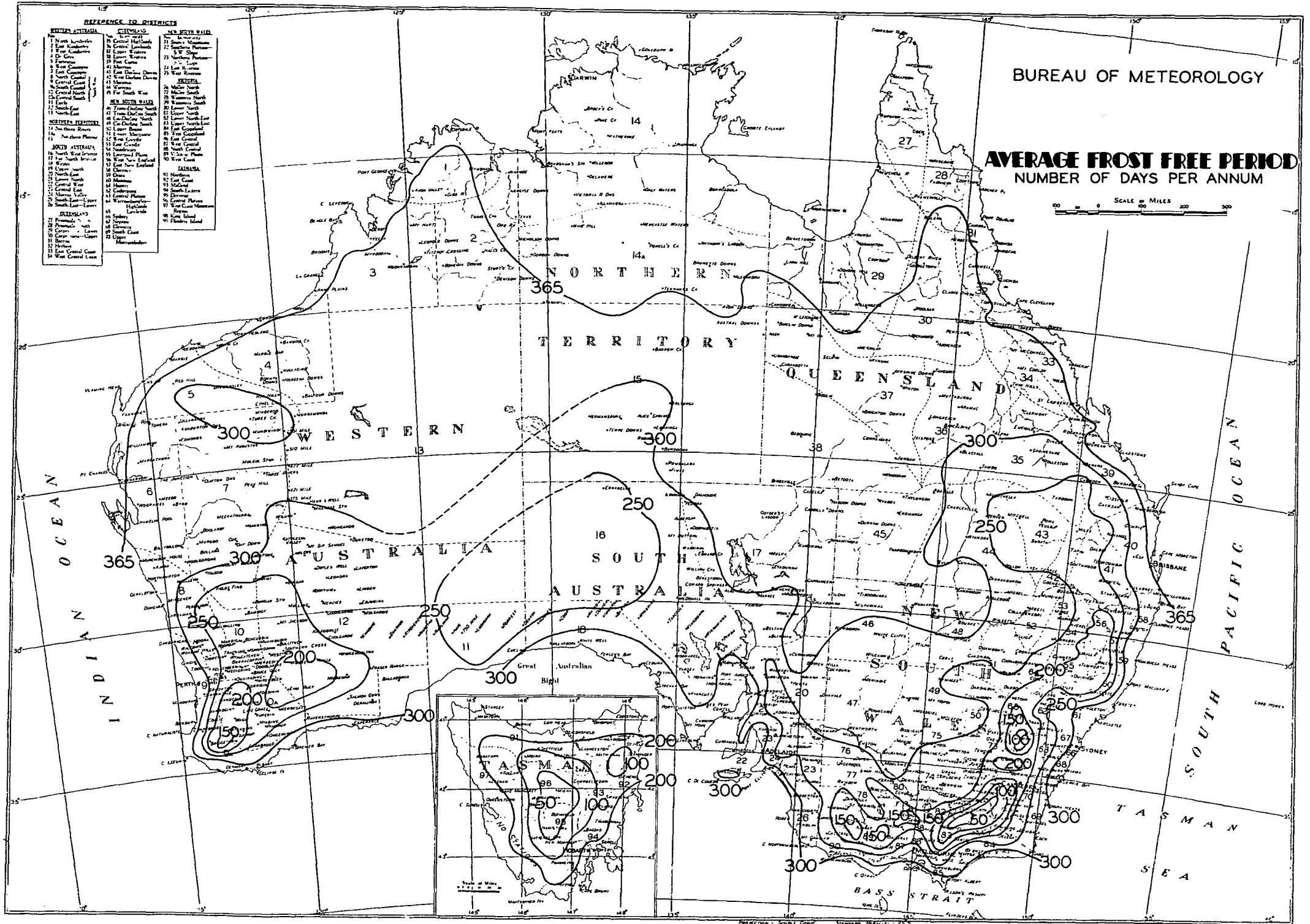




BUREAU OF METEOROLOGY

**AVERAGE FROST FREE PERIOD  
NUMBER OF DAYS PER ANNUM**

SCALE OF MILES 0 100 200 300



**REFERENCE TO DISTRICTS**

DISTRICT	STATION	STATION
1. North Australia	21. Central	31. Sydney
2. East Australia	22. Central North	32. Sydney North
3. West Australia	23. Central South	33. Sydney South
4. South Australia	24. Eastern	34. Sydney East
5. Queensland	25. Western	35. Sydney West
6. Northern Territory	26. Northern	36. Sydney North West
7. Victoria	27. Southern	37. Sydney South West
8. New South Wales	28. Western	38. Sydney West
9. Tasmania	29. Eastern	39. Sydney East
10. Western Australia	30. Northern	40. Sydney North East
11. Queensland	31. Southern	41. Sydney South East
12. Northern Territory	32. Western	42. Sydney West
13. Victoria	33. Eastern	43. Sydney East
14. New South Wales	34. Northern	44. Sydney North
15. Tasmania	35. Southern	45. Sydney South
16. Western Australia	36. Western	46. Sydney West
17. Queensland	37. Eastern	47. Sydney East
18. Northern Territory	38. Northern	48. Sydney North
19. Victoria	39. Southern	49. Sydney South
20. New South Wales	40. Western	50. Sydney West

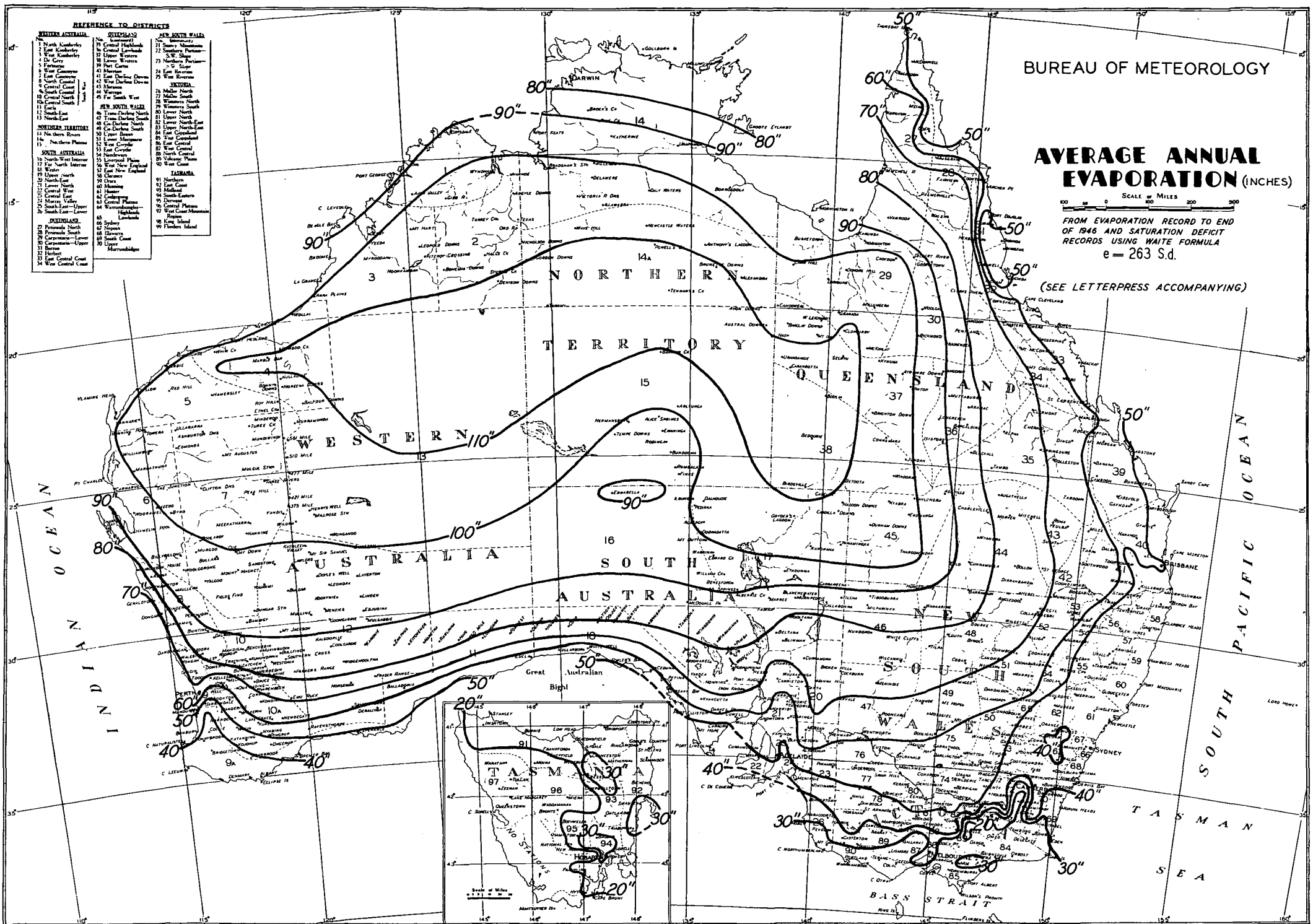
BUREAU OF METEOROLOGY

# AVERAGE ANNUAL EVAPORATION (INCHES)

SCALE OF MILES 0 100 200 300

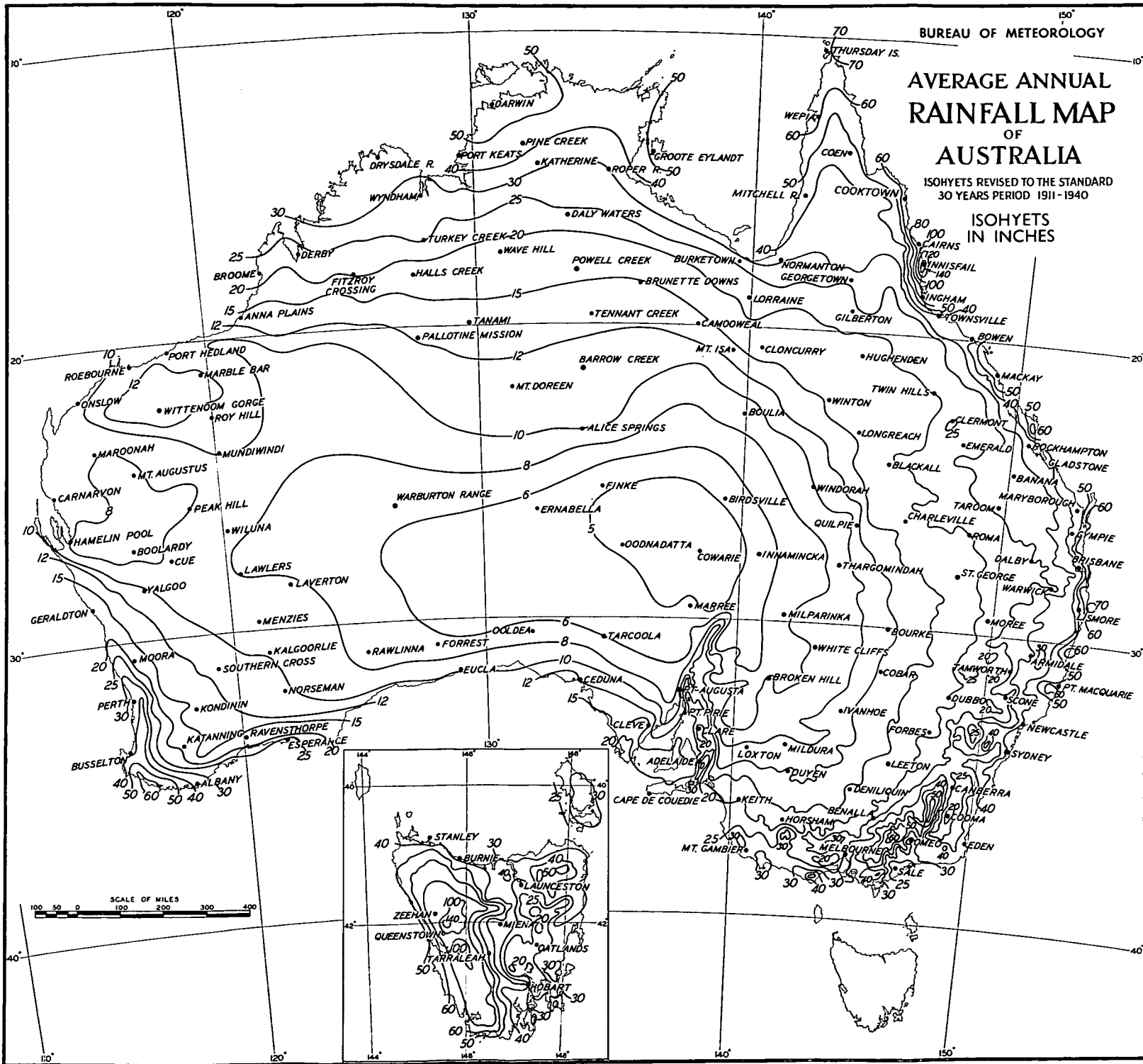
FROM EVAPORATION RECORD TO END OF 1945 AND SATURATION DEFICIT RECORDS USING WAITE FORMULA  
 $e = 263 S.d.$

(SEE LETTERPRESS ACCOMPANYING)



**REFERENCE TO DISTRICTS**

WESTERN AUSTRALIA		QUEENSLAND		NEW SOUTH WALES	
1	North Kimberley	21	Central Queensland	21	North Coast
2	East Kimberley	22	South Queensland	22	Central Coast
3	West Kimberley	23	North Queensland	23	South Coast
4	Kimberley	24	Central Queensland	24	North Coast
5	East Kimberley	25	South Queensland	25	Central Coast
6	West Kimberley	26	North Queensland	26	South Coast
7	Kimberley	27	Central Queensland	27	North Coast
8	East Kimberley	28	South Queensland	28	Central Coast
9	West Kimberley	29	North Queensland	29	South Coast
10	Kimberley	30	Central Queensland	30	North Coast
11	East Kimberley	31	South Queensland	31	Central Coast
12	West Kimberley	32	North Queensland	32	South Coast
13	Kimberley	33	Central Queensland	33	North Coast
14	East Kimberley	34	South Queensland	34	Central Coast
15	West Kimberley	35	North Queensland	35	South Coast
16	Kimberley	36	Central Queensland	36	North Coast
17	East Kimberley	37	South Queensland	37	Central Coast
18	West Kimberley	38	North Queensland	38	South Coast
19	Kimberley	39	Central Queensland	39	North Coast
20	East Kimberley	40	South Queensland	40	Central Coast
21	West Kimberley	41	North Queensland	41	South Coast
22	Kimberley	42	Central Queensland	42	North Coast
23	East Kimberley	43	South Queensland	43	Central Coast
24	West Kimberley	44	North Queensland	44	South Coast
25	Kimberley	45	Central Queensland	45	North Coast
26	East Kimberley	46	South Queensland	46	Central Coast
27	West Kimberley	47	North Queensland	47	South Coast
28	Kimberley	48	Central Queensland	48	North Coast
29	East Kimberley	49	South Queensland	49	Central Coast
30	West Kimberley	50	North Queensland	50	South Coast
31	Kimberley	51	Central Queensland	51	North Coast
32	East Kimberley	52	South Queensland	52	Central Coast
33	West Kimberley	53	North Queensland	53	South Coast
34	Kimberley	54	Central Queensland	54	North Coast
35	East Kimberley	55	South Queensland	55	Central Coast
36	West Kimberley	56	North Queensland	56	South Coast
37	Kimberley	57	Central Queensland	57	North Coast
38	East Kimberley	58	South Queensland	58	Central Coast
39	West Kimberley	59	North Queensland	59	South Coast
40	Kimberley	60	Central Queensland	60	North Coast
41	East Kimberley	61	South Queensland	61	Central Coast
42	West Kimberley	62	North Queensland	62	South Coast
43	Kimberley	63	Central Queensland	63	North Coast
44	East Kimberley	64	South Queensland	64	Central Coast
45	West Kimberley	65	North Queensland	65	South Coast
46	Kimberley	66	Central Queensland	66	North Coast
47	East Kimberley	67	South Queensland	67	Central Coast
48	West Kimberley	68	North Queensland	68	South Coast
49	Kimberley	69	Central Queensland	69	North Coast
50	East Kimberley	70	South Queensland	70	Central Coast
51	West Kimberley	71	North Queensland	71	South Coast
52	Kimberley	72	Central Queensland	72	North Coast
53	East Kimberley	73	South Queensland	73	Central Coast
54	West Kimberley	74	North Queensland	74	South Coast
55	Kimberley	75	Central Queensland	75	North Coast
56	East Kimberley	76	South Queensland	76	Central Coast
57	West Kimberley	77	North Queensland	77	South Coast
58	Kimberley	78	Central Queensland	78	North Coast
59	East Kimberley	79	South Queensland	79	Central Coast
60	West Kimberley	80	North Queensland	80	South Coast
61	Kimberley	81	Central Queensland	81	North Coast
62	East Kimberley	82	South Queensland	82	Central Coast
63	West Kimberley	83	North Queensland	83	South Coast
64	Kimberley	84	Central Queensland	84	North Coast
65	East Kimberley	85	South Queensland	85	Central Coast
66	West Kimberley	86	North Queensland	86	South Coast
67	Kimberley	87	Central Queensland	87	North Coast
68	East Kimberley	88	South Queensland	88	Central Coast
69	West Kimberley	89	North Queensland	89	South Coast
70	Kimberley	90	Central Queensland	90	North Coast
71	East Kimberley	91	South Queensland	91	Central Coast
72	West Kimberley	92	North Queensland	92	South Coast
73	Kimberley	93	Central Queensland	93	North Coast
74	East Kimberley	94	South Queensland	94	Central Coast
75	West Kimberley	95	North Queensland	95	South Coast
76	Kimberley	96	Central Queensland	96	North Coast
77	East Kimberley	97	South Queensland	97	Central Coast
78	West Kimberley	98	North Queensland	98	South Coast
79	Kimberley	99	Central Queensland	99	North Coast
80	East Kimberley	100	South Queensland	100	Central Coast

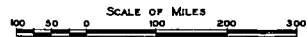




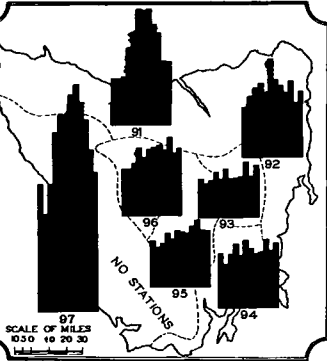
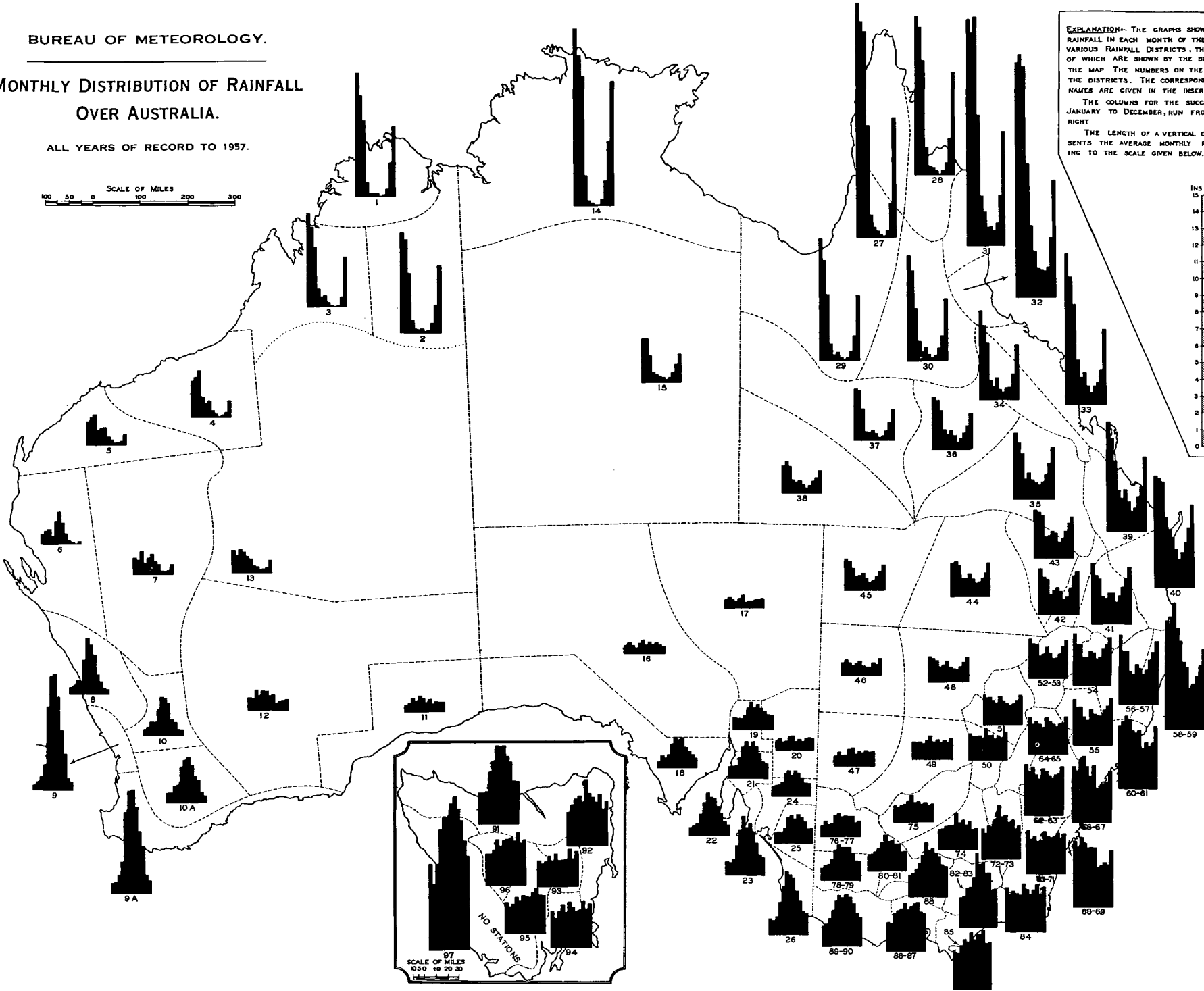
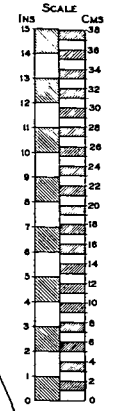
BUREAU OF METEOROLOGY.

MONTHLY DISTRIBUTION OF RAINFALL  
OVER AUSTRALIA.

ALL YEARS OF RECORD TO 1957.



EXPLANATION-- THE GRAPHS SHOW THE AVERAGE RAINFALL IN EACH MONTH OF THE YEAR IN THE VARIOUS RAINFALL DISTRICTS. THE BOUNDARIES OF WHICH ARE SHOWN BY THE BROKEN LINES ON THE MAP. THE NUMBERS ON THE MAP REFER TO THE DISTRICTS. THE CORRESPONDING DISTRICT NAMES ARE GIVEN IN THE INSERT ON PAGE 89. THE COLUMNS FOR THE SUCCESSIVE MONTHS, JANUARY TO DECEMBER, RUN FROM LEFT TO RIGHT. THE LENGTH OF A VERTICAL COLUMN REPRESENTS THE AVERAGE MONTHLY RAINFALL ACCORDING TO THE SCALE GIVEN BELOW.

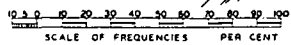
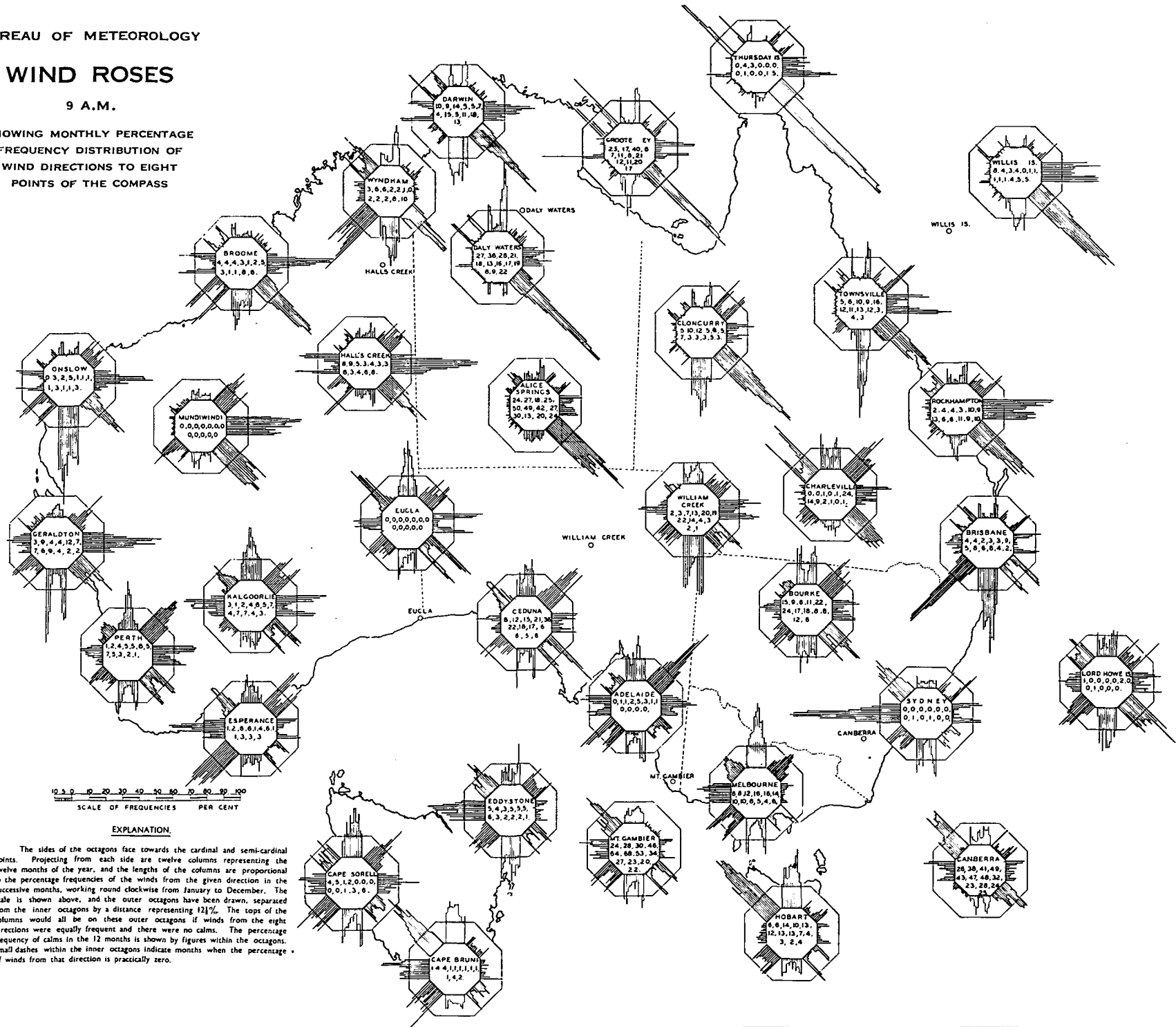


BUREAU OF METEOROLOGY

WIND ROSES

9 A.M.

SHOWING MONTHLY PERCENTAGE  
FREQUENCY DISTRIBUTION OF  
WIND DIRECTIONS TO EIGHT  
POINTS OF THE COMPASS



EXPLANATION.

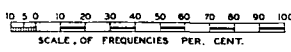
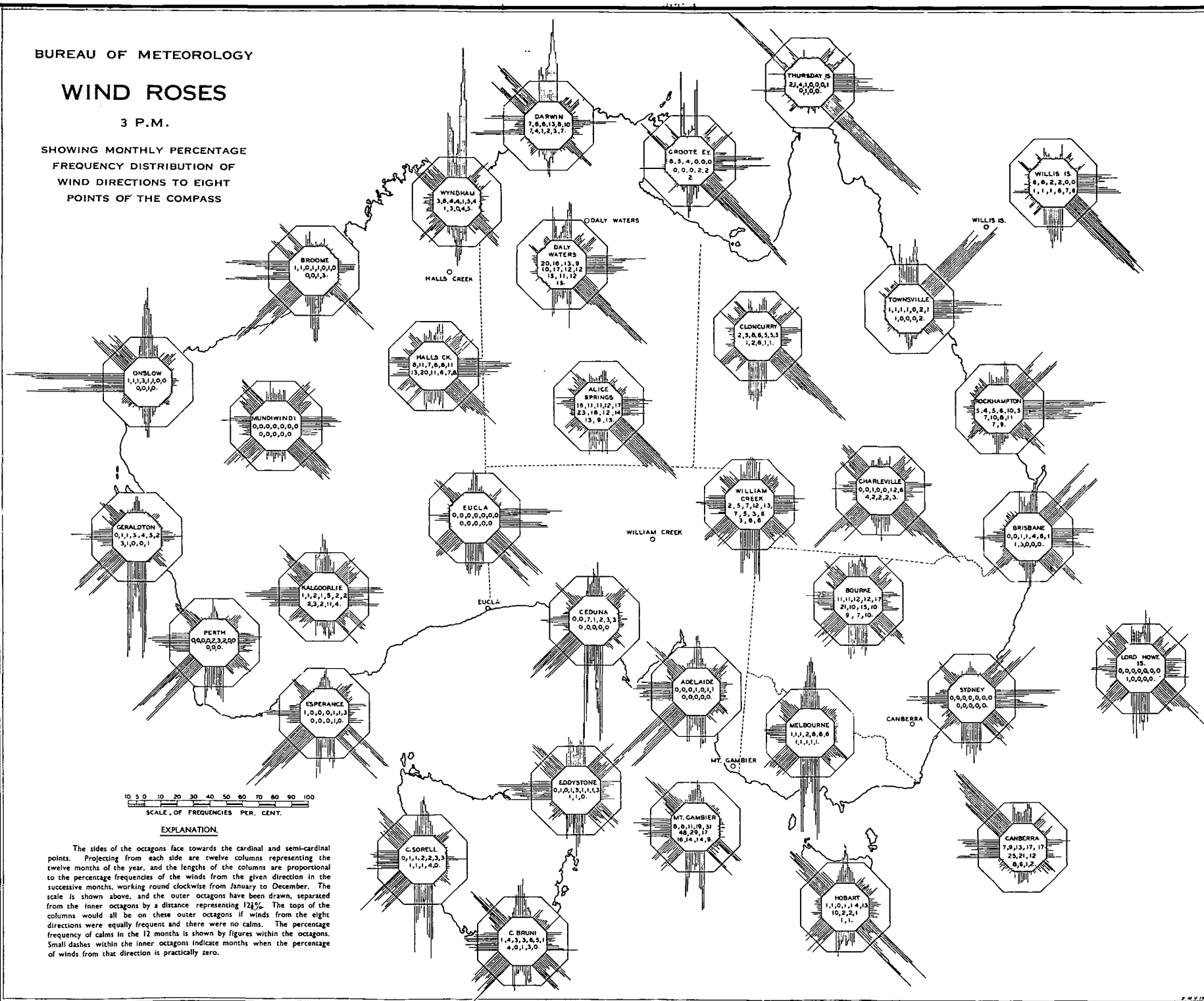
The sides of the octagons face towards the cardinal and semi-cardinal points. Projecting from each side are twelve columns representing the twelve months of the year, and the lengths of the columns are proportional to the percentage frequencies of the winds from the given direction in the successive months, working round clockwise from January to December. The scale is shown above, and the outer octagons have been drawn, separated from the inner octagons by a distance representing 12%. The tops of the columns would all be on these outer octagons if winds from the eight directions were equally frequent and there were no calms. The percentage frequency of calms in the 12 months is shown by figures within the octagons. Small dashes within the inner octagons indicate months when the percentage of winds from that direction is practically zero.

BUREAU OF METEOROLOGY

WIND ROSES

3 P.M.

SHOWING MONTHLY PERCENTAGE  
FREQUENCY DISTRIBUTION OF  
WIND DIRECTIONS TO EIGHT  
POINTS OF THE COMPASS



EXPLANATION.

The sides of the octagons face towards the cardinal and semi-cardinal points. Projecting from each side are twelve columns representing the twelve months of the year, and the lengths of the columns are proportional to the percentage frequencies of the winds from the given direction in the successive months, working round clockwise from January to December. The scale is shown above, and the outer octagons have been drawn, separated from the inner octagons by a distance representing 12 1/2%. The tops of the columns would all be on these outer octagons if winds from the eight directions were equally frequent and there were no calms. The percentage frequency of calms in the 12 months is shown by figures within the octagons. Small dashes within the inner octagons indicate months when the percentage of winds from that direction is practically zero.

Further reference to humidity will be found in the section on effective temperature (see p. 29).

4. *Evaporation.*—(i) *General.* The rate and quantity of evaporation in any territory are influenced by the prevailing temperature, and by atmospheric humidity, pressure and wind movement. In Australia, the question is of great importance, since in its drier regions water has often to be conserved in tanks and dams. The magnitude of the economic loss by evaporation will be appreciated from the map reproduced herein (see p. 40) which shows that the yearly amount varies from about 20 inches over western Tasmania to more than 100 inches over the central and north-western parts of Australia. Over an area of 70 per cent. of the continent, comprising most inland districts and extending to the coast in the North-West and the Eucla divisions of Western Australia, the rainfall does not exceed the evaporation during any month of the year. The central and north-western portions of the continent, comprising 46 per cent. of the total land mass, experience evaporation far in excess of their rainfall; it is noteworthy that the vegetation over most of this region is characterized by acacia, semi-desert, shrub steppe and porcupine grass. Since the loss by evaporation depends largely on the exposed area, tanks and dams so designed that the surface shall be a minimum are advantageous. Further, the more they are protected from the direct rays of the sun and from winds by means of suitable tree planting the less will be the loss by evaporation. The Mansfield Process for treatment of tanks, dams and ponds by hexadecanol film, materially reducing effective evaporation, is a recent development which is already having beneficial results. These matters are naturally of more than ordinary concern in the drier districts of Australia.

(ii) *Comments on Map of Average Annual Evaporation.* The map of average annual evaporation in Australia (see p. 40) has been compiled on the basis of records obtained from a number of evaporimeters supplemented by estimates derived from records of saturation deficit by applying the Waite Institute factor of 263.\* Some modification of the latter values was found to be necessary in comparison with recordings of evaporimeters.

The standard evaporation tank used in Australia is cylindrical in form and is 36 inches in diameter and 36 inches deep. It is surrounded by a 6-inch water jacket and the whole is sunk into the ground so that the water surface is approximately at ground level.

Saturation deficit is obtained from readings of dry and wet bulb thermometers exposed in a standard Stevenson thermometer shelter. Saturation deficit is the difference between the vapour pressure indicated by the dry and wet bulb readings, and the saturation vapour pressure corresponding to the dry bulb temperature.

The Waite formula,  $e=263$  s.d., is not an exact relationship, but it takes account of one of the major factors in evaporation, namely, the difference between saturation vapour pressures at the mean dew point and at the mean air temperature. Errors in the formula are found to be fairly consistent in considerable areas of Australia and corrections have been applied accordingly. Only short-term evaporation records are available north of latitude 20°, and corrections have been extrapolated for these areas. The evaporation stations on which estimates for the tropics have been based are Alice Springs (Northern Territory) and Winton (Queensland), and to a lesser degree Blackall (Queensland) and Marble Bar (Western Australia).

The map thus presents an estimate of evaporation for which allowance should be made for a certain margin of error (perhaps 10 per cent. or so) on the conservative side. In the absence of definite information, such a map should serve a useful purpose as a basis for many climatic studies.

For graphs and tables of mean monthly evaporation and rainfall at certain selected stations, see Official Year Book No. 37, pages 34–35.

5. *Rainfall.*—(i) *General.* The rainfall of any region is determined mainly by the direction and route of the prevailing winds, by the varying temperatures of the earth's surface over which they blow, and by its geographical features.

Australia lies within the zones of the south-east trades and "prevailing" westerly winds. The southern limit of the south-east trades strikes the eastern shores at about 30° south latitude and the heaviest rains of the Australian continent, with very few exceptions, are precipitated along the Pacific slopes to the north of that latitude, the varying quantities being more or less regulated by the differences in elevation of the shores and of the chain of mountains from the New South Wales northern border to Thursday Island,

\* Prescott, J. A. "Atmospheric Saturation Deficit in Australia" (Trans. Royal Society, S.A., Vol. LV., 1931).

upon which the rain-laden winds blow. The converse effect is exemplified on the north-west coast of Western Australia, where the prevailing winds, blowing from the interior of the continent instead of from the ocean, result in the lightest coastal rain in Australia.

The westerly winds, which skirt the southern shores, are responsible for the reliable generally light to moderate rains enjoyed by the south-western portion of Western Australia, the agricultural areas of South Australia, a great part of Victoria, and the whole of Tasmania.

(ii) *Distribution of Rainfall.* The average annual rainfall map of Australia (see p. 41) shows that the heaviest yearly falls occur on the north coast of Queensland (up to more than 160 inches) and in western Tasmania (up to 140 inches), while from 50 to over 60 inches are received on parts of the eastern seaboard from Jervis Bay to the northern part of Cape York Peninsula, also around Darwin, on the West Kimberley coast, near Cape Leeuwin, about the Australian Alps in eastern Victoria and south-eastern New South Wales, and on the north-eastern highlands in Tasmania. A great part of the interior of the continent, stretching from the far west of New South Wales and the south-west of Queensland to the vicinity of Shark Bay in Western Australia, has a very low average rainfall of less than 10 inches a year. Between these two regions of heavy and very low rainfall are the extensive areas which experience useful to good rains, and in the southern and eastern parts of which are found the best country and most of the population and primary production.

(iii) *Factors Determining Occurrence, Intensity and Seasonal Distribution of Rainfall.* Reference has already been made to the frequent rains occurring in the north-eastern coastal districts of Queensland with the prevailing south-east trade winds and to similar rains in the west of Tasmania with the prevailing westerly winds. Other rains in Australia are associated mainly with tropical and southern depressions.

The former chiefly affect the northern, eastern, and to some extent the central parts of the continent and operate in an irregular manner during the warmer half of the year, but principally from December to March. They vary considerably in activity and scope from year to year, occasionally developing into severe storms off the east and north-west coasts. Tropical rainstorms sometimes cover an extensive area, half of the continent on occasions receiving moderate to very heavy falls during a period of a few days. Rain is also experienced, with some regularity, with thunderstorms in tropical areas, especially near the coast. All these tropical rains, however, favour mostly the northern and eastern parts of the area referred to; the other parts further inland receive lighter, less frequent and less reliable rainfall. With the exception of districts near the east coast, where some rain falls in all seasons, the tropical parts of the continent receive useful rains only on rare occasions from May to September.

The southern depressions are most active in the winter—June to August—and early spring months. The rains associated with them are fairly reliable and frequent over southern Australia and Tasmania, and provide during that period the principal factor in the successful growing of wheat. These depressions also operate with varying activity during the remainder of the year, but the accompanying rains are usually lighter. The southern rains favour chiefly the south-west of Western Australia, the agricultural districts of South Australia, Victoria, Tasmania and the southern parts of New South Wales. They sometimes extend into the drier regions of the interior.

The map showing mean monthly distribution of rainfall over Australia (see p. 42) gives in graphic form information on the amount and occurrence of rain.

(iv) *Wettest and Driest Regions.* The wettest known part of Australia is on the north-east coast of Queensland, between Port Douglas and Cardwell, where Tully on the Tully River has an average annual rainfall of about 175 inches, and Harvey Creek on the northern coast-line about 167 inches. In addition, three stations situated on, or adjacent to, the Johnstone and Russell Rivers have an average annual rainfall of between 139 and 163 inches. The maximum and minimum annual amounts there, in inches, are: Tully, 310.92 in 1950 and 104.98 in 1943, a range of 205.94 inches; Deeral, 287.18 in 1945 and 94.65 in 1951, a range of 192.53 inches; Harvey Creek, 254.77 in 1921 and 80.47 in 1902, a range of 174.30 inches; Goondi, 241.53 in 1894 and 67.88 in 1915, a range of 173.65 inches; Innisfail, 232.06 in 1950 and 69.87 in 1902, a range of 162.19 inches.

On five occasions, more than 200 inches have been recorded in a year at Goondi, the last of these being in 1950, when 204.97 inches were registered.

In 34 years of record to 1960, Tully has exceeded 200 inches on eleven occasions, and in 29 complete years of record, Harvey Creek has exceeded this figure four times.

In Tasmania, the wettest part is in the West Coast mountain region, the average annual rainfall at Lake Margaret being about 145 inches, with a maximum of 177.30 inches in 1948.

The driest known part of the continent is an area of approximately 180,000 square miles surrounding Lake Eyre in South Australia, where the annual average rainfall is between 4 and 6 inches and where the aggregates rarely exceed 10 inches in twelve months. Records at stations have at times been interrupted, but of the places in this region, the area with the lowest means is immediately to the east of the Lake, where a number of stations with long records have averages of less than 5 inches, the lowest being 4.13 inches at Troudaninna over 42 years, followed by 4.28 inches at Mulka (39 years).

Troudaninna in the period 1893 to 1936 had only one year in which the total exceeded 9 inches (11.07 inches in 1894). There have been protracted periods when the average has been even less than 3 inches. From 1895 to 1903, Troudaninna received the following annual totals:—2.78, 0.99, 5.71, 3.04, 3.18, 2.83, 1.80, 1.11, 4.87, an average of 2.92 inches. From 1918 to 1929, the average was only 2.65 inches, and in this period, from December, 1924, to November, 1929, the average was only 1.70 inches.

Mulka since 1918 has only twice exceeded 10 inches for the annual total (11.72 inches in 1920 and 13.56 in 1955) and on 17 occasions in 39 years the annual total has been less than 3 inches. In one particular period from October, 1926, to September, 1930, the average was only 1.26 inches (505 points in 48 months). However, at Kanowana, an even lower four-year average of 1.12 inches was recorded between 1896 and 1899 with yearly totals of 43, 225, 87 and 94 points, while the smallest yearly total was recorded at Mungeranie in 1888 when only 39 points were recorded on five days.

The average number of days of rain a month in this region is only 1 or 2. Cordillo Downs has an average of 6.36 inches on 13 days a year while Murnpeowie (4.71 inches) and Edwards Creek (5.56 inches) average 14 days.

No part of the earth, so far as is known, is absolutely rainless, and although at Arica, in northern Chile, the rainfall over a period of 15 years was nil, a further two years in which there were three measurable showers made the "average" for 17 years 0.02 inches.

(v) *Quantities and Distribution of Rainfall.* The general distribution is best seen from the rainfall map on page 41, which shows the areas subject to average annual rainfalls lying between certain limits. The proportions of the total area of each State and of Australia as a whole enjoying varying quantities of rainfall determined from the latest available information are shown in the following table.

#### AVERAGE ANNUAL RAINFALL: AREA DISTRIBUTION.

(Per Cent.)

Average Annual Rainfall.	W. Aust.	N. Terr.	S. Aust.	Q'land.	N.S.W. (a)	Vic.	Tas. (b)	Total.
Under 10 inches ..	58.0	24.7	82.8	13.0	19.7	Nil	Nil	37.6
10 and under 15 ins.	22.4	32.4	9.4	14.4	23.5	22.4	Nil	19.9
15 and under 20 ..	6.8	9.7	4.5	19.7	17.5	15.2	0.7	10.9
20 and under 25 ..	3.7	6.6	2.2	18.8	14.2	17.9	11.0	9.1
25 and under 30 ..	3.7	9.3	0.8	11.6	9.1	18.0	11.4	7.3
30 and under 40 ..	3.3	4.7	0.3	11.1	9.9	16.1	20.4	6.6
40 inches and over ..	2.1	12.6	Nil	11.4	6.1	10.4	56.5	8.6
Total ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Australian Capital Territory.

(b) Over an area of 2,777 square miles no records are available.

Referring first to the capital cities, the records of which are given in the next table, it will be seen that Sydney, with a normal rainfall of 44.80 inches, is the wettest, Brisbane, Perth, Melbourne, Hobart and Canberra follow in that order, Adelaide with 21.09 inches being the driest. The extreme range from the wettest to the driest year is greatest at Brisbane (72.09 inches) and least at Adelaide (19.63 inches).

In order to show how the rainfall is distributed throughout the year in various parts of the continent, average figures for the various climatological districts have been selected (see map on p. 42). The figures for Northern Rivers (District 14), show that nearly

all the rainfall occurs there in the summer months, while little or none falls in the middle of the year. The figures for the Central Coast, south-west of Western Australia (District 9), are the reverse, for while the summer months are dry, the winter months are very wet. In the districts containing Melbourne and Hobart, the rain is fairly well distributed throughout the twelve months, with a maximum in October for both districts. In Queensland, the heaviest rains fall in the summer months, but good averages are also maintained during the other seasons in eastern parts.

On the coast of New South Wales, the first half of the year is the wettest, with heaviest falls in the autumn; the averages during the last six months are fair, and moderately uniform. Generally, it may be said that approximately one-third of the area of the continent, principally in the eastern and northern parts, enjoys an annual average rainfall of from 20 to 50 inches or more, the remaining two-thirds averaging from 5 to 20 inches.

(vi) *Tables of Rainfall.* The following table of rainfall for a fairly long period of years for each of the Australian capitals affords information as to the variability of the fall in successive years, and the list which follows in the next paragraph of the more remarkable falls furnishes information as to what may be expected on particular occasions.

#### RAINFALL: AUSTRALIAN CAPITAL CITIES.

Year.	PERTH.		ADELAIDE.		BRISBANE.		SYDNEY.		CANBERRA.(a)		MELBOURNE.		HOBART.(b)	
	Amount.	No. of Days.	Amount.	No. of Days.	Amount.	No. of Days.	Amount.	No. of Days.	Amount.	No. of Days.	Amount.	No. of Days.	Amount.	No. of Days.
	in.		in.		in.		in.		in.		in.		in.	
1929 ..	36.77	132	17.51	119	39.78	118	57.90	129	23.12	70	28.81	168	26.55	194
1930 ..	39.80	129	18.65	116	41.22	144	44.47	141	17.33	82	25.41	145	19.38	152
1931 ..	39.18	118	22.26	145	66.72	136	49.22	153	24.02	103	28.63	164	27.17	179
1932 ..	39.40	121	25.04	141	24.79	97	37.47	146	20.18	118	31.08	179	30.29	155
1933 ..	32.47	116	22.12	130	49.71	118	42.71	153	20.78	96	22.28	136	23.18	182
1934 ..	40.61	120	20.24	125	54.26	117	64.91	183	35.58	131	33.53	157	23.17	194
1935 ..	32.28	129	23.45	140	34.64	111	30.97	131	23.78	95	29.98	183	32.22	196
1936 ..	30.64	118	19.34	121	21.77	101	30.22	130	26.24	108	24.30	187	19.60	178
1937 ..	35.28	120	23.01	128	34.79	113	52.00	157	20.46	82	21.45	144	20.65	160
1938 ..	29.64	111	19.26	119	43.49	110	39.17	132	19.26	79	17.63	131	31.32	169
1939 ..	45.70	123	23.29	139	41.43	122	33.67	127	27.63	116	33.11	166	27.23	188
1940 ..	20.00	98	16.16	116	42.37	93	39.34	125	17.38	64	25.81	126	17.17	135
1941 ..	34.74	122	22.56	126	31.50	105	26.74	129	19.55	91	31.78	157	23.49	145
1942 ..	39.24	140	25.44	133	44.01	125	48.29	121	25.76	104	29.79	148	19.42	163
1943 ..	31.46	117	17.84	135	50.68	126	50.74	136	24.59	123	18.80	150	20.84	149
1944 ..	27.39	123	17.13	114	27.85	100	31.04	115	12.05	75	21.32	143	26.23	151
1945 ..	52.67	137	17.85	105	48.16	130	46.47	136	22.35	100	19.22	152	16.92	157
1946 ..	41.47	122	22.59	135	38.66	83	36.05	111	22.31	94	29.80	177	39.45	193
1947 ..	43.42	137	21.89	146	60.30	146	41.45	137	27.95	135	30.47	163	38.61	181
1948 ..	34.75	126	21.40	122	41.54	106	38.83	131	32.11	101	20.98	155	23.42	178
1949 ..	27.15	126	18.23	119	47.18	121	66.26	149	27.71	100	31.41	163	22.85	157
1950 ..	32.27	122	16.06	91	63.93	152	86.33	183	43.35	132	26.18	147	19.25	131
1951 ..	34.14	127	25.44	135	33.89	87	53.15	143	22.00	103	29.85	155	24.57	163
1952 ..	39.28	123	19.99	128	33.49	122	59.19	130	37.87	141	34.39	177	30.35	165
1953 ..	37.14	119	20.00	121	43.60	101	40.86	110	19.40	102	28.38	148	28.06	162
1954 ..	28.05	112	16.73	109	61.36	142	41.29	134	18.81	82	33.53	139	27.20	143
1955 ..	46.52	138	24.58	134	50.41	136	72.46	160	30.85	124	30.70	160	22.32	168
1956 ..	37.35	107	27.24	154	59.18	120	67.33	155	40.46	150	30.96	188	36.63	175
1957 ..	33.40	117	16.71	110	20.58	80	27.13	110	14.41	81	20.68	146	28.66	129
1958 ..	32.08	107	17.57	121	46.61	115	59.19	144	30.23	117	26.98	155	36.55	166
1959 ..	24.23	114	11.32	88	45.84	146	59.67	164	34.41	112	25.84	131	19.28	136
1960 ..	28.21	112	23.07	129	27.51	103	51.01	152	30.99	136	33.50	162	29.35	140
Average	34.81	121	20.95	121	44.69	124	47.47	150	25.20	104	25.99	143	25.04	166
No. of	85	85	122	122	109	101	102	102	33	33	105	105	78	78
Years														
Stand-														
ard 30														
years'														
Normal														
(c)	35.99	128	21.09	122	40.09	117	44.80	143	24.88	103	25.89	156	25.03	180

(a) Commonwealth Forestry Bureau; records in issues of the Official Year Book prior to No. 36 were for the station at Acton which closed down in 1939. (b) Records taken from present site commenced 1883. (c) 1911-1940. (d) Twenty-six years.

6. Remarkable Falls of Rain.—The following are the most notable falls of rain which have occurred within a period of twenty-four hours ending at 9 a.m. in the various States and Territories. For other very heavy falls at various localities, reference may be made to Official Year Book No. 14, pages 60-64, No. 22, pages 46-48 and No. 29, pages 43, 44 and 51.

## HEAVY RAINFALLS: WESTERN AUSTRALIA, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Whim Creek ..	3 Apr., 1898	29.41	Winderrie ..	17 Jan., 1923	14.23
Fortesque ..	3 May, 1890	23.36	Pilbara ..	2 Apr., 1898	14.04
Roebuck Plains ..	6 Jan., 1917	22.36	Roebuck Plains ..	5 Jan., 1917	14.01
Widjip ..	1 Apr., 1934	19.54	Broome ..	6 Jan., 1917	14.00
Kimberley (Research) ..	6 Apr., 1959	16.98	Carlton Hill ..	7 Feb., 1942	12.75
Derby ..	7 Jan., 1917	16.47	Wyndham ..	4 Mar., 1919	12.50
Boodarie ..	21 Mar., 1899	14.53	Towrana ..	1 Mar., 1943	12.16
Balla Balla ..	21 Mar., 1899	14.40	Marble Bar ..	2 Mar., 1941	12.00
			Jimba Jimba ..	1 Mar., 1943	11.54

## HEAVY RAINFALLS: NORTHERN TERRITORY, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Brocks Creek ..	24 Dec., 1915	14.33	Borroloola ..	7 Jan., 1940	12.68
Groote Eylandt ..	9 Apr., 1931	14.29	Borroloola ..	4 Feb., 1938	12.00
Borroloola ..	14 Mar., 1899	14.00	Bathurst Island		
Timber Creek ..	5 Feb., 1942	13.65	Mission ..	7 Apr., 1925	11.85
Cape Don ..	13 Jan., 1935	13.58	Darwin ..	7 Jan., 1897	11.67

## HEAVY RAINFALLS: SOUTH AUSTRALIA, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Arrossan ..	18 Feb., 1946	8.10	Port Victoria ..	18 Feb., 1946	7.08
Carpa ..	18 Feb., 1946	7.83	Wynbring ..	28 Feb., 1921	7.00
Edithburgh ..	18 Feb., 1946	7.46	Mannum ..	25 Jan., 1941	6.84
Hesso ..	18 Feb., 1946	7.36	Wirrabarra Forest Reserve ..	7 Mar., 1910	6.80
Maitland ..	18 Feb., 1946	7.21	Cape Willoughby	18 Feb., 1946	6.80
Wilmington ..	1 Mar., 1921	7.12			

## HEAVY RAINFALLS: QUEENSLAND, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Crohamhurst ..	3 Feb., 1893	35.71	Springbrook ..	24 Jan., 1947	27.07
Finch-Hatton ..	18 Feb., 1958	34.58	Springbrook ..	21 Feb., 1954	27.04
Port Douglas ..	1 Apr., 1911	31.53	Mt. Jukes ..	18 Feb., 1958	26.40
Yarrabah ..	2 Apr., 1911	30.65	Buderim Mountain	12 Jan., 1898	26.20
Mt. Charlton ..	18 Feb., 1958	29.95	Flat Top Island ..	21 Jan., 1918	25.18
Mooloolah ..	3 Feb., 1893	29.11	Landsborough ..	3 Feb., 1893	25.15
Kuranda ..	2 Apr., 1911	28.80	Harvey Creek ..	31 Jan., 1913	24.72
Calen ..	18 Feb., 1958	27.84	Kuranda ..	1 Apr., 1911	24.30
Harvey Creek ..	3 Jan., 1911	27.75	Batinda (Cairns)	2 Mar., 1935	24.14
Sarina ..	26 Feb., 1913	27.75	Goondi ..	30 Jan., 1913	24.10
Plane Ck. (Mackay)	26 Feb., 1913	27.73	Banyan (Cardwell)	12 Feb., 1927	24.00
Deeral ..	2 Mar., 1935	27.60	Carruchan ..	24 Jan., 1934	24.00
Yarrabah Mission	24 Jan., 1916	27.20	Tully Mill ..	12 Feb., 1927	23.86



## HEAVY RAINFALLS: NEW SOUTH WALES, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Dorrigo .. ..	24 June, 1950	25.04	Viaduct Creek ..	15 Mar., 1936	20.00
Cordeaux River ..	14 Feb., 1898	22.58	Buladelah .. ..	16 Apr., 1927	19.80
Morpeth .. ..	9 Mar., 1893	21.52	Orara Upper .. .	24 June, 1950	19.80
Broger's Creek ..	13 Jan., 1911	20.83	Madden's Creek ..	13 Jan., 1911	18.68
South Head (Sydney Harbour) ..	16 Oct., 1844	20.41	Condong .. ..	27 Mar., 1887	18.66
" .. ..	29 Apr., 1841	20.12	Candelo .. ..	27 Feb., 1919	18.58
Mount Pleasant ..	5 May, 1925	20.10	Mt. Kembla .. .	13 Jan., 1911	18.25
Broger's Creek ..	14 Feb., 1898	20.05	Bega .. ..	27 Feb., 1919	17.88
Towamba .. ..	5 Mar., 1893	20.00	Kembla Heights	13 Jan., 1911	17.46
			Foxground .. ..	11 Sept., 1950	17.04

## HEAVY RAINFALLS: AUSTRALIAN CAPITAL TERRITORY, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Cotter Junction ..	27 May, 1925	7.13	Uriarra (Woodside)	27 May, 1925	6.57
Canberra (Acton)	27 May, 1925	6.84	Land's End .. ..	27 May, 1925	6.35

## HEAVY RAINFALLS: VICTORIA, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Balook .. ..	18 Feb., 1951	10.81	Blackwood (Greenhill) .. ..	26 Jan., 1941	8.98
Hazel Park .. ..	1 Dec., 1934	10.50	Tambo Crossing	13 July, 1925	8.89
Kalorama .. ..	1 Dec., 1934	10.05	Corinella .. ..	28 June, 1948	8.75
Cann River .. ..	16 Mar., 1938	9.94	Erica .. ..	1 Dec., 1934	8.66
Tonghi Creek .. .	27 Feb., 1919	9.90	Mt. Buffalo .. .	6 June, 1917	8.53
Cann River .. ..	27 Feb., 1919	9.56	Korumburra .. .	1 Dec., 1934	8.51
Olinda .. ..	1 Dec., 1934	9.10			

## HEAVY RAINFALLS: TASMANIA, UP TO 1960, INCLUSIVE.

Name of Town or Locality.	Date.	Amt.	Name of Town or Locality.	Date.	Amt.
		in.			in.
Mathinna .. ..	5 Apr., 1929	13.25	Riana .. ..	5 Apr., 1929	11.08
Cullenswood .. .	5 Apr., 1929	11.12	Triabunna .. ..	5 June, 1923	10.20

7. **Snowfall.**—Light snow has been known to fall occasionally as far north as latitude 31° S., and from the western to the eastern shores of the continent. During exceptional seasons, it has fallen simultaneously over two-thirds of New South Wales, and has extended at times along the whole of the Great Dividing Range, from its southern extremity in Victoria as far north as Toowoomba in Queensland. During the winter, for several months, snow covers the ground to a great extent on the Australian Alps, where the temperature falls below zero Fahrenheit during the night. In the ravines around Mt. Kosciusko and similar localities, the snow does not entirely disappear after a severe winter.

8. **Hail.**—Hail falls most frequently along the southern shores of the continent in the winter, and over eastern Australia during the summer months. The size of the hailstones generally increases with distance from the coast. A summer rarely passes without some station experiencing a fall of stones exceeding in size an ordinary hen egg and many riddled sheets of light-gauge galvanized iron bear evidence of the weight and penetrating power of the stones.

The hailstones occur most frequently when the barometric readings indicate a flat and unstable condition of pressure. Tornadoes or tornadic tendencies are almost invariably accompanied by hail, and on the east coast the clouds from which the stones fall are frequently of a remarkable sepia-coloured tint.

9. **Droughts.**—A special article dealing with droughts was included in Year Book No. 45, pages 51–56. Fuller information is available in a Bureau of Meteorology publication *Droughts in Australia* by J. C. Foley (Bulletin 43, 1957).

10. **Barometric Pressures.**—The mean annual barometric pressure (corrected to sea level and standard gravity) in Australia varies from 29.80 inches on the north coast to 29.92 inches over the central and 30.03 inches in the southern parts of the continent. In January, the mean pressure ranges from 29.70 inches in the northern and central areas to 29.95 inches in the southern. The July mean pressure ranges from 29.90 inches at Darwin to 30.12 inches at Alice Springs. Barometer readings corrected to mean sea level and standard gravity have ranged as high, under anticyclonic conditions, as 30.935 inches (at Hobart on 13th July, 1846) and have fallen as low as 27.55 inches. This record low was registered at Mackay during a tropical hurricane on 21st January, 1918. An almost equally abnormal reading of 27.88 inches was recorded at Innisfail during a similar storm on 10th March, 1918. For graphs of Mean Barometric Pressure at Capital Cities, see Official Year Book No. 37, page 35.

11. **Wind.**—(i) *Trade Winds.* The two distinctive wind currents in Australia are, as previously stated, the south-east trade and the “prevailing” westerly winds. As the belt of the earth’s atmosphere in which they blow apparently follows the sun’s ecliptic path north and south of the equator, so the area of the continent affected by these winds varies at different seasons of the year. During the summer months, the anticyclonic belt travels in high latitudes, thereby bringing the south-east trade winds as far south as 30° south latitude. The “prevailing” westerly winds retreat a considerable distance to the south of Australia, and are less in evidence in the hot months. When the sun passes to the north of the equator, the south-east trade winds follow it, and for the greater part of the winter operate only to the north of the tropics. The westerly winds come into lower latitudes during the same period of the year. They sweep across the southern areas of the continent from Cape Leeuwin to Cape Howe, and during some seasons are remarkably persistent and strong, occasionally penetrating to almost tropical latitudes.

(ii) *North-west Monsoon.* As the belt of south-east trade winds retreats southward during the summer, it is replaced in the north and north-west of Australia first by a sequence of light variable winds and then by the north-west monsoon. In Australia, the north-west monsoon has not the persistence or regularity of the Indian south-west monsoon but is sufficiently characteristic for the summer in the north of Australia to be called the “North-west Season”. In central and eastern Queensland, the north-west monsoon in the summer has comparatively little effect, and the trade winds, though weakened, are still dominant winds. With the movement of the sun northward in the autumn, the north-west monsoon is replaced first by light variable winds and then by the trade winds.

Further particulars of Australian wind conditions and meteorology will be found in Official Year Book No. 38, pages 58–61. Reference should also be made to the wind rose diagrams on pages 43 and 44.

(iii) *Cyclones and Storms.* The “elements” in Australia are ordinarily peaceful, and while destructive cyclones have visited various parts, more especially coastal areas, such visitations are rare, and may be properly described as erratic.

During the winter months, the southern shores of the continent are subject to deep depressions of the southern low-pressure belt. They are felt most severely over the south-western parts of Western Australia, to the south-east of South Australia, in Bass Strait, along the coastline of Victoria, and on the west coast of Tasmania. Apparently the more violent wind pressures from these disturbances are experienced in their northern half, or in that part of them which has a north-westerly to a south-westerly circulation.

The north-east coast of Queensland is occasionally visited by hurricanes from the north-east tropics. During the first four months of the year, these hurricanes appear to have their origin in the neighbourhood of the South Pacific Islands, their path being a parabolic curve first to the south-west and finally towards the south-east.

Very severe cyclones, locally known as “willy willies”, are peculiar to the north-west coast of Western Australia from the months of November to April, inclusive. They usually originate over the ocean to the north or north-west of Australia, and travel in a south-westerly direction with continually increasing force, displaying their greatest energy near Cossack and Onslow, between latitudes 20° and 22° South. The winds in these storms, like those from the north-east tropics, are very violent and destructive. The greatest velocities are usually to be found in the south-eastern quadrant of the cyclones, with north-east to east winds. After leaving the north-west coast, these storms either travel southwards, following the coast-line, or cross the continent to the Great Australian Bight. When they take the latter course, their track is marked by torrential rains, as much as 29.41 inches, for example, being recorded in 24 hours at Whim Creek from one such occurrence. Falls of 10 inches and over have frequently been recorded in the northern interior of Western Australia from similar storms.

Some further notes on severe cyclones and on "southerly bursters", a characteristic feature of the eastern part of Australia, appeared in early issues of the Official Year Book (see No. 6, pp. 84-86), and a special article dealing with "Australian Hurricanes and Related Storms" appeared in Official Year Book No. 16, pages 80-84.

Depressions vary considerably in their isobaric forms, intensity and other characteristics. Some bring rain in variable quantities, some heat and others mainly wind. A common type in southern Australia is the "Λ" shaped trough with an abrupt "backing" of the wind or "line squall" as it passes. The cold front is most frequently found through the centre of the "trough" because it is along this line, and extending into the upper levels of the atmosphere, that the demarcation of different air masses is so well defined. The best rains in inland Australia occur when extensive masses of warm moist tropical air move into the interior and are forced to rise by convergence of flow or by impact with a cold air stream.

The speed of low pressure systems is very variable, but in general in southern latitudes the movement is of the order of 500 to 700 miles a day.

12. Influences affecting Australian Climate.—(i) *General.* Australian history does not cover a sufficient period, nor is the country sufficiently occupied, to ascertain whether or not the advance of settlement has materially affected the climate as a whole. Local changes have, however, taken place, a fact which suggests that settlement and the treatment of the land have a distinct effect on local conditions. For example, low-lying lands on the north coast of New South Wales, which originally were seldom subject to frosts, have, with the deforestation of the surrounding hills, experienced annual visitations, the probable explanation being that through the absence of trees the cold air of the highlands now flows unchecked and untempered down the sides of the hills to the valleys and lower lands.

(ii) *Influence of Forests on Climate.* Since forests doubtless exercise a great influence on local climate, it follows that, to the extent that forestal undertakings will allow, the weather can be controlled by human agency. The direct action of forests is an equalizing one; thus, especially in equatorial regions, and during the warmest portion of the year, they reduce considerably the mean temperature of the air. They also reduce the diurnal extremes of shade temperatures by altering the extent of radiating surface by evaporation, and by checking the movement of air, and while decreasing evaporation from the ground, they increase the relative humidity. Vegetation greatly diminishes the rate of flow-off of rain and the washing away of surface soil, and when a region is protected by trees a steadier water supply is ensured, and the rainfall is better conserved. In regions of snowfall, the supply of water to rivers is similarly regulated, and, without this and the sheltering influence of ravines and gullies, watercourses supplied mainly by melting snow would be subject to alternate periods of flooding and dryness. This is borne out in the case of the inland rivers, the River Murray, for example, which has never been known to become dry, deriving its steadiness of flow mainly through the causes indicated.

(iii) *Direct Influence of Forests on Rainfall.* Whether forests have a direct influence on rainfall is a debatable question, some authorities alleging that precipitation is undoubtedly induced by forests, while others take the opposite view.

Sufficient evidence exists, however, to prove that, even if the rainfall is not increased, the beneficial climatic effect of forest lands more than warrants their protection and extension. Rapid rate of evaporation, induced by both hot and cold winds, injures crops and makes life uncomfortable on the plains, and, while it may be doubted that the forest aids in increasing precipitation, it must be admitted that it does check winds and the rapid evaporation due to them. Trees as wind-breaks have been successfully planted in central parts of the United States of America, and there is no reason why similar experiments should not be successful in many parts of the treeless interior of Australia. The belts should be planted at right angles to the direction of the prevailing parching winds, and if not more than half a mile apart will afford shelter to the enclosed areas.

13. Rainfall and Temperatures, Various Cities.—Official Year Book No. 34, page 28, shows rainfall and temperature and No. 38, page 42, temperature, for various important cities throughout the world and for the Australian capitals.

14. Climatological Tables.—The averages and extremes for a number of climatological elements, which have been determined from long series of observations at the Australian capitals up to and including the year 1960, are given on the following eight pages.

NOTE.—The following points apply throughout:—

- (i) Where records are available, mean or average values have been calculated on a standard period of 30 years from 1911 to 1940.
- (ii) Extreme values have been extracted from all available years of actual record, but the number of years quoted does not include intervening periods when observations were temporarily discontinued.

**CLIMATOLOGICAL DATA: PERTH, WESTERN AUSTRALIA.**  
 (LAT. 31° 57' S., LONG. 115° 51' E. HEIGHT ABOVE M.S.L. 210 FT.)  
 Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind. (Height of Anemometer 71 feet.)				Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m., 3 p.m., 9 p.m. (a)	No. of Clear Days.	
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.					
					9 a.m.					3 p.m.
No. of years of observations.	30(b)	30(b)	63	48	30(b)	30(b)	30(b)	30(b)		
January ..	29.897	10.9	26.3 27/98	48	E	SSW	10.37	2	2.9	14
February ..	29.922	10.7	21.5 6/08	54	ENE	SSW	8.63	2	3.1	13
March ..	29.976	10.1	21.5 6/13	66	E	SSW	7.32	2	3.5	13
April ..	30.071	8.5	31.5 25/00	63	ENE	SSW	4.62	2	4.2	13
May ..	30.062	8.4	27.3 29/32	68	NE	WSW	2.80	2	4.4	13
June ..	30.068	8.4	30.2 17/27	80	N	NW	2.37	2	4.9	13
July ..	30.082	8.8	33.5 20/26	77	NNE	W	1.82	2	5.5	13
August ..	30.084	9.4	31.9 15/03	78	N	WNW	2.76	2	5.6	13
September ..	30.073	9.4	28.5 11/05	68	ENE	SSW	3.44	1	5.9	13
October ..	30.033	10.0	26.7 6/16	65	SE	SW	5.38	1	4.8	13
November ..	29.989	10.7	25.7 18/97	63	E	SW	7.65	2	3.9	13
December ..	29.923	11.0	25.6 6/22	64	E	SSW	9.69	2	3.2	13
Year { Totals	—	—	—	—	—	—	—	—	—	—
{ Averages	30.015	9.7	—	—	E	SSW	66.05	23	—	108
{ Extremes	—	—	33.5 20/7/26	80	—	—	—	—	4.4	—

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940).

**Temperature and Sunshine.**

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).		Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.
	Mean Max.	Mean Min.	Mean 30(a)	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of years over which observation extends.	30(a)	30(a)	30(a)	64		64	60		30(a)
January ..	84.6	63.3	73.9	110.7 29/56	48.6 20/25	62.1	177.3 22/14	39.5 20/25	10.4
February ..	85.1	63.5	74.3	112.2 8/33	47.7 1/02	64.5	173.7 4/34	39.8 1/13	9.8
March ..	81.3	61.5	71.4	106.4 14/22	45.8 8/03	60.6	167.0 19/18	36.7 8/03	8.8
April ..	76.3	57.4	66.8	99.7 9/10	39.3 2/14	60.4	157.0 8/16	31.0 20/14	7.5
May ..	69.0	52.8	60.9	90.4 2/07	34.3 11/14	56.1	146.0 4/25	25.3 11/14	5.7
June ..	64.4	49.8	57.1	81.7 2/14	34.9 22/58	46.8	135.5 9/14	25.9 27/46	4.8
July ..	62.8	48.0	55.4	76.4 21/21	34.2 7/16	42.2	133.2 13/15	25.1 30/20	5.4
August ..	63.8	48.4	56.1	82.0 21/40	35.2 31/08	47.2	145.1 29/21	26.7 24/35	6.0
September ..	66.8	50.4	58.6	90.9 30/18	36.7 6/56	54.2	153.6 29/16	27.2 (b)	7.2
October ..	69.7	52.6	61.1	96.6 24/60	40.0 16/31	56.6	161.2 19/54	29.8 16/31	8.1
November ..	76.7	57.3	67.0	104.6 24/13	42.0 1/04	62.6	167.0 30/25	35.0 3/47	9.6
December ..	81.2	60.9	71.0	107.9 20/04	47.5 29/57	60.4	168.8 11/27	38.0 29/57	10.4
Year { Averages	73.5	55.5	64.5	112.2 8/2/33	34.2 7/7/16	78.0	177.3 22/1/14	25.1 30/7/20	7.8
{ Extremes	—	—	—	—	—	—	—	—	—

(a) Standard 30 years' normal (1911-1940). (b) 8/1952 and 6/1956.

**Humidity, Rainfall and Fog.**

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).				Fog. Mean No. of Days of Fog.	
		Mean.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.		Greatest in one Day.
No. of years over which observation extends.	30(a)	30(a)	61	61	30(a)	30(a)	85	85	85	30(a)
January ..	0.438	51	63	41	0.33	3	2.17 1879	Nil (b)	1.74 27/79	0
February ..	0.434	51	65	43	0.50	3	6.55 1955	Nil (b)	3.43 17/55	0
March ..	0.432	57	66	46	0.90	5	5.71 1934	Nil (b)	3.03 9/34	0
April ..	0.397	61	73	51	1.75	8	5.85 1926	Nil 1920	2.62 30/04	1
May ..	0.365	70	81	61	5.14	15	12.13 1879	0.77 1949	3.00 17/42	2
June ..	0.337	75	83	68	7.55	17	18.75 1945	2.16 1877	3.90 10/20	2
July ..	0.322	76	84	69	7.08	19	16.73 1958	2.42 1876	3.00 0/41	2
August ..	0.316	71	83	62	5.78	19	12.53 1945	0.46 1902	2.91 14/45	1
September ..	0.341	66	75	58	3.37	15	7.84 1923	0.34 1916	1.82 4/31	0
October ..	0.345	60	75	52	2.30	12	7.87 1890	1.15 1946	1.73 3/33	0
November ..	0.374	52	63	41	0.75	7	2.78 1916	Nil 1891	1.54 29/56	0
December ..	0.409	51	63	44	0.54	5	3.17 1951	Nil (b)	1.84 3/51	0
Year { Totals	—	—	—	—	35.99	128	—	—	—	8
{ Averages	0.370	62	—	—	—	—	—	—	—	—
{ Extremes	—	—	84	41	—	—	18.75 6/1945	Nil(c)	3.90 10/6/20	—

(a) Standard 30 years' normal (1911-1940). (b) Various years. (c) November to April, various years. Dates in italics relate to nineteenth century.

CLIMATOLOGICAL DATA; DARWIN, NORTHERN TERRITORY.  
(LAT. 12° 28' S, LONG. 130° 51' E. HEIGHT ABOVE M.S.L. 97 FT.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. Min. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.					Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m., p.m.(c)	No. of Clear Days.
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.					
					9 a.m.	3 p.m.				
No. of years of observations.	30	14	—	10(b)	—	—	—	30	30	30
January ..	29.706	6.1	—	66	NW & S	W & NW	—	16	7.1	1
February ..	29.728	6.7	—	54	W & S	W & NW	—	16	7.0	1
March ..	29.751	5.3	—	98	SE	W & NW	—	14	6.2	3
April ..	29.809	6.1	—	42	SE	E	—	6	3.5	11
May ..	29.859	6.5	—	37	SE	E	—	1	2.1	19
June ..	29.892	6.5	—	37	SE	E & SE	—	0	1.6	22
July ..	29.911	6.2	—	36	SE	E & SE	—	0	1.4	23
August ..	29.914	5.9	—	35	SE	NW & N	—	1	1.3	23
September ..	29.886	6.2	—	36	SE & S	NW & N	—	0	2.0	18
October ..	29.850	6.2	—	46	S	NW & N	—	18	3.2	10
November ..	29.797	5.5	—	57	W & S	NW & N	—	17	4.8	4
December ..	29.738	6.2	—	66	NW & S	NW & N	—	17	6.0	2
Year { Totals	—	—	—	—	—	—	—	96	—	137
Year { Averages	29.820	6.1	—	98	SE	NW	—	—	3.9	—
Year { Extremes	—	—	—	—	—	—	—	—	—	—

(a) Scale 0-10. (b) No records 1943 to 1958 inclusive.

Temperature and Sunshine.

Month.	Mean Temperature (°Fahr.)			Extreme Shade Temperature (°Fahr.).		Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of years over which observation extends.	30	30	30	80(a)	80(a)	—	25	—	—
January ..	89.9	77.3	83.6	100.0	2/82	68.8	16/59	168.0	26/42
February ..	89.8	77.1	83.4	100.9	20/87	63.0	25/49	163.6	23/38
March ..	90.2	77.1	83.6	102.0	(b)	66.6	31/45	165.6	23/38
April ..	91.9	75.9	83.9	104.0	7/83	60.8	11/43	163.0	1/38
May ..	90.9	72.6	81.4	102.3	8/84	59.2	8/49	160.0	5/20
June ..	87.5	69.5	78.5	98.6	17/37	55.3	18/49	155.2	2/16
July ..	86.6	67.8	77.2	98.0	17/88	50.7	29/42	156.0	28/17
August ..	88.5	69.7	79.1	98.0	19/00	57.0	16/57	156.2	28/16
September ..	91.0	73.9	82.5	102.0	20/82	63.0	(c)	157.0	(d)
October ..	92.6	77.2	84.9	104.9	17/92	68.5	26/45	160.5	30/38
November ..	93.2	78.2	85.7	103.3	9/84	66.8	4/50	170.4	14/37
December ..	92.0	78.1	85.0	102.0	9/83	68.5	24/41	169.0	26/23
Year { Averages	90.3	74.5	82.4	—	—	—	—	—	—
Year { Extremes	—	—	—	104.9	50.7	29/7/42	—	170.4	14/11/37

(a) Years 1882-1941 at Post Office, 1942-60 at aerodrome; sites not strictly comparable. (b) 26/1883 and 27/1883. (c) 15/1883, 1/1906 and 7/1958. (d) 28/1916 and 3/1921.

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).					Fog. Mean No. of Days of Fog.			
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.				
											30		21
No. of years over which observation extends	57	57	57	57	30	21	92	92	92	30			
January ..	0.925	78	89	69	16.18	20	27.86	1906	2.25	1930	11.67	7/97	0.0
February ..	0.920	79	88	71	12.37	18	25.74	1955	0.44	1931	5.25	15/49	0.0
March ..	0.912	78	84	69	11.18	17	21.88	1898	0.81	1911	7.18	6/19	0.0
April ..	0.800	69	80	60	3.08	6	23.74	1891	Nil	(a)	6.62	4/59	0.0
May ..	0.652	63	76	49	0.33	1	14.00	1953	Nil	(a)	2.19	6/22	0.0
June ..	0.545	61	75	52	0.09	1	1.53	1902	Nil	(a)	1.32	10/02	0.4
July ..	0.522	59	71	47	0.01	0	2.56	1900	Nil	(a)	1.71	2/09	1.1
August ..	0.613	63	73	53	0.02	0	3.00	1870	Nil	(a)	1.06	2/09	0.7
September ..	0.732	65	73	54	0.60	2	2.72	1950	Nil	(a)	2.00	26/50	0.2
October ..	0.832	65	72	60	1.93	3	13.34	1954	Nil	(a)	3.74	18/56	0.0
November ..	0.868	68	75	62	4.32	10	15.72	1938	0.40	1870	4.73	9/51	0.0
December ..	0.890	73	83	65	8.57	15	22.38	1910	0.98	1934	7.87	28/0	0.0
Year { Totals	—	—	—	—	58.68	95	—	—	—	—	—	—	—
Year { Averages	0.764	68	89	47	—	—	27.86	1/06	Nil	(b)	11.67	7/1/1897	—
Year { Extremes	—	—	—	—	—	—	—	—	—	—	—	—	—

(a) Various years. (b) April to October, various years. Dates in italics relate to nineteenth century.

CLIMATOLOGICAL DATA; ADELAIDE, SOUTH AUSTRALIA.  
(LAT. 34° 56' S., LONG. 138° 35' E. HEIGHT ABOVE M.S.L. 140 FT.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. Min. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind. (Height of Anemometer 75 feet.)					Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m., 3 p.m., 9 p.m.(g)	No. of Clear Days.
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.					
					9 a.m.	3 p.m.				
No. of years of observations.	30(b)	30(b)	82	43	30(b)	30(b)	30(b)	30(b)	30(b)	
January ..	29.917	9.9	31.6 19/99	72	SW	SW	9.27	2.3	3.6	12.9
February ..	29.953	8.8	28.8 22/96	66	NE	SW	7.56	2.0	3.7	11.2
March ..	30.037	8.3	26.2 9/12	78	S	SW	6.39	1.8	4.0	10.6
April ..	30.119	8.0	32.2 10/96	81	NE	SW	3.78	1.5	5.2	7.2
May ..	30.131	8.1	31.7 9/80	70	NE	NW	2.27	1.3	5.8	4.9
June ..	30.119	8.3	31.3 12/78	67	NE	N	1.37	1.3	6.1	4.1
July ..	30.111	8.5	28.1 25/82	60	NE	NW	1.34	1.5	6.0	4.3
August ..	30.084	9.2	32.2 31/97	62	NE	SW	1.99	2.0	5.5	5.6
September ..	30.050	9.2	30.0 2/87	69	NNE	SW	3.05	2.0	5.3	5.8
October ..	30.007	9.8	32.0 28/98	75	NNE	SW	5.03	2.8	5.3	5.7
November ..	29.990	9.9	32.2 7/48	79	SW	SW	6.89	3.3	4.9	7.2
December ..	29.922	9.9	28.1 12/91	75	SW	SW	8.74	2.2	4.2	9.5
Year { Totals	—	—	—	—	—	—	57.68	24.0	—	89.0
Year { Averages	30.037	9.0	—	—	NE	SW	—	—	5.0	—
Year { Extremes	—	—	32.2 (c)	81	—	—	—	—	—	—

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940). (c) 10/4/1896, 31/8/1897 and 7/11/1948.

Temperature and Sunshine.

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).		Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of years over which observation extends.	30(a)	30(a)	30(a)	104	104	104	54(b)	100	30(a)
January ..	84.8	61.0	72.9	117.7 12/39	45.1 21/84	72.6	180.0 18/82	36.5 14/79	10.0
February ..	85.7	61.8	73.7	113.6 12/99	45.5 23/18	68.1	170.5 10/00	35.8 23/26	9.3
March ..	81.3	59.1	70.2	110.5 9/34	43.9 21/33	66.6	174.0 17/83	32.1 21/33	7.9
April ..	73.0	54.4	63.7	98.6 5/38	39.6 15/59	59.0	155.0 1/83	30.2 16/17	6.0
May ..	66.8	50.8	58.8	89.5 4/21	36.9 (c)	52.6	148.2 12/79	25.6 19/28	4.8
June ..	61.0	46.6	53.8	78.1 4/57	32.5 (d)	45.6	138.8 18/79	21.0 24/44	4.2
July ..	59.9	45.4	52.7	74.0 11/06	32.0 24/08	42.0	134.5 26/90	22.1 30/29	4.3
August ..	62.3	46.2	54.3	85.0 31/11	32.3 17/59	52.7	140.0 31/92	22.8 11/29	5.4
September ..	66.8	48.3	57.5	91.3 29/44	32.7 4/58	58.6	160.5 23/82	25.0 25/27	6.3
October ..	72.5	51.7	62.1	102.9 21/22	36.1 20/58	66.8	162.0 30/21	27.8 (e)	7.3
November ..	78.1	55.4	66.7	113.5 21/65	40.8 2/09	72.7	166.9 20/78	31.5 2/09	8.6
December ..	82.6	58.9	70.7	114.6 29/31	43.0 (f)	71.6	175.7 7/99	32.5 4/84	9.5
Year { Averages	72.9	53.3	63.1	117.7 12/139	32.0 24/7/08	35.7	180.0 18/11882	21.0 24/6/44	7.0
Year { Extremes	—	—	—	—	—	—	—	—	—

(a) Standard 30 years' normal (1911-1940). (b) Records incomplete, 1931-34. Discontinued, 1934.  
(c) 22/1895 and 24/1904. (d) 27/1876 and 24/1944. (e) 4/1931 and 2/1918. (f) 4/1906 and 16/1861.

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).					Fog. Mean No. of Days of Fog.
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.	
No. of years over which observation extends.	30(a)	30(a)	93	93	30(a)	30(a)	122	122	122	30(a)
January ..	0.327	39	59	29	0.76	5	3.31 1941	Nil (b)	2.30 2/89	0.0
February ..	0.352	41	57	30	1.10	5	6.09 1925	Nil (b)	5.57 7/25	0.0
March ..	0.332	44	58	29	0.87	5	4.59 1878	Nil (b)	3.50 5/78	0.0
April ..	0.329	55	72	37	1.45	10	5.81 1938	Nil 1945	3.15 5/60	0.0
May ..	0.313	64	76	49	2.49	13	7.75 1875	0.10 1934	2.75 1/53	0.6
June ..	0.294	75	84	63	2.93	15	8.58 1916	0.23 1958	2.11 1/20	1.1
July ..	0.282	75	87	66	2.49	16	5.44 1890	0.39 1899	1.75 10/65	1.4
August ..	0.282	68	78	54	2.58	16	6.20 1852	0.33 1944	2.23 19/51	0.4
September ..	0.289	59	72	44	2.39	13	5.83 1923	0.27 1951	1.59 20/23	0.2
October ..	0.287	48	67	29	1.54	10	5.24 1949	0.17 1914	2.24 16/08	0.0
November ..	0.292	41	58	31	1.22	8	4.45 1839	0.08 1922	2.96 12/60	0.0
December ..	0.322	40	56	31	1.27	6	3.98 1861	Nil 1904	2.42 23/13	0.0
Year { Totals	—	—	—	—	21.09	122	—	—	—	3.7
Year { Averages	0.304	52	—	—	—	—	—	—	—	—
Year { Extremes	—	—	87	29	—	—	8.58 6/1916	Nil (c)	5.57 7/25	—

(a) Standard 30 years' normal (1911-1940). (b) Various years. (c) December to April, various years. Dates in italics relate to nineteenth century.

**CLIMATOLOGICAL DATA; BRISBANE, QUEENSLAND.**  
(LAT. 27° 28' S., LONG. 153° 2' E. HEIGHT ABOVE M.S.L. 134 Ft.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 12' F. M. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.					Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m., 5 p.m. (g).	No. of Clear Days.	
		(Height of Anemometer 105 feet.)									
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.						
			9 a.m.	3 p.m.							
No. of years of observations.	30(b)	30(b)	46	46	30(b)	30(b)	30(b)	30(b)	30(b)	30(b)	
January	29.865	6.8	19.7	23/47	58	SE	NE	6.74	9.8	5.7	3.5
February	29.912	7.0	23.2	21/54	67	SE	NE	5.49	6.5	5.6	2.4
March	29.975	6.5	20.3	1/29	65	S	E	5.05	5.9	5.1	5.4
April	30.035	5.9	16.7	3/25	64	S	E	4.05	5.0	4.3	7.8
May	30.083	5.8	17.9	17/26	49	SW	SE	3.09	4.1	4.3	8.3
June	30.091	5.7	19.0	14/28	58	SW	W & SW	2.45	2.9	4.4	9.2
July	30.090	5.6	22.0	13/54	67	SW	W & SW	2.69	2.8	3.8	12.4
August	30.105	5.8	14.8	4/35	56	SW	NE	3.51	3.8	3.1	13.1
September	30.067	5.9	16.1	1/48	63	SW	NE	4.51	5.8	3.3	13.0
October	30.019	6.3	15.7	1/41	62	S	NE	5.81	7.1	4.2	8.5
November	29.958	6.7	15.5	10/28	62	SE & N	NE	6.32	9.5	4.9	5.9
December	29.890	7.0	19.5	15/26	79	SE	NE	7.02	10.6	5.3	3.8
Year { Totals								56.73	73.8	4.5	93.3
Year { Averages	30.007	6.3	—	—	—	SW	NE	—	—	—	—
Year { Extremes	—	—	23.2	21/2/54	79	—	—	—	—	—	—

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940).

**Temperature and Sunshine.**

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).			Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.			
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.	Highest in Sun.		Lowest on Grass.					
									30(a)		30(a)		
No. of years over which observation extends.	30(a)	30(a)	30(a)	74	74	74	50(b)	74	30(a)				
January	85.5	69.1	77.3	109.8	26/40	58.8	4/93	51.0	169.0	2/37	49.9	4/93	7.6
February	84.6	68.7	76.6	105.7	21/25	58.5	23/31	47.2	165.2	6/10	49.1	22/31	7.4
March	82.3	66.2	74.3	99.4	5/19	52.4	29/13	47.0	162.5	6/39	45.4	29/13	7.0
April	79.1	61.5	70.3	95.2	(c)	44.4	25/25	50.8	153.8	11/16	36.7	24/25	7.1
May	73.7	55.6	64.7	90.3	21/23	40.6	30/51	49.7	147.0	1/10	29.8	8/27	6.6
June	69.4	51.5	60.5	88.9	19/18	36.3	29/08	52.6	136.0	3/18	25.4	23/88	6.3
July	68.6	49.4	59.0	84.3	23/46	36.1	(d)	48.2	146.1	20/15	23.9	11/90	6.8
August	71.1	50.0	60.6	91.0	14/46	37.4	6/87	55.6	141.9	20/15	27.1	9/89	7.3
September	75.5	54.8	65.1	100.9	22/43	40.7	1/90	60.2	155.5	26/03	30.4	1/89	8.2
October	79.2	60.3	69.8	105.3	30/58	43.3	3/99	62.0	157.4	31/18	34.9	8/89	8.4
November	82.3	64.6	73.4	106.1	18/13	48.5	2/05	57.6	162.3	7/89	38.8	1/05	8.2
December	84.5	67.5	76.0	105.9	26/93	56.3	5/55	49.6	165.9	28/42	49.1	3/94	8.2
Year { Averages	78.0	59.9	69.0	—	—	—	—	—	—	—	—	—	7.5
Year { Extremes	—	—	—	109.8	26/1/40	36.1	(d)	73.7	169.0	21/1/37	23.9	11/7/1890	—

(a) Standard 30 years' normal (1911-1940). (b) From 1887 to March, 1947, excluding 1927 to 1936. (c) 9/1896 and 5/1903. (d) 12/17/1894 and 2/7/1896.

**Humidity, Rainfall and Fog.**

Month.	Vapour Pressure (inches).	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).					Fog. Mean No. of Days of Fog.				
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.					
											30(a)		30(a)	
No. of years over which observation extends.	30(a)	30(a)	73	73	30(a)	30(a)	109	109(b)	109	30(a)				
January	0.636	66	79	53	5.72	12	27.72	1895	0.32	1919	18.31	21/87	0.6	
February	0.644	69	82	55	5.47	12	40.39	1893	0.58	1849	10.61	6/31	0.9	
March	0.606	72	85	56	4.97	14	34.04	1870	Nil	1849	11.18	14/08	1.6	
April	0.512	71	80	56	3.68	11	15.28	1867	0.04	1944	5.46	5/33	4.0	
May	0.420	71	85	59	2.35	9	13.85	1876	Nil	1846	5.62	9/79	5.4	
June	0.357	73	84	54	2.15	9	14.03	1873	Nil	1847	3.41	15/48	4.5	
July	0.331	71	88	53	1.88	8	8.60	1950	Nil	1841	3.54	(c)	4.9	
August	0.338	67	80	53	1.07	7	14.67	1879	Nil	(d)	4.89	12/87	5.9	
September	0.396	62	76	47	1.69	7	5.43	1886	0.10	1907	2.46	2/94	2.8	
October	0.459	59	72	48	2.27	8	11.41	1949	0.03	1948	5.34	25/49	1.6	
November	0.533	61	73	45	4.00	10	12.40	1917	Nil	1842	4.46	16/86	0.7	
December	0.589	62	70	51	4.24	11	17.36	1942	0.35	1865	6.60	28/71	0.4	
Year { Totals					40.09	117	—	—	—	—	—	—	—	33.3
Year { Averages	0.485	67	—	—	—	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	88	45	—	—	40	39	2/1893	Nil	(e)	18.31	21/1/1887	—

(a) Standard 30 years' normal (1911-1940). (b) Records incomplete for various years between 1846 and 1859. (c) 15/1876 and 16/1889. (d) 1862, 1869, and 1880. (e) Various months in various years. Dates in italics relate to nineteenth century.

CLIMATOLOGICAL DATA; SYDNEY, NEW SOUTH WALES.  
(LAT. 33° 52' S., LONG. 151° 12' E. HEIGHT ABOVE M.S.L. 138 FT.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 12 F. M. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind. (Height of Anemometer 58 feet.)					Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds 9 a.m. 3 p.m., 9 p.m. (0).	No. of Clear Days.
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.					
					9 a.m.	3 p.m.				
No. of years of observations.	30(b)	26(c)	46(d)	44(e)	26(c)	26(c)	26(c)	30(f)	30(b)	30(b)
January ..	29.875	8.9	24.9 2/22	93	S	ENE	5.71	4.8	5.7	4.8
February ..	29.942	8.1	20.1 14/18	63	NE	ENE	4.68	3.3	5.5	5.4
March ..	30.009	7.5	20.7 10/44	58	W	ENE	4.05	2.8	5.3	5.8
April ..	30.063	7.0	23.4 19/27	72	W	NE	2.91	2.4	5.0	7.0
May ..	30.098	6.8	21.1 18 55	63	W	S	2.17	1.6	4.9	7.4
June ..	30.078	7.1	22.4 10/47	84	W	W	1.61	1.5	4.8	8.3
July ..	30.070	7.2	26.6 6/31	68	W	W	1.69	1.1	4.5	10.1
August ..	30.060	7.4	24.6 9/51	68	W	NE	2.30	2.1	3.9	11.1
September ..	30.018	8.0	22.3 19/17	70	W	NE	3.00	3.0	4.2	10.0
October ..	29.976	8.2	24.5 1/57	95	W	ENE	4.17	3.9	4.9	7.4
November ..	29.935	8.5	22.5 14/30	71	W & E	ENE	4.97	4.5	5.5	5.7
December ..	29.881	8.9	25.0 10/20	75	S	ENE	5.64	5.4	5.8	4.8
Year { Totals	—	—	—	—	—	—	42.90	36.4	—	87.8
Year { Averages	30.000	7.8	—	—	W	NE	—	—	5.0	—
Year { Extremes	—	—	26.6 6/7/31	95	—	—	—	—	—	—

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940). (c) 1915-1940. (d) 1915-1960.  
(e) 1917-1960. (f) 1921-1950.

Temperature and Sunshine.

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).		Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.	
No. of years over which observation extends.	30(a)	30(a)	30(a)	102	102	102	84	102	30(b)
January ..	78.6	65.1	71.8	113.6 14/39	51.1 18/49	62.5	164.3 26/15	43.7 6/25	7.5
February ..	78.7	65.5	72.1	107.8 8/26	49.3 28/63	58.5	168.3 14/39	42.8 22/33	7.0
March ..	76.6	62.9	69.8	102.6 3/69	48.8 14/86	53.8	158.3 10/26	39.9 17/13	6.4
April ..	72.0	57.7	64.9	91.4 1/36	44.6 27/64	46.8	144.1 10/77	33.3 24/09	6.1
May ..	67.0	52.4	59.7	86.0 1/19	40.2 22/59	45.8	129.7 1/96	29.3 25/17	5.7
June ..	62.8	48.1	55.5	80.4 11/31	35.7 22/32	44.7	125.5 2/23	28.0 22/32	5.3
July ..	61.8	46.4	54.1	78.3 22/26	35.9 12/90	42.4	124.7 19/77	24.0 4/93	6.1
August ..	64.3	47.6	56.0	86.8 24/54	36.8 3/72	50.0	149.0 30/78	26.1 4/09	7.0
September ..	68.3	51.4	59.9	92.3 27/19	40.8 2/45	51.5	142.2 12/78	30.1 17/05	7.3
October ..	71.7	55.9	63.8	99.4 4/42	42.2 6/27	57.2	152.2 20/33	32.7 9/05	7.5
November ..	74.5	59.8	67.1	104.5 6/46	45.8 1/05	58.7	158.5 28/99	36.0 6/06	7.5
December ..	76.9	63.2	70.1	108.0 20/57	48.4 3/24	59.6	164.5 27/89	41.4 3/24	7.5
Year { Averages	71.1	56.3	63.7	—	—	—	—	—	6.8
Year { Extremes	—	—	—	113.6 14/1/39	35.7 22/6/32	77.9	168.3 14/2/39	24.0 4/7/1893	—

(a) Standard 30 years' normal (1911-1940). (b) 1921-1950 (different exposure prior to 1921)

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches).	Rel. Hum. (%) at 9 a.m.				Rainfall (inches).					Fog. Mean No. of Days of Fog.
		Mean 9 a.m.	Menn.	Highest Menn.	Lowest Menn.	Menn Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.	
No. of years over which observation extends.	30(a)	30(a)	80	80	30(a)	30(a)	102	102	102	30(b)	
January ..	0.537	65	78	58	3.86	13	15.26 1911	0.25 1932	7.08 13/11	0.4	
February ..	0.560	68	81	60	3.15	12	22.22 1956	0.12 1939	8.90 25/73	0.8	
March ..	0.527	71	85	62	4.44	13	20.52 1942	0.42 1876	11.05 28/42	1.8	
April ..	0.441	73	87	63	5.63	14	24.49 1861	0.06 1868	7.52 29/60	2.8	
May ..	0.362	75	90	63	4.98	12	23.03 1919	0.14 1957	8.36 28/89	3.7	
June ..	0.303	76	89	63	3.68	11	25.30 1950	0.19 1904	5.17 16/84	3.3	
July ..	0.282	74	88	63	4.89	12	13.23 1950	0.10 1946	7.80 7/31	2.9	
August ..	0.288	68	84	54	2.41	10	14.89 1899	0.04 1885	5.33 2/60	2.3	
September ..	0.325	62	79	49	2.77	11	14.05 1879	0.08 1882	5.69 10/79	1.0	
October ..	0.378	60	77	46	2.80	11	11.13 (c)	0.21 1867	6.37 13/02	0.6	
November ..	0.433	60	79	42	2.54	11	9.88 1865	0.07 1915	5.24 27/55	0.6	
December ..	0.501	63	77	51	3.63	13	15.82 1920	0.23 1913	4.75 13/10	0.4	
Year { Totals	—	—	—	—	44 80	143	—	—	—	20.6	
Year { Averages	0.393	68	—	—	—	—	—	—	—	—	
Year { Extremes	—	—	90	42	—	—	25 30 6/1950	0.04 8/1885	11.05 28/3/42	—	

(a) Standard 30 years' normal (1911-1940). (b) 1921-1950. (c) 1916 and 1959.

Dates in italics relate to nineteenth century.



CLIMATOLOGICAL DATA; CANBERRA, AUSTRALIAN CAPITAL TERRITORY.

(LAT. 35° 18' S., LONG. 149° 6' E. HEIGHT ABOVE M.S.L., 1,906 FT.)

Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. M. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.					Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m. and 3 p.m. (g)	No. of Clear Days.
		(Height of Anemometer 20 feet.)								
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	Highest Gust Speed (miles per hour).	Prevailing Direction.					
			9 a.m.	3 p.m.						
No. of years of observations.	26	27	31	22(b)	27	27	28	20	26	27
January ..	29.856	4.7	14.9 23/33	65	NW	NW	8.31	1.5	4.9	7.3
February ..	29.900	4.2	15.3 24/33	64	E	NW	6.42	2.3	5.1	6.3
March ..	30.009	3.7	18.2 28/42	52	E	NW	5.20	0.2	5.1	6.9
April ..	30.059	3.6	18.6 8/45	52	NW	NW	3.28	0.3	5.4	4.7
May ..	30.126	3.0	13.2 27/58	64	NW	NW	1.95	0.2	5.6	5.8
June ..	30.120	3.6	16.1 2/30	60	NW	NW	1.29	0.1	6.0	4.5
July ..	30.133	3.4	23.4 7/31	62	NW	NW	1.27	0.0	5.7	5.6
August ..	30.065	4.1	15.7 25/36	59	NW	NW	1.81	0.1	5.4	5.7
September ..	30.057	4.2	17.4 28/34	61	NW	NW	2.87	0.4	5.1	6.1
October ..	29.954	4.3	14.7 12/57	74	NW	NW	4.43	1.0	5.4	5.2
November ..	29.885	4.7	17.2 28/42	66	NW	NW	5.87	1.1	5.5	4.5
December ..	29.834	4.7	16.1 11/38	66	NW	NW	7.64	0.7	5.0	6.3
Year { Totals	30.000	4.0	—	—	NW	NW	50.34	7.9	—	—
Year { Averages	—	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	23.4 7/7/31	74	—	—	—	—	5.3	—

(a) Scale 0-10. (b) 1939 to 1960.

Temperature and Sunshine.

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).			Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.
	Mean.	Max.	Min.	Highest.	Lowest.	Highest in Sun.		Lowest on Grass.		
									Mean	
No. of years over which observation extends.	29	29	29	33	33	33	(a)	33	27	
January ..	82.4	56.0	69.2	107.4 11/39	38.0 1/56	69.4	—	30.1 10/50	8.4	
February ..	80.7	56.1	68.4	99.8 13/33	35.0 (b)	64.8	—	26.5 23/43	7.3	
March ..	76.2	52.7	64.4	99.1 6/38	34.8 31/49	64.3	—	26.4 26/35	7.2	
April ..	66.7	45.5	56.1	89.7 6/38	29.0 29/34	60.7	—	19.0 18/44	6.7	
May ..	59.3	39.1	49.2	72.6 1/36	22.5 (c)	50.1	—	15.6 (d)	5.2	
June ..	52.6	35.7	44.1	64.9 1/54	18.1 20/35	43.9	—	8.9 25/44	4.2	
July ..	51.8	33.8	42.8	63.5 16/34	20.0 (e)	43.5	—	10.8 9/37	4.8	
August ..	55.1	35.4	45.3	71.0 24/54	21.0 3/29	50.0	—	10.1 6/44	5.8	
September ..	61.4	38.9	50.1	81.5 16/34	25.2 6/46	56.3	—	13.0 6/45	7.2	
October ..	67.0	44.2	55.6	90.0 13/46	29.0 24/28	61.0	—	18.2 2/45	7.8	
November ..	72.9	48.7	60.8	101.4 19/44	32.2 11/36	69.2	—	22.9 6/56	8.2	
December ..	79.5	53.3	66.4	103.5 27/38	36.0 24/28	67.5	—	29.1 21/56	8.5	
Year { Averages	67.1	44.9	56.0	—	—	—	—	—	6.8	
Year { Extremes	—	—	—	107.4 11/1939	18.1 20/6/35	89.3	—	8.9 25/6/44	—	

(a) No record. (b) 22/1931 and 23/1931. (c) 9/1929 and 15/1957. (d) 13/1937 and 15/1946. (e) 19/1929, 9/1937 and 27/1943.

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).					Fog. Mean No. of Days of Fog.
		Mean.	Highest.	Lowest.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.	
No. of years over which observation extends.	26	28	28	28	29	29	33	33	33	25
January ..	0.370	53	69	39	2.13	7	6.69 1941	0.02 1932	3.22 30/58	0.1
February ..	0.388	59	71	40	2.17	7	6.03 1948	0.01 1933	3.24 17/28	0.2
March ..	0.378	66	82	48	2.48	7	12.69 1950	0.01 1940	2.56 5/59	1.0
April ..	0.315	71	81	54	2.17	8	5.19 1952	0.07 1942	2.52 9/45	1.4
May ..	0.254	79	89	67	2.06	8	6.13 1948	0.06 1935	3.88 3/48	4.8
June ..	0.212	81	90	72	1.92	9	6.09 1931	0.18 1944	2.32 25/56	5.8
July ..	0.196	81	91	73	1.61	10	5.08 1960	0.27 1940	2.02 13/33	5.3
August ..	0.213	75	88	60	1.98	11	4.71 1939	0.36 (a)	2.07 12/29	2.4
September ..	0.239	66	78	51	1.62	9	4.52 1960	0.13 1946	1.75 3/47	1.4
October ..	0.273	60	72	46	2.77	11	6.98 1959	0.34 1940	5.19 21/59	0.4
November ..	0.301	55	67	38	2.11	8	4.45 1950	0.28 1936	2.45 9/50	0.1
December ..	0.338	51	70	37	1.86	8	8.80 1947	0.16 1938	2.29 28/29	0.0
Year { Totals	—	—	—	—	24.88	103	—	—	—	—
Year { Averages	0.286	66	—	—	—	—	—	—	—	—
Year { Extremes	—	91	37	—	—	—	12.69 3/50	0.01 2/33, 3/40	5.19 21/10/59	—

(a) 1944 and 1949.

All dates relate to twentieth century.

CLIMATOLOGICAL DATA; MELBOURNE, VICTORIA.  
(LAT. 37° 49' S., LONG. 144° 58' E. HEIGHT ABOVE M.S.L. 114 FT.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. Mm. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind.				Prevaling Direction.		Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m. (p.m.g.)	No. of Clear Days.
		(Height of Anemometer 93 feet.)				9 a.m.	3 p.m.				
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).	High-est Gust Speed (miles per hour).	Prevaling Direction.						
No. of years of observations.	30(b)	15(c)	48	51	30(b)	30(b)	30(b)	30(b)	30(b)	30(b)	
January ..	29.897	8.8	21.1	27/41	66	S & SW	S	6.55	1.8	4.9	6.8
February ..	29.950	8.4	19.0	13/47	74	N & S	S	5.10	2.3	4.8	6.4
March ..	30.025	7.8	17.2	19/50	66	N	S	4.26	1.8	5.3	5.5
April ..	30.092	7.1	19.9	16/43	67	N	S	2.53	1.2	5.9	4.6
May ..	30.113	7.4	21.8	1/57	72	N	N	1.57	0.5	6.1	3.4
June ..	30.097	7.2	22.8	16/47	62	N	N	1.18	0.4	6.5	2.7
July ..	30.079	8.7	22.7	22/60	68	N	N	1.16	0.3	6.3	2.9
August ..	30.048	8.2	21.3	20/42	65	N	N	1.54	0.9	6.0	3.1
September ..	30.001	8.5	21.0	21/59	69	N & W	N & S	2.41	1.3	5.9	3.3
October ..	29.968	8.4	18.6	12/52	69	N	S	3.54	1.8	6.1	3.8
November ..	29.951	8.6	21.2	13/58	71	S & SW	S	4.62	2.3	6.0	3.6
December ..	29.896	8.7	21.0	11/52	61	S & SW	S	5.85	1.9	5.6	4.5
Year { Totals	—	—	—	—	—	—	—	40.31	16.5	—	—
Year { Averages	30.010	8.1	—	—	—	N	S	—	—	5.8	—
Year { Extremes	—	—	22.8	16/6/47	74	—	—	—	—	—	50.6

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940). (c) Early records not comparable.

Temperature and Sunshine.

Month.	Mean Temperature (°Fahr.).			Extreme Shade Temperature (°Fahr.).		Extreme Range.	Extreme Temperature (°Fahr.).		Mean Daily Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
No. of years over which observation extends.	30(a)	30(a)	30(a)	105	105	105	86(b)	101	35(c)				
January ..	77.7	56.9	67.3	114.1	13/39	42.0	28/85	72.1	178.5	14/62	30.2	28/85	7.8
February ..	78.6	58.0	68.3	109.5	7/01	40.2	24/24	69.3	167.5	15/70	30.9	6/91	7.4
March ..	74.9	55.2	65.1	107.0	11/40	37.1	17/84	69.9	164.5	1/68	28.9	(d)	6.5
April ..	67.9	50.8	59.3	94.8	5/38	34.8	24/88	60.0	152.0	8/61	25.0	23/97	5.0
May ..	62.0	46.9	54.5	83.7	7/05	29.9	29/16	53.8	142.6	2/59	21.1	26/16	4.1
June ..	56.8	43.8	50.3	72.3	2/57	28.0	11/66	44.3	129.0	1/61	19.9	30/29	3.4
July ..	56.2	42.6	49.4	69.3	22/26	27.0	21/69	42.3	125.8	27/80	20.5	12/03	3.7
August ..	58.7	43.7	51.2	77.0	20/85	28.3	11/63	48.7	137.4	29/69	21.3	14/02	4.6
September ..	63.3	46.0	54.7	88.6	28/28	31.0	3/40	57.6	142.1	20/67	22.8	8/18	5.5
October ..	67.9	48.7	58.3	98.4	24/14	32.1	3/71	66.3	154.3	28/68	24.8	22/18	5.8
November ..	71.3	51.8	61.5	105.7	27/94	36.5	2/96	69.2	159.6	29/65	24.6	2/96	6.2
December ..	75.4	55.3	65.3	110.7	15/76	40.0	4/70	70.7	170.3	20/69	33.2	1/04	7.0
Year { Averages	67.6	50.0	58.8	—	—	—	—	—	—	—	—	—	5.6
Year { Extremes	—	—	—	114.1	13/1/39	27.0	21/7/1869	87.1	178.5	14/1/1862	19.9	30/6/29	—

(a) Standard 30 years' normal (1911-1940). (b) Records discontinued, 1946. (c) 1916-1950. (d) 17/1884 and 20/1897.

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).				Fog. Mean No. of Days of Fog.				
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Rainfall (inches).					
								Least Monthly.		Greatest in one Day.			
No. of years over which observation extends.	30(a)	30(a)	48	48	30(a)	30(a)	105	105	105	30(a)			
January ..	0.382	58	68	50	1.88	9	6.66	1941	0.01	1932	2.97	9/97	0.1
February ..	0.417	62	77	48	2.00	8	7.72	1939	0.03	1870	3.44	26/46	0.3
March ..	0.385	64	79	50	2.22	9	7.50	1911	0.14	1934	3.55	5/19	1.1
April ..	0.351	72	82	66	2.30	13	7.67	1960	Nil	1923	3.15	23/60	2.3
May ..	0.311	79	88	70	1.94	14	5.60	1942	0.14	1934	1.85	7/91	6.8
June ..	0.276	83	92	75	2.06	16	4.51	1859	0.61	1958	1.74	21/04	6.5
July ..	0.264	82	86	75	1.93	17	7.02	1891	0.57	1902	2.71	12/91	6.5
August ..	0.271	76	82	65	2.02	17	4.35	1939	0.48	1903	1.94	26/24	3.7
September ..	0.288	68	76	60	2.20	15	7.93	1916	0.52	1907	2.62	12/80	1.3
October ..	0.307	62	67	52	2.63	14	7.61	1869	0.29	1914	3.00	17/69	0.3
November ..	0.336	60	69	52	2.33	13	8.11	1954	0.25	1895	2.86	21/54	0.3
December ..	0.373	59	69	48	2.38	11	7.18	1863	0.11	1504	3.92	4/54	0.2
Year { Totals	—	—	—	—	25.89	156	—	—	—	—	—	—	29.4
Year { Averages	0.323	69	—	—	—	—	—	—	—	—	—	—	—
Year { Extremes	—	—	92	48	—	—	8.11	11/1954	Nil	4/1923	3.92	4/12/54	—

(a) Standard 30 years' normal (1911-1940). Dates in italics relate to nineteenth century.

CLIMATOLOGICAL DATA; HOBART, TASMANIA.  
(LAT. 42° 53' S., LONG. 147° 20' E. HEIGHT ABOVE M.S.L. 177 Ft.)  
Barometer, Wind, Evaporation, Lightning, Clouds and Clear Days.

Month.	Bar. corrected to 32° F. Wm. Sea Level and Standard Gravity from 9 a.m. and 3 p.m. readings.	Wind. (Height of Anemometer 40 feet.)				Mean Amount of Evaporation (inches).	No. of Days of Lightning.	Mean Amount of Clouds, 9 a.m. to 3 p.m., 9 p.m. to (g)	No. of Clear Days.		
		Average Miles per Hour.	Highest Mean Speed in One Day (miles per hour).		Highest Gust Speed (miles per hour).					Prevailing Direction.	
			9 a.m.	3 p.m.						9 a.m.	3 p.m.
No. of years of observations.	30(b)	30(b)	68		70	30(b)	30(b)	30(b)	30(b)		
January ..	29.819	8.0	20.8	30/16	76	NNW	SSE	4.84	0.9	6.4	1.9
February ..	29.913	7.2	25.2	4/27	67	NNW	SSE	3.71	1.0	6.2	2.3
March ..	29.961	6.8	21.4	13/38	79	NW	SSE	3.10	1.2	6.1	2.4
April ..	29.997	6.7	24.1	9/52	74	NW	W	1.98	0.7	6.5	1.7
May ..	30.009	6.3	20.2	20/36	79	NNW	NW	1.37	0.4	6.1	2.4
June ..	29.986	6.2	23.7	27/20	75	NW	NW	0.91	0.4	6.2	2.4
July ..	29.958	6.5	22.9	22/53	78	NNW	NNW	0.94	0.3	6.1	2.0
August ..	29.906	6.8	25.5	19/26	87	NNW	NW	1.28	0.4	6.1	2.1
September ..	29.860	7.9	21.5	26/15	84	NNW	NW	1.97	0.7	6.3	1.5
October ..	29.833	8.2	19.2	8/12	74	NNW	SW	3.05	0.6	6.6	1.0
November ..	29.831	7.9	21.2	18/15	84	NNW	S	3.77	0.7	6.4	1.3
December ..	29.816	7.6	23.4	1/34	70	NNW	SSE	4.37	0.5	6.8	1.1
Year { Totals ..	—	—	—	—	—	—	—	31.29	7.8	—	22.1
Year { Averages ..	29.907	7.2	—	—	—	NNW	W	—	—	6.3	—
Year { Extremes ..	—	—	25.5	19/8/26	87	—	—	—	—	—	—

(a) Scale 0-10. (b) Standard 30 years' normal (1911-1940).

Temperature and Sunshine.

Month.	Mean Temperature (° Fahr.).			Extreme Shade Temperature (° Fahr.).		Extreme Range.	Extreme Temperature (° Fahr.).		Mean Daily Hours of Sunshine.				
	Mean Max.	Mean Min.	Mean	Highest.	Lowest.		Highest in Sun.	Lowest on Grass.					
										30(a)	30(a)	30(a)	91(b)
No. of years over which observation extends.	30(a)	30(a)	30(a)	91(b)	91(b)	91(b)	57(c)	73(b)	30				
January ..	69.8	52.4	61.0	105.0	(d) 40.1	(e) 39.0	64.9	160.0	(f) 30.6	19/97	7.7		
February ..	70.6	53.7	62.2	104.4	12/99	39.0	20/87	65.4	165.0	24/98	28.3	—/87	7.1
March ..	67.5	51.3	59.4	99.1	13/40	35.2	31/26	63.9	150.9	26/44	27.5	30/02	6.4
April ..	62.2	48.0	55.1	87.1	1/41	33.3	24/88	53.8	142.0	18/93	25.0	—/86	5.0
May ..	57.8	44.6	51.2	77.8	5/21	29.2	20/02	48.6	128.0	(g) 20.0	19/02	4.4	
June ..	52.8	41.2	47.0	69.2	1/07	29.2	28/44	40.0	122.0	12/94	21.0	6/87	4.0
July ..	52.7	40.6	46.6	66.1	14/34	27.7	11/95	38.4	121.0	12/93	18.7	16/86	4.4
August ..	55.4	41.7	48.7	71.6	28/14	28.9	9/51	42.7	129.0	—/87	20.1	7/09	5.1
September ..	59.0	43.7	51.4	81.7	23/26	31.0	16/97	50.7	138.0	23/93	18.3	16/26	5.9
October ..	62.5	46.1	54.3	92.0	24/14	32.0	12/89	60.0	156.0	9/93	23.8	(h) 6/1	6.1
November ..	65.0	48.2	56.6	98.3	26/37	35.0	16/41	63.3	154.0	19/92	26.0	1/08	7.2
December ..	67.9	51.3	59.6	105.2	30/97	38.0	3/06	67.2	161.5	10/39	27.2	—/86	7.3
Year { Averages ..	61.9	46.9	54.4	—	—	—	—	—	—	—	—	—	5.9
Year { Extremes ..	—	—	—	105.2	—	27.7	—	67.5	165.0	—	18.3	16/9/26	—

(a) Standard 30 years' normal (1911-1940). (b) Records 1855-1882 not comparable. (c) Period 1934-1938 not comparable; records discontinued, 1946. (d) 1/1900 and 19/1959. (e) 9/1937 and 11/1937. (f) 5/1886 and 13/1905. (g) —/1889 and —/1893. (h) 1/1886 and —/1899.

Humidity, Rainfall and Fog.

Month.	Vapour Pressure (inches)	Rel. Hum. (%) at 9 a.m.			Rainfall (inches).					Fog. Mean No. of Days of Fog.			
		Mean 9 a.m.	Highest Mean.	Lowest Mean.	Mean Monthly.	Mean No. of Days of Rain.	Greatest Monthly.	Least Monthly.	Greatest in one Day.				
											30(a)	59	69
No. of years over which observation extends.	30(a)	59	69	69	30(a)	30(a)	78(b)	78(b)	78(b)	30(c)			
January ..	0.309	54	72	46	1.82	13	5.91	1893	0.17	(d) 2.96	30/16	0.0	
February ..	0.342	63	77	48	1.68	10	5.15	1954	0.11	1914	2.20	1/54	0.0
March ..	0.323	67	77	52	2.13	13	10.05	1946	0.29	1943	3.47	17/46	0.3
April ..	0.290	72	84	58	2.31	14	9.77	1960	0.07	1904	5.25	23/60	0.2
May ..	0.263	78	89	65	1.71	14	8.43	1958	0.14	1913	1.75	2/93	0.9
June ..	0.233	80	91	68	2.25	16	9.38	1954	0.28	1886	5.80	7/54	0.8
July ..	0.227	80	94	72	2.14	17	6.02	1922	0.17	1950	2.51	18/22	1.0
August ..	0.232	76	92	60	1.82	18	6.32	1946	0.30	1892	2.28	14/90	0.4
September ..	0.240	67	85	58	1.90	17	7.93	1957	0.38	1951	6.15	15/57	0.1
October ..	0.258	63	73	51	2.52	18	7.60	1947	0.39	1914	2.58	4/06	0.0
November ..	0.274	60	72	50	2.23	16	7.39	1885	0.33	1921	3.70	30/85	0.1
December ..	0.306	58	67	45	2.52	14	7.72	1916	0.17	1931	3.70	5/41	0.0
Year { Totals ..	—	—	—	—	25.03	180	—	—	—	—	—	—	3.8
Year { Averages ..	0.271	69	—	—	—	—	—	—	—	—	—	—	—
Year { Extremes ..	—	—	94	45	—	—	10.05	3/1946	0.07	4/1904	6.15	15/9/57	—

(a) Standard 30 years' normal (1911-1940). (b) Records prior to 1883 not comparable. (c) 1922-1951. (d) 1915 and 1958.

Dates in italics relate to nineteenth century.

## CHAPTER III.

### GENERAL GOVERNMENT.

#### § 1. Scheme of Parliamentary Government.

1. **General.**—The legislative power of the Commonwealth is vested in the Parliament of the Commonwealth, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General who, subject to the Constitution of the Commonwealth, has such powers and functions as the Sovereign is pleased to assign to him. In each State, there is a State Governor who is the representative of the Sovereign for the State and who exercises such powers within the State as are conferred upon him by the Letters Patent which constitute his office and by the instructions which inform him in detail of the manner in which his duties are to be fulfilled. The Legislature in each State was bi-cameral until 1922, in which year the Queensland Upper House was abolished and the Parliament became uni-cameral. In the bi-cameral Parliaments, the Upper House is known as the Senate in the Commonwealth Parliament, and as the Legislative Council in the State Parliaments, while the Lower House is known as the House of Representatives in the Commonwealth Parliament, as the Legislative Assembly in the State Parliaments of New South Wales, Victoria and Western Australia, and as the House of Assembly in the State Parliaments of South Australia and Tasmania. In Queensland, the Legislative Assembly constitutes the legislature. The legislative powers of the Parliaments are delimited by the Commonwealth and State Constitutions. The Assembly, which is the larger House, is, in all cases, elective, the franchise extending to adult British subjects with certain residential qualifications. The Council in each of the States other than New South Wales is elected by the people of the State concerned, the constituencies being differently arranged and, in general, some property or special qualification for the electorate being required. In Victoria, however, under the Legislative Council Reform Act passed in October, 1950, adult suffrage was adopted for Legislative Council elections. In the case of New South Wales, the Council is elected by the members of both Houses of Parliament at a simultaneous sitting. In the Federal Parliament, the qualifications for the franchise are identical for both Houses, extending to adult British subjects who have lived in Australia for six months continuously.

2. **The Sovereign.**—(i) *Accession of Queen Elizabeth II.* On 7th February, 1952, the Governor-General and members of the Federal Executive Council proclaimed Princess Elizabeth Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty in Westminster Abbey took place on 2nd June, 1953.

(ii) *Royal Style and Titles Act 1953.* At a conference of Prime Ministers and other representatives of the British Commonwealth in London in December, 1952, it was agreed that the Royal Style and Titles then in use were not in accord with current relationships within the British Commonwealth and that there was need of a new form which would, in particular, “reflect the special position of the Sovereign as Head of the Commonwealth”.

It was therefore decided that each member of the British Commonwealth should use a form of the Royal Style and Titles suited for its own circumstances, while retaining as a common element the description “Queen of Her other Realms and Territories and Head of the Commonwealth”; and that consultation between all countries of the Commonwealth should take place on any future proposal to change the form of the Royal Style and Titles used in any country.

To give effect to these decisions in Australia, the Royal Style and Titles Act was passed on 3rd April, 1953, giving Parliament's assent to the adoption by the Queen, for use in relation to the Commonwealth of Australia and its Territories, of the following Royal Style and Titles:—“Elizabeth the Second, by the Grace of God of the United Kingdom,

Australia and Her other Realms and Territories Queen, Head of the Commonwealth, Defender of the Faith." The Act also approves the adoption by the Queen of a Royal Style and Titles for use in relation to other countries of the British Commonwealth in accordance with the principles formulated at the London conference.

(iii) *Authorization of a Royal Great Seal.* By warrant published in the Commonwealth Gazette of 17th November, 1955, Her Majesty authorized the Great Seal of the Commonwealth to be used as a Royal Great Seal in sealing all things whatsoever (other than things that pass the said Great Seal) that bear Her Majesty's Sign Manual and the counter-signature of one of Her Ministers of State for the Commonwealth.

### 3. Powers and Functions of the Governor-General and of the State Governors.—

(i) *Governor-General of the Commonwealth.* Section 2 of the Commonwealth Constitution provides as follows:—

"A Governor-General appointed by the Queen shall be Her Majesty's representative in the Commonwealth, and shall have and may exercise in the Commonwealth during the Queen's pleasure, but subject to this Constitution, such powers and functions of the Queen as Her Majesty may be pleased to assign to him."

As the Queen's representative in Australia, the Governor-General exercises certain prerogative powers and functions assigned to him by the Queen—either by Letters Patent (see Letters Patent dated 29th October, 1900, and 30th October, 1958), by Instructions under the Royal Sign Manual and Signet, by Commission issued to him under the Royal Sign Manual and Signet, or by any instrument of delegation under section 2 of the Constitution. Powers which have been so assigned include, among others, the power to appoint a Deputy or Deputies of the Governor-General, to administer or authorize any other person to administer the Oath of Allegiance, to grant pardons and to remit fines for offences against the laws of the Commonwealth, and to appoint certain officers in the Diplomatic or Consular Service of the Commonwealth.

Other powers and functions are conferred on the Governor-General by the Constitution. For example, under section 5 of the Constitution he may appoint times for holding the sessions of the Parliament, prorogue Parliament and dissolve the House of Representatives. Under section 32, the Governor-General in Council may cause writs to be issued for general elections of members of the House of Representatives. Under section 58, he assents in the Queen's name to a proposed law passed by both Houses of the Parliament or withholds assent, or reserves the law for the Queen's pleasure; or he may return the proposed law to the House in which it originated and may transmit therewith any amendments which he may recommend. Under section 61, he exercises the executive power of the Commonwealth; under section 62, he chooses and summons Executive Councillors, who hold office during his pleasure; and under section 64, he may appoint Ministers of State for the Commonwealth. By section 68, the command in chief of the naval and military forces of the Commonwealth is vested in the Governor-General, as the Queen's representative. Under the conventions of responsible government obtaining in Commonwealth countries, the Governor-General's executive functions generally are exercised on the advice of Ministers of State. In this regard, the Governor-General's position has become assimilated to that of the Queen in relation to her Ministers of State for the United Kingdom.

In addition, many powers and functions are exercised by the Governor-General under Acts of the Commonwealth Parliament. Most Acts, for example, provide that the Governor-General may make regulations, not inconsistent with the Act, either generally to give effect to the Act or to cover certain matters specified in the power. The Governor-General may be authorized by statute to issue proclamations—for example, to declare an Act in force or a state of things to exist, e.g. the existence of an epidemic. The Governor-General has been given power by statute to legislate for certain Territories of the Commonwealth. Other statutory powers include the power to appoint and dismiss certain office holders. A reference to the Governor-General, in Acts of the Commonwealth Parliament, means, unless the contrary intention appears, the Governor-General acting with the advice of the Executive Council (Acts Interpretation Act 1901–1957, section 16A).

(ii) *Governors of the States.* The Queen is represented in each of the States by a Governor, the office having been constituted by Letters Patent under the Great Seal of the United Kingdom of various dates.

The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their Commissions of appointment, and the "Governor's Instructions" given them under the Royal Sign Manual and Signet or other instrument as specified in the Letters Patent. In addition, they have been invested with various statutory functions, either under the State Constitutions, conferred by Imperial Act, or by Act of the Parliament of the State.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State, except those reserved for the Royal assent. The latter include certain classes of Bills which are regulated by the Constitution Acts and by the Governor's Instructions. He administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown.

In the performance of his functions generally, particularly those conferred by Statute, the Governor of a State acts on the advice of Ministers of State for the State.

(iii) *Holders of Office.* For the names of the Governors-General since the inception of the Commonwealth and the present State Governors, see § 3, page 73.

4. **The Cabinet and Executive Government.**—(i) *General.* Both in the Commonwealth and in the States, executive government is based on the system which was evolved in Britain in the 18th century, and which is generally known as "Cabinet" or "responsible" government. Its essence is that the head of the State (Her Majesty the Queen, and her representative, the Governor-General or Governor) should perform Governmental acts on the advice of her Ministers; that she should choose her principal Ministers of State from members of Parliament belonging to the party, or coalition of parties, commanding a majority in the popular House; that the Ministry so chosen should be collectively responsible to that House for the government of the country; and that the Ministry should resign if it ceases to command a majority there.

The Cabinet system operates chiefly by means of constitutional conventions, customs, or understandings, and through institutions that do not form part of the legal structure of the government at all. The constitutions of the Commonwealth and the States make fuller legal provision for the Cabinet system than the British Constitution does—for example, by requiring that Ministers shall either be, or within a prescribed period become, members of the Legislature. In general, however, the legal structure of the executive government remains the same as it was before the establishment of the Cabinet system.

The executive power of the Commonwealth is exercisable by the Governor-General, and that of the States by the Governor. In each case, he is advised by an Executive Council, which, however, meets only for certain formal purposes, as explained below. The whole policy of a Ministry is, in practice, determined by some or all of the Ministers of State, meeting without the Governor-General or Governor under the chairmanship of the Prime Minister or Premier. This group of Ministers is known as the Cabinet.

(ii) *The Cabinet.* This body does not form part of the legal mechanism of government. Its meetings are private and deliberative. The actual Ministers of the day alone are present, no records of the meetings are made public, and the decisions taken have, in themselves, no legal effect. In Australia, until January, 1956, all Ministers were members of the Cabinet. Since then, however, although in the States all Ministers are members of the Cabinet, the Commonwealth ministry is made up of twelve senior Ministers, who constitute the Cabinet, and ten Ministers of non-Cabinet rank who attend meetings of the Cabinet only when required, as, for example, when the business of the Cabinet concerns their departments. As Ministers are the leaders of the party or parties commanding a majority in the popular House, the Cabinet substantially controls, in ordinary circumstances, not only the general legislative programme of Parliament, but the whole course of Parliamentary proceedings. In effect, though not in form, the Cabinet, by reason of the fact that all Ministers are members of the Executive Council, is also the dominant element in the executive government of the country. Even in summoning, proroguing or dissolving Parliament, the Governor-General or Governor is usually guided by the advice tendered him by the Cabinet, through the Prime Minister or Premier, though legally the discretion is vested in the Governor-General or Governor himself.

(iii) *The Executive Council.* This body is usually presided over by the Governor-General or Governor, the members thereof holding office during his pleasure. All Ministers of State must be members of the Executive Council. In the Commonwealth, and also in the States of Victoria and Tasmania, Ministers remain members of the Executive Council on leaving office, but are not summoned to attend its meetings, for it is an essential feature of the Cabinet system that attendance should be limited to the Ministers of the day. The

meetings of the Executive Council are formal and official in character, and a record of proceedings is kept by the Secretary or Clerk. At Executive Council meetings, the decisions of the Cabinet are (where necessary) given legal form, appointments made, resignations accepted, proclamations issued, and regulations and the like approved.

(iv) *The Appointment of Ministers.* Legally, Ministers hold office during the pleasure of the Governor-General or Governor. In practice, however, the discretion of the Queen's representative in the choice of Ministers is limited by the conventions on which the Cabinet system rests. Australian practice follows, broadly, that of the United Kingdom. When a Ministry resigns, the Crown's custom is to send for the leader of the party which commands, or is likely to be able to command, a majority in the popular House, and to commission him, as Prime Minister or Premier, to "form a Ministry"—that is, to nominate other persons to be appointed as Ministers of State and to serve as his colleagues in the Cabinet.

The customary procedure in connexion with the resignation or acceptance of office by a Ministry is described fully in previous issues of the Official Year Book (*see* No. 6, p. 942). It may be added, however, that legislation now exists in all States, the effect of which is to obviate the necessity of responsible Ministers vacating their seats in Parliament on appointment to office.

(v) *Ministers in Upper and Lower Houses.* The following table shows the number of Ministers with seats in the Upper or Lower Houses of each Parliament in March, 1962.

AUSTRALIAN PARLIAMENTS: MINISTERS IN UPPER OR LOWER HOUSES, MARCH, 1962.

Ministers with Seats in—	C'wealth.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
The Upper House ..	5	2	4	(a)	3	2	1	17
The Lower House ..	17	14	10	11	5	8	8	73
<b>Total ..</b>	<b>22</b>	<b>16</b>	<b>14</b>	<b>11</b>	<b>8</b>	<b>10</b>	<b>9</b>	<b>90</b>

(a) Abolished in 1922.

For the names of the occupants of ministerial office in each of the Parliaments of Australia in March, 1962, *see* § 3 of this chapter, page 75. Subsequent changes will be found in the Appendix to this volume.

(vi) *Numbers and Salaries of Commonwealth Ministers.* Under sections 65 and 66, respectively, of the Constitution of the Commonwealth, the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £12,000, each provision to operate, however, "until the Parliament otherwise provides".

Subsequently, the number and salaries were increased to 8—£13,650 (1915) and to 9—£15,300 (1917). During the period of financial emergency in the early thirties, the ministerial salary appropriation was reduced to as low as £10,710 a year, and was not restored to its former level until 1938, when the appropriation was £16,950. During the period of restoration of salary, the number of Ministers was increased to 10 (1935). Later increases were as follows:—to 11—£18,600 (1938); 19—£21,250 (1941) (these increases were war-time provisions, extended into peacetime in 1946); £27,650 (1947—number unaltered); 20—£29,000 (1951); £41,000 (1952—number unaltered); 22—£46,500 (1956); £66,600 (1959—number unaltered). In 1938, an additional ministerial allowance of £1,500 a year was granted to the Prime Minister; this was increased to £3,500 a year (exempt from income tax) in 1952, and at the same time an additional ministerial allowance of £1,000 a year (exempt from income tax) was granted to each other Minister. This latter figure was increased, in 1959, to £1,500 a year, and the income tax exemption was removed.

All amounts payable in the foregoing paragraphs are in addition to amounts payable as Parliamentary allowances (*see* paras. 5 and 6 following).

5. *Number and Salary of Members of the Legislatures, Australian Parliaments, December, 1961.*—The following table shows the number and annual salary of members in each of the legislative chambers in December, 1961.

**AUSTRALIAN PARLIAMENTS: MEMBERS AND ANNUAL SALARIES,  
31st DECEMBER, 1961.**

Members in—	C'wealth.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
NUMBER OF MEMBERS.								
Upper House ..	60	60	34	(a)	20	30	19	223
Lower House ..	124	94	66	78	39	50	35	486
<b>Total ..</b>	<b>184</b>	<b>154</b>	<b>100</b>	<b>78</b>	<b>59</b>	<b>80</b>	<b>54</b>	<b>709</b>
ANNUAL SALARY. (£.)								
Upper House ..	(b) 2,750	500 (c) 2,000	(a)	(d) 2,000	(e) 2,220	(f) 1,850		..
Lower House ..	(b) 2,750	(g) 2,350	(c) 2,000	(h) 2,501	(d) 2,000	(e) 2,220	(f) 1,850	..

(a) Abolished in 1922. (b) Plus expense allowances—Senators, £800; Members of the House of Representatives, city electorates, £850, country electorates, £1,050. Certain additional allowances are also provided for holders of parliamentary offices, etc. (c) Plus allowance of £550 for metropolitan, £750 for urban, £850 for inner country and £950 for outer country electorates. (d) Plus allowance of £550 where electorate is less than 50 miles from Adelaide; £700 if more than 50 miles, £600 if more than 200 miles. (e) Plus £50 where any part of electorate is more than 50 miles from Perth and expense reimbursement ranging from £450 for a Metropolitan member to £700 for a North Province member. (f) Plus allowance according to area of electorate and distance from the capital varying from £250 to £575 in the case of the Legislative Council, and from £750 to £875 in the case of the House of Assembly. (g) Plus allowance varying from £650 to £950 according to remoteness of electorate and other allowances. (h) Plus individual electoral allowances varying between £325 and £1,175.

6. **Enactments of the Parliaments.**—In the Commonwealth, all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Constitution. In the States other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania, laws are expressed to be enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. The Governor-General or the State Governor acts on behalf of, and in the name of, the Sovereign in assenting to Bills passed by the Legislatures, but he may reserve them for the special consideration of the Sovereign. The Parliaments of the States are empowered generally, subject to the Commonwealth Constitution, to make laws in and for their respective States, in all cases whatsoever. Subject to certain limitations, they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth, the latter prevails, and the former is, to the extent of the inconsistency, invalid.

**§ 2. Parliaments and Elections.**

1. **Commonwealth.**—(i) *Qualifications for Membership and for Franchise—Commonwealth Parliament.* Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, twenty-one years of age or over, who has resided in the Commonwealth for at least three years and who is, or is qualified to become, an elector of the Commonwealth. Qualifications for Commonwealth franchise are possessed by any British subject, not under twenty-one years of age and not disqualified on other grounds, who has lived in Australia for six months continuously. Residence in a sub-division for a period of one month prior to enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory. A member



of the Defence Forces on service outside Australia who is a British subject not less than 21 years of age and has lived in Australia for six months continuously is entitled to vote at Commonwealth elections, whether enrolled or not.

The principal reasons for disqualification of persons otherwise eligible as members of either Commonwealth House are:—Membership of the other House, allegiance to a foreign power, being attainted of treason, being convicted and under sentence for any offence punishable by imprisonment for one year or longer, being an undischarged bankrupt or insolvent, holding office of profit under the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons. Persons of unsound mind, attainted of treason, convicted and under sentence for any offence punishable by imprisonment for one year or longer, or persons who are holders of temporary entry permits under the Migration Act, or are prohibited immigrants under that Act, are excluded from the franchise. In the main, these or similar grounds for disqualification apply also to State Parliament membership and franchise.

(ii) *Commonwealth Parliaments and Elections.* From the establishment of the Commonwealth until 1949, the Senate consisted of 36 members, six being returned by each of the original federating States. The Constitution empowers Parliament to increase or decrease the size of the Parliament, and, as the population of the Commonwealth had more than doubled since its inception, the Parliament enacted legislation in 1948 enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation. Thus, the Representation Act 1948 provided that there shall be ten Senators from each State instead of six, increasing the total to 60 Senators. To effect this transition in the Senate, seven Senators were elected from each State at the elections of 1949, four taking office immediately the Senate sat after the election, the remaining three commencing their term on the usual date—1st July, 1950. Members of this Chamber are normally elected for a term of six years, but half the members retire at the end of every third year, and they are eligible for re-election. Accordingly, at each normal election of Senators, five Senators are now elected in each State, making 30 to be elected at each such election.

In accordance with the Constitution, the total number of members of the House of Representatives must be as nearly as practicable double that of the Senate. Consequently, in terms of the Constitution and the Representation Act 1905–1938, from the date of the 1949 elections the number of members in the House of Representatives was increased from 74 to 121 (excluding the members for the internal Territories). As the States are represented in the House of Representatives on a population basis, the numbers were increased as follows:—New South Wales—from 28 to 47; Victoria—from 20 to 33; Queensland—from 10 to 18; South Australia—from 6 to 10; and Western Australia—from 5 to 8. Tasmania's representation remained at 5 and the total was increased from 74 to 121. The increase in the number of members of Parliament necessitated a redistribution of seats and a redetermination of electoral boundaries. This was carried out by Distribution Commissioners in each State on a quota basis, but taking into account community or diversity of interest, means of communication, physical features, existing boundaries of divisions and sub-divisions, and State electoral boundaries.

The population as disclosed by the Census taken on 30th June, 1954, necessitated a further alteration in representation in the House of Representatives in respect of New South Wales, South Australia, and Western Australia. Representation as from the general election for the House of Representatives on 10th December, 1955, was New South Wales 46, Victoria 33, Queensland 18, South Australia 11, Western Australia 9, Tasmania 5, the total number of members (excluding the members for the internal Territories) being increased from 121 to 122. A redistribution of electoral boundaries was effected by Distribution Commissioners appointed in each State.

The population as disclosed by the Census taken on 30th June, 1961, necessitated further representational changes, New South Wales representation becoming 45, Queensland 19, and Western Australia 8. The necessary redistribution of boundaries to bring these into effect has not yet been made.

Since the general elections of 1922, the Northern Territory has been represented by one member in the House of Representatives. The Australian Capital Territory Representation Act 1948 gave similar representation to the Australian Capital Territory as from the elections of 1949. The members for the Territories may join in the debates but are not entitled to vote, except on any proposed law which relates solely to the respective

Territories, on a motion for the disallowance of any ordinance of the Territory or on any amendment to such motion, or on a motion for the disallowance of a regulation under an ordinance. The Commonwealth Parliament, however, when providing for a Legislative Council for the Northern Territory in 1947, relinquished the power to disallow ordinances for that Territory. As from the date of establishment of the Legislative Council, power to disallow ordinances was vested in the Governor-General in Council. In certain cases, ordinances passed must be reserved for the pleasure of the Governor-General.

The Constitution provides for a minimum of five members for each original State. Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators, the whole State constitutes the electorate. For the purpose of elections for the House of Representatives, the State is divided into single electorates corresponding in number with the number of members to which the State is entitled. Further information regarding the Senate and the House of Representatives is given in earlier issues of the Official Year Book.

There have been twenty-three complete Parliaments since Federation. Until 1927, the Parliament met in Melbourne; it now meets in Canberra, the first meeting at Parliament House, Canberra, being opened by the late King George VI., then Duke of York, on 9th May, 1927.

The fifth Parliament, which was opened on 9th July, 1913, was dissolved on 30th July, 1914, by means of a double dissolution, when, for the first time in the history of the Commonwealth, a deadlock occurred between the Senate and the House of Representatives, and, in accordance with section 57 of the Constitution which provides for such an eventuality, both Houses were dissolved by the Governor-General. The nineteenth Parliament was similarly dissolved. It opened on 22nd February, 1950, but on 19th March, 1951, in its first session, a double dissolution was proclaimed for the second time since the inception of the Commonwealth.

The system of voting for the House of Representatives is preferential. Until 1948, voting for the Senate was also preferential, but the Commonwealth Electoral Act 1948, introduced with the Representation Act 1948 to enlarge the Commonwealth Parliament (*see p. 66*), changed the system of scrutiny and counting of votes in Senate elections from preferential to that of proportional representation. For a description of the system, *see Official Year Book No. 38, pages 82-3.*

For particulars of electors enrolled and of electors who voted at the various Commonwealth elections, *see earlier Year Books.* Elections for the Senate have usually been held at the same time as those for the House of Representatives. The double dissolution of the nineteenth Parliament, however, referred to above, led to the holding of Senate elections on separate dates. An election for the Senate was held on 9th May, 1953, and a further election was due within one year of 30th June, 1956, i.e. the date of the completion of the term of office of half the elected Senators. The twenty-first Parliament opened on 4th August, 1954, and was dissolved on 4th November, 1955, enabling the election for the Senate and the House of Representatives again to be held simultaneously.

The twenty-third Parliament opened on 17th February, 1959, and was dissolved on 26th October, 1961. Elections for both Houses were held on 9th December, 1961, and particulars of electors and voting in the several States were as follows.

SENATE ELECTION, 9th DECEMBER, 1961.

State.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	1,047,020	1,099,773	2,146,793	1,000,601	1,042,576	2,043,177	95.57	94.80	95.17
Victoria ..	776,380	810,321	1,586,701	743,363	771,645	1,515,008	95.75	95.23	95.48
Queensland ..	412,925	413,203	826,128	391,237	391,439	782,676	94.75	94.73	94.74
South Australia	255,136	266,354	521,490	246,695	254,617	501,312	96.69	95.59	96.13
West. Australia	191,865	193,052	384,917	181,489	183,118	364,607	94.59	94.85	94.72
Tasmania ..	91,608	93,924	185,532	88,260	89,310	177,570	96.35	95.09	95.71
<b>Total ..</b>	<b>2,774,934</b>	<b>2,876,627</b>	<b>5,651,561</b>	<b>2,651,645</b>	<b>2,732,705</b>	<b>5,384,350</b>	<b>95.56</b>	<b>95.00</b>	<b>95.27</b>

## ELECTION FOR HOUSE OF REPRESENTATIVES, 9th DECEMBER, 1961.

State.	Electors Enrolled.			Electors who Voted.			Percentage of Electors who Voted.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	1,047,020	1,099,773	2,146,793	1,000,601	1,042,576	2,043,177	95.57	94.80	95.17
Victoria ..	776,380	810,321	1,586,701	743,363	771,645	1,515,008	95.75	95.23	95.48
Queensland ..	412,925	413,203	826,128	391,237	391,439	782,676	94.75	94.73	94.74
South Australia	255,136	266,354	521,490	246,695	254,617	501,312	96.69	95.59	96.13
West. Australia	191,865	193,052	384,917	181,489	183,118	364,607	94.59	94.85	94.72
Tasmania ..	91,608	93,924	185,532	88,260	89,310	177,570	96.35	95.09	95.71
Nor. Territory ..	7,222	4,909	12,131	5,726	4,050	9,776	79.29	82.50	80.59
Aust. Cap. Terr.	14,586	14,086	28,672	13,600	13,128	26,728	93.24	93.20	93.22
Australia ..	2,796,742	2,895,622	5,692,364	2,670,971	2,749,883	5,420,854	95.50	94.97	95.23

The twenty-fourth Parliament opened on 20th February, 1962.

(iii) *Commonwealth Referendums.* According to Section 128 of the Constitution, any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament, must be submitted to a referendum of the electors in each State, and must be approved also by a majority of the States and of the electors who voted, before it can be presented for Royal Assent. So far, 24 proposals have been submitted to referendums and the consent of the electors has been received in four cases only, the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928—and the fourth in respect of Social Services in 1946. Details of the various referendums and the voting thereon were given in previous issues of the Official Year Book (see List of Special Articles preceding General Index to this volume), and a brief summary was given in Official Year Book No. 41 (see p. 67).

2. *State Elections.*—(i) *Latest in each State.* (a) *Upper Houses.* The following table shows particulars of the voting at the most recent elections for the Upper Houses or Legislative Councils in the States of Victoria, South Australia, Western Australia and Tasmania. In New South Wales, members of the Legislative Council are elected at simultaneous sittings of the members of both Houses, in Queensland there has been no Legislative Council since 1922, and in Tasmania three members of the Council are elected annually (but four in each sixth year) and the Council cannot be dissolved as a whole.

## STATE UPPER HOUSE ELECTIONS.

State.	Year of Latest Election.	Electors Enrolled—Whole State.			Contested Electorates.					
					Electors who Voted.			Percentage of Electors who Voted.		
		Males.	Fe-males.	Total.	Males.	Fe-males.	Total.	Males.	Fe-males.	Total.
Victoria ..	1961	758,029	796,827	1,554,856	717,755	750,107	1,467,862	94.69	94.14	94.41
South Australia ..	1962	(a)	(a)	b118,218	(a)	(a)	98,786	(a)	(a)	83.56
Western Australia	1960	b105,650	b42,136	b147,786	47,952	17,869	65,821	45.39	42.41	44.54
Tasmania ..	1961	17,247	18,980	36,227	15,099	15,604	30,703	87.55	82.21	84.75

(a) Not available.

(b) Total electors enrolled in contested divisions.

(b) *Lower Houses.* The following table shows particulars of the voting at the most recent election for the Lower House in each State for which figures are available. Later figures may be found in the Appendix to this volume.

STATE LOWER HOUSE ELECTIONS.

State.	Year of Latest Election.	Electors Enrolled— Whole State.			Contested Electorates.					
					Electors who Voted.			Percentage of Electors who Voted.		
		Males.	Fe- males.	Total.	Males.	Fe- males.	Total.	Males.	Fe- males.	Total.
New South Wales	1959	1010096	1065172	2075268	856,071	883,510	1739581	94.60	93.42	94.00
Victoria . . .	1961	758,029	796,827	1,554,856	717,755	750,107	1,467,862	94.69	94.14	94.41
Queensland . .	1960	415,222	416,176	831,398	375,801	377,130	752,931	(a)	(a)	92.50
South Australia . .	1962	(a)	(a)	644,419	(a)	(a)	417,462	(a)	(a)	93.98
Western Australia	1959	181,298	180,331	361,629	134,130	135,192	269,322	91.81	92.91	92.36
Tasmania . . .	1959	89,034	91,310	180,344	85,120	85,439	170,559	95.60	93.57	94.57

(a) Not available. (b) Total electors in contested districts.

(ii) *Elections in Earlier Years.* Official Year Book No. 47 and earlier issues contain particulars of the voting at elections for both Upper and Lower State Houses in years prior to those shown above, and some general information is given in the following paragraphs.

3. The Parliament of New South Wales.—The two Houses of Parliament are the Legislative Council (or Upper House) and the Legislative Assembly (or Lower House).

The Legislative Council consists of 60 members. At elections held every third year a group of 15 members is elected for 12 years. The electoral body comprises the members, for the time being, of the two Houses of Parliament, who record their votes by secret ballot at simultaneous sittings of both Houses. Casual vacancies are filled by a like election. Any man or woman who is entitled to vote at the election of members of the Legislative Assembly, and has been resident for at least three years in the Commonwealth of Australia, is eligible for election as a member of the Legislative Council. A referendum was held on 29th April, 1961, on a proposal to abolish the Legislative Council. Of the 2,104,811 electors enrolled, 1,941,199 recorded their votes, 49,364 of which were informal. Of the 1,891,835 formal votes, 802,530 were in favour of abolition and 1,089,305 against.

The Legislative Assembly, which is the more important House, consists of 94 members elected on a system of universal adult suffrage, by secret ballot, for a maximum period of three years. Adult British subjects, men and women, are qualified for enrolment as electors when they have resided in the Commonwealth for a period of six months, in the State for three months, and in any sub-division of an electoral district for one month preceding the date of claim for enrolment. Any person qualified to vote at any State election is eligible to be elected to the Legislative Assembly. Casual vacancies may be filled at by-elections.

Persons are disqualified either as parliamentary members or voters for reasons generally the same as those outlined on page 66.

Since the introduction of responsible government in New South Wales, there have been 38 complete Parliaments, the first of which opened on 22nd May, 1856, and was dissolved on 19th December, 1857, while the thirty-eighth was dissolved on 16th February, 1959. The thirty-ninth Parliament opened on 21st April, 1959.

The Legislative Assembly elections of 1920, 1922, and 1925 were contested on the principle of proportional representation, but a reversion to the system of single seats and preferential voting was made at all later appeals to the people. The principle of one elector one vote was adopted in 1894, and that of compulsory enrolment in 1921. Compulsory voting was introduced at the 1930 election. The franchise was extended to women (Women's Franchise Act) in 1902, and was exercised by them for the first time in 1904.

**4. The Parliament of Victoria.**—Both of the Victorian legislative Chambers are elective bodies, but there is a considerable difference in the number of members of each House, and there was also, until the Legislative Council Reform Act 1950, a difference in the qualifications necessary for members and electors. The number of members in the Upper House is 34, two members being returned for each of the 17 provinces, and in the Lower House, 66, one member being returned for each electorate. In the Legislative Council, the tenure of the seat is for six years, except that one-half of the members who are elected for provinces at any general election for the Council are entitled to hold their seats for a period of only three years, one member for each of the 17 provinces retiring every third year. Members of the Legislative Assembly are elected for the duration of Parliament, which is limited to three years.

Qualifications for membership of the Legislative Council are possessed by any adult natural-born subject of the Queen, or by any adult alien naturalized for five years and resident in Victoria for two years. Entitlement for enrolment as an elector is extended to every adult natural-born or naturalized subject who has resided in Australia for at least six months continuously and in Victoria for at least three months and in any subdivision for at least one month immediately preceding the date of claim for enrolment. These qualifications for membership and electors apply also in respect of the Legislative Assembly. Reasons for disqualification follow the general pattern for Australia (*see* p. 66). Prior to 1951, property or certain professional or academic qualifications were required for membership of, and franchise for, the Legislative Council.

Since the introduction of responsible government in Victoria, there have been forty-one complete Parliaments, the first of which opened on 21st November, 1856, and closed on 9th August, 1859, while the forty-first was dissolved on 1st June, 1961. The forty-second Parliament was opened on 1st August, 1961.

Single voting is observed in elections held for either House, plural voting having been abolished for the Legislative Assembly in 1899 and for the Legislative Council in 1937. A preferential system of voting (*see* Official Year Book No. 6, p. 1182) was adopted for the first time in Victoria at the Assembly election held in November, 1911. The franchise was extended to women by the Adult Suffrage Act 1908, while voting at elections was made compulsory for the Legislative Assembly in 1926 and for the Legislative Council in 1935.

**5. The Parliament of Queensland.**—As stated previously, the Legislative Council in Queensland was abolished in 1922, the date of Royal Assent to the Act being 23rd March, 1922. The Legislative Assembly is composed of 78 members, each elected for a period of three years and each representing an electoral district. The State is divided into three zones—metropolitan, provincial cities and country, having 28, 12 and 38 electoral districts respectively. Prior to 1960 there were 75 members and electorates.

Any person qualified to be enrolled for any electoral district is qualified for election to the Legislative Assembly. Any person not under the age of twenty-one years, who is a natural-born or naturalized British subject with continuous residence within Australia for six months, in Queensland for three months, and in an electoral district for one month prior to making a claim for enrolment, is qualified to enrol as an elector. The classes of persons not qualified to be elected are similar to those for other Australian Parliaments (*see* p. 66).

Since the establishment of responsible government in Queensland, there have been 35 complete Parliaments, the last of which was dissolved on 13th April, 1960. Opinions differ regarding the opening date of the first Queensland Parliament. According to the Votes and Proceedings of the Legislative Assembly, the House met for the first time on 22nd May, 1860, when the members were sworn and the Speaker elected. The Governor, however, was unable to be present on that date, but he duly attended on 29th May, 1860, and delivered the Opening Address. The thirty-sixth Parliament was opened on 23rd August, 1960.

The election of 1907 was the first State election in Queensland at which women voted, the right being conferred under the Elections Acts Amendment Act 1905. At the elections held in May, 1915, the principle of compulsory voting was introduced for the first time in Australia. A system of optional preferential voting operated for many years but, in 1942, this was abolished and that of election of the candidate obtaining the highest number of votes in the electorate now operates.

6. **The Parliament of South Australia.**—In this State, there is a Legislative Council composed of twenty members and a House of Assembly with 39 members, both Chambers being elective. For the Legislative Council, the State is divided into five districts each returning four members. The term of office is six years, two members for each district retiring at the end of every three years. Thirty-nine districts return one member each to the House of Assembly; prior to 1938 there were 46 members representing nineteen districts. The term of office for the House of Assembly is three years.

Any person who is at least thirty years of age, is a British subject or legally made a denizen of the State and who has resided in the State for at least three years is qualified for membership of the Legislative Council. Qualifications for the Council franchise are that a person is at least twenty-one years of age, a British subject, an inhabitant of the State with residence for at least six months prior to the registration of the electoral claim, and that he or she has had certain war service, or possesses property qualifications relating to ownership, leaseholding, or inhabitant occupancy. Any person qualified and entitled to be registered as an elector for the House of Assembly is qualified and entitled for election as a member of that House. Qualifications for enrolment as an elector for the House of Assembly are that a person is at least twenty-one years of age, is a British subject, and has lived continuously in Australia for at least six months, in the State for three months and in an Assembly subdivision for one month immediately preceding the date of claim for enrolment. Provisions in the Constitution for disqualification from membership or from the franchise in respect of either House follow the usual pattern for Australia (*see* p. 66).

Since the inauguration of responsible government in South Australia, there have been 35 complete Parliaments, the first of which was opened on 22nd April, 1857. The thirty-fifth Parliament closed on 3rd March, 1959, and the thirty-sixth was opened on 9th June, 1959. The duration of the twenty-eighth Parliament was extended from three to five years by the provisions of the Constitution (Quinquennial Parliament) Act 1933, but this Act was repealed by the Constitution Act Amendment Act (No. 2) 1939, and the three-year term was reverted to.

South Australia was the first of the States to grant women's suffrage (under the Constitution Amendment Act 1894), the franchise being exercised by women for the first time at the Legislative Assembly election on 25th April, 1896. Compulsory voting for the House of Assembly was first adopted at the 1944 election. A system of preferential voting is in operation.

7. **The Parliament of Western Australia.**—In this State, both Chambers are elective. For the Legislative Council, there are 30 members, each of the ten provinces returning three members. One member for each province retires at the end of every two years. At each biennial election, the member elected holds office for a term of six years, and automatically retires at the end of that period. The Legislative Assembly is composed of 50 members, one member being returned by each electoral district. Members of the Legislative Assembly are elected for three years.

Qualifications required for membership of the Legislative Council are the age of at least 30 years, residence in Western Australia for two years and being a natural-born British subject or naturalized for five years prior to election and resident in the State for that period. Qualifications required for Council franchise are the age of at least 21 years, residence in Western Australia for six months, being a natural-born British subject or naturalized for twelve months, and certain property qualifications relating to freehold, leasehold, or householder occupancy. Qualifications required for membership of the Legislative Assembly are the age of at least 21 years, residence in Western Australia for twelve months and being a natural-born British subject or naturalized for five years and resident in the State for two years prior to election. Qualifications required for the franchise are the age of at least 21 years, residence in Western Australia for six months and in an electoral district continuously for three months, and being a natural-born or naturalized British subject. Persons may be disqualified as members or voters for reasons similar to those for other Australian Parliaments (*see* p. 66).

Since the establishment of responsible government in Western Australia, there have been twenty-two complete Parliaments, the first of which was opened on 30th December, 1890. The twenty-second Parliament dissolved on 31st January, 1959, and the twenty-third was opened on 30th June, 1959. A preferential system of voting is in use in Western Australia.

Women's suffrage was granted by the Electoral Act of 1899. The first woman member to be elected to an Australian Parliament was returned at the 1921 election in this State. Voting for the Legislative Assembly was made compulsory in December, 1936, the first elections for which the provision was in force being those held on 18th March, 1939.

**8. The Parliament of Tasmania.**—In Tasmania, there are two legislative Chambers, the Legislative Council and the House of Assembly, both bodies being elective. In accordance with the Constitution Act 1946, the Council now consists of nineteen members, elected for six years and returned from nineteen divisions. Three members retire annually (except in the 1953 elections and in each sixth successive year thereafter, when four retire) and the Council cannot be dissolved as a whole. There are five House of Assembly divisions, corresponding to the Commonwealth electoral divisions, each returning seven members elected under a system of proportional representation which first came into force at the 1909 elections. By the Constitution Act 1936, the life of the Assembly was extended from three to five years.

Persons qualified for election to the Legislative Council must be at least 25 years of age and qualified to vote as Council electors, have been resident in Tasmania for a period of five years at any one time or at least two years immediately preceding the election, and be natural-born subjects of the Queen or naturalized for at least five years. An elector for the Council must be at least twenty-one years of age, a natural-born or naturalized subject and resident in Tasmania for a period of twelve months, with certain freehold or occupancy property qualifications, or the spouse of a person qualified to vote as the owner or occupier of property, or with certain academic, professional, defence force, or war service qualifications. For the House of Assembly, members must be at least twenty-one years of age, have been resident in Tasmania for a period of five years at any one time or for a period of two years immediately preceding the election, and be natural-born subjects of the Queen or naturalized for a period of five years. Electors must be at least twenty-one years of age, natural-born or naturalized subjects and resident in Tasmania for a period of six months continuously. Reasons for disqualification of members or voters are similar to those for other Australian Parliaments (*see* p. 66).

The first Tasmanian Parliament opened on 2nd December, 1856, and closed on 8th May, 1861. There have been 32 complete Parliaments since the inauguration of responsible government, the thirty-second having been dissolved on 9th April, 1959. The thirty-third Parliament was opened on 2nd June, 1959.

The suffrage was granted to women under the Constitution Amendment Act 1903 and compulsory voting for both Houses came into force on the passing of the Electoral Act in 1928. The system of voting is proportional representation by single transferable vote.

**9. Superannuation Funds of the Parliament of the Commonwealth and of the Australian States.**—Particulars of the main features of the superannuation or retiring allowances funds of the Parliaments of the Commonwealth and the States are contained in earlier issues of the Year Book (*see* List of Special Articles preceding General Index to this volume). For particulars of the financial operations of these schemes *see* Chapter XX.—Private Finance.

### § 3. Administration and Legislation.

**1. The Commonwealth Parliaments.**—The first Parliament of the Commonwealth was convened by proclamation dated 29th April, 1901, by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9th May, 1901, by H.R.H. the Duke of Cornwall and York, who had been sent to Australia for that purpose by His Majesty the King. The Rt. Hon. Sir Edmund Barton, G.C.M.G., K.C., was Prime Minister.

The following table shows the number and duration of Parliaments since Federation.

## COMMONWEALTH PARLIAMENTS.

Number of Parliament.	Date of Opening.	Date of Dissolution.
First .. .. .	9th May, 1901 .. ..	23rd November, 1903
Second .. .. .	2nd March, 1904 .. ..	5th November, 1906
Third .. .. .	20th February, 1907 .. ..	19th February, 1910
Fourth .. .. .	1st July, 1910 .. ..	23rd April, 1913
Fifth .. .. .	9th July, 1913 .. ..	30th July, 1914(a)
Sixth .. .. .	8th October, 1914 .. ..	26th March, 1917
Seventh .. .. .	14th June, 1917 .. ..	3rd November, 1919
Eighth .. .. .	26th February, 1920 .. ..	6th November, 1922
Ninth .. .. .	28th February, 1923 .. ..	3rd October, 1925
Tenth .. .. .	13th January, 1926 .. ..	9th October, 1928
Eleventh .. .. .	9th February, 1929 .. ..	16th September, 1929
Twelfth .. .. .	20th November, 1929 .. ..	27th November, 1931
Thirteenth .. .. .	17th February, 1932 .. ..	7th August, 1934
Fourteenth .. .. .	23rd October, 1934 .. ..	21st September, 1937
Fifteenth .. .. .	30th November, 1937 .. ..	27th August, 1940
Sixteenth .. .. .	20th November, 1940 .. ..	7th July, 1943
Seventeenth .. .. .	23rd September, 1943 .. ..	16th August, 1946
Eighteenth .. .. .	6th November, 1946 .. ..	31st October, 1949
Nineteenth .. .. .	22nd February, 1950 .. ..	19th March, 1951(a)
Twentieth .. .. .	12th June, 1951 .. ..	21st April, 1954
Twenty-first .. .. .	4th August, 1954 .. ..	4th November, 1955
Twenty-second .. .. .	15th February, 1956 .. ..	14th October, 1958
Twenty-third .. .. .	17th February, 1959 .. ..	26th October, 1961
Twenty-fourth .. .. .	20th February, 1962 .. ..	

(a) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General, acting on the advice of the Cabinet and under section 57 of the Constitution.

2. **Governors-General and Commonwealth Ministries.**—(i) *Governors-General.* The following statement shows the names of the Governors-General since the inception of the Commonwealth:—

## GOVERNORS-GENERAL.

- Rt. Hon. JOHN ADRIAN LOUIS, EARL OF HOPETOUN (afterwards MARQUIS OF LINLITHGOW) P.C., K.T., G.C.M.G., G.C.V.O. From 1st January, 1901, to 9th January, 1903.
- Rt. Hon. HALLAM, BARON TENNYSON, P.C., G.C.M.G. From 17th July, 1902, to 9th January, 1903, (Acting).
- Rt. Hon. HALLAM, BARON TENNYSON, P.C., G.C.M.G. From 9th January, 1903, to 21st January, 1904.
- Rt. Hon. HENRY STAFFORD, BARON NORTHCOTE, P.C., G.C.M.G., G.C.I.E., C.B. From 21st January, 1904, to 9th September, 1908.
- Rt. Hon. WILLIAM HUMBLE, EARL OF DUDLEY, P.C., G.C.B., G.C.M.G., G.C.V.O. From 9th September, 1908, to 31st July, 1911.
- Rt. Hon. THOMAS, BARON DENMAN, P.C., G.C.M.G., K.C.V.O. From 31st July, 1911, to 18th May, 1914.
- Rt. Hon. SIR RONALD CRAUFURD MUNRO FERGUSON (afterwards VISCOUNT NOVAR OF RAITH), G.C.M.G. From 18th May, 1914, to 6th October, 1920.
- Rt. Hon. HENRY WILLIAM, BARON FORSTER OF LEPE, P.C., G.C.M.G. From 6th October, 1920, to 8th October, 1925.
- Rt. Hon. JOHN LAWRENCE, BARON STONEHAVEN, P.C., G.C.M.G., D.S.O. From 8th October, 1925, to 22nd January, 1931.
- Rt. Hon. SIR ISAAC ALFRED ISAACS, G.C.B., G.C.M.G. From 22nd January, 1931, to 23rd January, 1936.
- General the Rt. Hon. ALEXANDER GORE ARKWRIGHT, BARON GOWRIE, V.C., P.C., G.C.M.G., C.B., D.S.O., K.G.St.J. From 23rd January, 1936, to 30th January, 1945.
- His Royal Highness PRINCE HENRY WILLIAM FREDERICK ALBERT, DUKE OF GLOUCESTER, EARL OF ULSTER AND BARON CULLODEN, K.G., K.T., K.P., P.C., G.C.B., G.C.M.G., G.C.V.O., General in the Army, Air Chief Marshal in the Royal Air Force, One of His Majesty's Personal Aides-de-Camp. From 30th January, 1945 to 11th March, 1947.
- Rt. Hon. SIR WILLIAM JOHN MCKELL, G.C.M.G. From 11th March, 1947 to 8th May, 1953.
- Field-Marshal SIR WILLIAM JOSEPH SLIM (afterwards VISCOUNT SLIM OF YARRALUMLA), K.G., G.C.B., G.C.M.G., G.C.V.O., G.B.E., D.S.O., M.C., K.St.J. From 8th May, 1953, to 2nd February 1960.
- Rt. Hon. WILLIAM SHEPHERD, VISCOUNT DUNROSSIL, P.C., G.C.M.G., M.C., K.St.J., Q.C. From 2nd February, 1960, to 3rd February, 1961.
- Rt. Hon. WILLIAM PHILIP, VISCOUNT DE L'ISLE, V.C., P.C., G.C.M.G., K.St.J. From 3rd August, 1961.



(ii) *Administrators.* In addition to the holders of the office of Governor-General listed above, certain persons have, from time to time, been appointed as Administrator of the Government of the Commonwealth during the absence from Australia or illness of the Governor-General. The following is a list of such appointments.

	Term of Office.
Rt. Hon. Frederic John Napier, Baron Chelmsford, K.C.M.G.	21st December, 1909, to 27th January, 1910
Lieut.-Colonel the Rt. Hon. Arthur Herbert Tennyson, Baron Somers, K.C.M.G., D.S.O., M.C.	3rd October, 1930, to 22nd January, 1931
Captain the Rt. Hon. William Charles Arcedeckne Vanneck, Baron Huntingfield K.C.M.G., K.St.J.	29th March, 1938, to 24th September, 1938
Major-General Sir Winston Joseph Dugan, G.C.M.G., C.B., D.S.O.	5th September, 1944, to 30th January, 1945
Major-General Sir Winston Joseph Dugan, G.C.M.G., C.B., D.S.O.	18th January, 1947, to 11th March, 1947
General* Sir John Northcott, K.C.M.G., C.B., M.V.O.†	19th July, 1951, to 14th December, 1951
General* Sir John Northcott, K.C.M.G., K.C.V.O., C.B.	30th July, 1956, to 22nd October, 1956
General Sir Reginald Alexander Dallas Brooks, K.C.B., K.C.M.G., K.C.V.O., D.S.O. K.St.J.	8th January, 1959, to 15th January, 1959
General Sir Reginald Alexander Dallas Brooks, K.C.B. K.C.M.G., K.C.V.O., D.S.O., K.St.J.	3rd February, 1961, to 3rd August, 1961

(iii) *Commonwealth Ministries.* (a) *Names and Tenure of Office, 1901 to 1960.* The following list shows the name of each Commonwealth Ministry to hold office since 1st January, 1901, and the limits of its term of office.

#### COMMONWEALTH MINISTRIES.

- (i) BARTON MINISTRY, 1st January, 1901, to 24th September, 1903.
- (ii) DEAKIN MINISTRY, 24th September, 1903, to 27th April, 1904.
- (iii) WATSON MINISTRY, 27th April, 1904, to 17th August, 1904.
- (iv) REID-MCLEAN MINISTRY, 18th August, 1904, to 5th July, 1905.
- (v) DEAKIN MINISTRY, 5th July, 1905, to 13th November, 1908.
- (vi) FISHER MINISTRY, 13th November, 1908, to 1st June, 1909.
- (vii) DEAKIN MINISTRY, 2nd June, 1909, to 29th April, 1910.
- (viii) FISHER MINISTRY, 29th April, 1910, to 24th June, 1913.
- (ix) COOK MINISTRY, 24th June, 1913, to 17th September, 1914.
- (x) FISHER MINISTRY, 17th September, 1914, to 27th October, 1915.
- (xi) HUGHES MINISTRY, 27th October, 1915, to 14th November, 1916.
- (xii) HUGHES MINISTRY, 14th November, 1916, to 17th February, 1917.
- (xiii) HUGHES MINISTRY, 17th February, 1917, to 10th January, 1918.
- (xiv) HUGHES MINISTRY, 10th January, 1918, to 9th February, 1923.
- (xv) BRUCE-PAGE MINISTRY, 9th February, 1923, to 22nd October, 1929.
- (xvi) SCULLIN MINISTRY, 22nd October, 1929, to 6th January, 1932.
- (xvii) LYONS MINISTRY, 6th January, 1932, to 7th November, 1938.
- (xviii) LYONS MINISTRY, 7th November, 1938, to 7th April, 1939.
- (xix) PAGE MINISTRY, 7th April, 1939, to 26th April, 1939.
- (xx) MENZIES MINISTRY, 26th April, 1939, to 14th March, 1940.
- (xxi) MENZIES MINISTRY, 14th March, 1940, to 28th October, 1940.
- (xxii) MENZIES MINISTRY, 28th October, 1940, to 29th August, 1941.
- (xxiii) FADDEN MINISTRY, 29th August, 1941, to 7th October, 1941.
- (xxiv) CURTIN MINISTRY, 7th October, 1941, to 21st September, 1943.
- (xxv) CURTIN MINISTRY, 21st September, 1943, to 6th July, 1945.
- (xxvi) FORDE MINISTRY, 6th July, 1945, to 13th July, 1945.
- (xxvii) CHIFLEY MINISTRY, 13th July, 1945, to 1st November, 1946.

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\* Lieutenant-General Sir John Northcott was granted honorary rank of General while administering the Government of the Commonwealth.

† K.C.V.O., 1954.

COMMONWEALTH MINISTRIES—*continued.*

- (xxviii) CHIFLEY MINISTRY, 1st November, 1946, to 19th December, 1949.  
 (xxix) MENZIES MINISTRY, 19th December, 1949, to 11th May, 1951.  
 (xxx) MENZIES MINISTRY, 11th May, 1951, to 11th January, 1956.  
 (xxxj) MENZIES MINISTRY, 11th January, 1956, to 10th December, 1958.  
 (xxxii) MENZIES MINISTRY, 10th December, 1958.

(b) *Names of Holders of Ministerial Office, to 31st December, 1960.* In Official Year Book No. 17, 1924, the names are given of each Ministry up to the Bruce-Page Ministry (9th February, 1923, to 22nd October, 1929), together with the names of the successive holders of portfolios therein, and issue No. 39 contains a list, commencing with the Bruce-Page Ministry, which covers the period between the date on which it assumed power, 9th February, 1923, and 31st July, 1951, showing the names of all persons who held office in each Ministry during that period.

This issue shows only particulars of the latest Menzies Ministry, as constituted on 31st March, 1962. For any subsequent changes see the Appendix to this volume.

## MENZIES MINISTRY—from 10th December, 1958.

(Portfolios from 22nd December, 1961.)

(The State in which each Minister's electorate is situated is shown in parentheses.)

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| <p>*<i>Prime Minister</i>—<br/>THE RT. HON. R. G. MENZIES,<br/>C.H., Q.C., M.P. (Vic.).</p> <p>*<i>Minister for Trade</i>—<br/>THE RT. HON. J. MCEWEN, M.P. (Vic.).</p> <p>*<i>Treasurer</i>—<br/>THE RT. HON. H. E. HOLT, M.P. (Vic.).</p> <p>*<i>Vice-President of the Executive Council; and<br/>Minister for National Development</i>—<br/>SENATOR THE HON. W. H. SPOONER,<br/>M.M. (N.S.W.).</p> <p>*<i>Minister for Defence</i>—<br/>THE HON. A. G. TOWNLEY, M.P. (Tas.).</p> <p>*<i>Minister for Territories</i>—<br/>THE HON. P. M. C. HASLUCK, M.P.<br/>(W.A.).</p> <p>*<i>Minister for Labour and National Service</i>—<br/>THE HON. W. MCMAHON, M.P.<br/>(N.S.W.).</p> <p>*<i>Minister for Civil Aviation</i>—<br/>SENATOR THE HON. S. D. PALTRIDGE<br/>(W.A.).</p> <p>*<i>Postmaster-General</i>—<br/>THE HON. C. W. DAVIDSON, O.B.E.,<br/>M.P. (Qld.).</p> <p>*<i>Minister for Immigration</i>—<br/>THE HON. A. R. DOWNER, M.P. (S.A.).</p> <p>*<i>Attorney-General; and Minister for External<br/>Affairs</i>—<br/>THE HON. SIR GARFIELD BARWICK, Q.C.,<br/>M.P. (N.S.W.).</p> | <p>*<i>Minister for Primary Industry</i>—<br/>THE HON. C. F. ADERMANN, M.P.<br/>(Qld.).</p> <p><i>Minister for the Army</i>—<br/>THE HON. J. O. CRAMER, M.P. (N.S.W.).</p> <p><i>Minister for Social Services</i>—<br/>THE HON. H. S. ROBERTON, M.P.<br/>(N.S.W.).</p> <p><i>Minister for Customs and Excise</i>—<br/>SENATOR THE HON. N. H. D. HENTY<br/>(Tas.).</p> <p><i>Minister for the Interior; Minister for Works;<br/>and Minister assisting the Attorney-<br/>General</i>—<br/>THE HON. G. FREETH, M.P. (W.A.).</p> <p><i>Minister for the Navy; Minister assisting the<br/>Minister for External Affairs and<br/>Minister-in-Charge of C.S.I.R.O.</i>—<br/>SENATOR THE HON. J. G. GORTON<br/>(Vic.).</p> <p><i>Minister for Shipping and Transport</i>—<br/>THE HON. H. F. OPPERMAN, O.B.E.,<br/>M.P. (Vic.).</p> <p><i>Minister for Health</i>—<br/>SENATOR THE HON. H. W. WADE<br/>(Vic.).</p> <p><i>Minister for Supply</i>—<br/>THE HON. A. FAIRHALL, M.P. (N.S.W.).</p> <p><i>Minister for Air</i>—<br/>THE HON. L. H. E. BURY, M.P.<br/>(N.S.W.).</p> <p><i>Minister for Repatriation</i>—<br/>THE HON. R. W. C. SWARTZ, M.B.E.,<br/>E.D. (Qld.).</p> |
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\* Minister in the Cabinet.

(iv) *Commonwealth Ministers of State.* In Official Year Book No. 38, a statement is included showing the names of the Ministers of State who had administered the several Departments during the period 1st April, 1925, to 31st December, 1949 (pp. 74-79). This is in continuation of a similar statement covering the period from the inauguration of the Commonwealth Government to 1925 which appears in Official Year Book No. 18.

3. **Governors and State Ministers.**—The names of the Governors and members of the Ministries in each State in March, 1962, are shown in the following statement. (Changes since March, 1962, are shown in the Appendix to this volume.)

#### NEW SOUTH WALES.

**Governor**—LIEUT.-GENERAL SIR ERIC WINSLOW WOODWARD, K.C.M.G., C.B., C.B.E., D.S.O., K.St.J.

*Ministry (from 31st May, 1960).*

**Premier**—

THE HON. R. J. HEFFRON, M.L.A.

**Deputy Premier, Treasurer and Minister for Industrial Development and Decentralization**—

THE HON. J. B. RENSHAW, M.L.A.

**Attorney-General and Vice-President of the Executive Council**—

THE HON. R. R. DOWNING, M.L.C.

**Chief Secretary and Minister for Tourist Activities**—

THE HON. C. A. KELLY, M.L.A.

**Minister for Local Government and Minister for Highways**—

THE HON. P. D. HILLS, M.L.A.

**Minister for Health**—

THE HON. W. F. SHEAHAN, Q.C., M.L.A.

**Minister for Child Welfare and Minister for Social Welfare**—

THE HON. F. H. HAWKINS, M.L.A.

**Minister for Agriculture, and Minister for Conservation**—

THE HON. A. G. ENTICKNAP, M.L.A.

**Minister for Housing and Minister for Co-operative Societies**—

THE HON. A. LANDA, M.L.A.

**Minister for Education**—

THE HON. E. WETHERELL, M.L.A.

**Minister for Labour and Industry**—

THE HON. J. J. MALONEY, M.L.C.

**Minister for Mines**—

THE HON. J. B. SIMPSON, M.L.A.

**Minister for Transport**—

THE HON. J. M. A. MCMAHON, M.L.A.

**Minister for Public Works**—

THE HON. P. N. RYAN, M.L.A.

**Minister of Justice**—

THE HON. N. J. MANNIX, M.L.A.

**Minister for Lands**—

THE HON. K. C. COMPTON, M.L.A.

#### VICTORIA.

**Governor**—GENERAL SIR REGINALD ALEXANDER DALLAS BROOKS, K.C.B., K.C.M.G., K.C.V.O., D.S.O., K.St.J.

*Ministry (from 7th June, 1955).*

*(Portfolios as from 26th July, 1961.)*

**Premier and Treasurer**—

THE HON. H. E. BOLTE, M.P.

**Chief Secretary and Attorney-General**—

THE HON. A. G. RYLAH, E.D., M.P.

**Minister of Transport and a Vice-President of the Board of Land and Works**—

THE HON. SIR ARTHUR WARNER, M.L.C.

**Minister of Agriculture and a Vice-President of the Board of Land and Works**—

THE HON. G. L. CHANDLER, C.M.G., M.L.C.

**Commissioner of Public Works, Minister of Immigration and a Vice-President of the Board of Land and Works**—

THE HON. H. R. PETTY, M.P.

**Minister of Health**—

THE HON. R. W. MACK, M.L.C.

**Minister of Water Supply and Minister of Mines**—

THE HON. W. J. MIBUS, M.P.

**Minister of Education**—

THE HON. J. S. BLOOMFIELD, M.P.

**Minister of Housing and Minister of Forests**—

THE HON. L. H. S. THOMPSON, M.L.C.

**Commissioner of Crown Lands and Survey, Minister of Soldier Settlement, Minister for Conservation and President of the Board of Land and Works**—

THE HON. K. H. TURNBULL, M.P.

**Minister of Labour and Industry and Minister of Electrical Undertakings**—

THE HON. G. O. REID, M.P.

**Minister for Local Government**—

THE HON. M. V. PORTER, M.P.

**Minister of State Development**—

THE HON. A. J. FRASER, M.C., M.P.

**Minister without Portfolio**—

THE HON. E. R. MEAGHER, M.B.E., E.D., M.P.

GOVERNORS AND STATE MINISTERS—*continued*

## QUEENSLAND.

*Governor*—COLONEL SIR HENRY ABEL SMITH, K.C.V.O., D.S.O.

*Ministry (from 16th June, 1960).*

<i>Premier and Chief Secretary; and Vice-President of the Executive Council—</i> THE HON. G. F. R. NICKLIN, M.M., M.L.A.	<i>Minister for Agriculture and Forestry—</i> THE HON. O. O. MADSEN, M.L.A.
<i>Minister for Labour and Industry—</i> THE HON. K. J. MORRIS, M.L.A.	<i>Minister for Health and Home Affairs—</i> THE HON. H. W. NOBLE, M.L.A.
<i>Minister for Education and Migration—</i> THE HON. J. C. A. PIZZEY, M.L.A.	<i>Minister for Transport—</i> THE HON. G. W. W. CHALK, M.L.A.
<i>Minister for Justice and Attorney-General—</i> THE HON. A. W. MUNRO, M.L.A.	<i>Minister for Public Lands and Irrigation—</i> THE HON. A. R. FLETCHER, M.L.A.
<i>Treasurer and Minister for Housing—</i> THE HON. T. A. HILEY, M.L.A.	<i>Minister for Public Works and Local Government—</i> THE HON. H. RICHTER, M.L.A.
<i>Minister for Development, Mines, Main Roads and Electricity—</i> THE HON. E. EVANS, M.L.A.	

## SOUTH AUSTRALIA.

*Governor*—LIEUT.-GENERAL SIR EDRIC MONTAGU BASTYAN, K.B.E., C.B.

*Ministry (from 15th May, 1944).*

*(Portfolios as from 14th May, 1958.)*

<i>Premier, Treasurer and Minister of Immigration—</i> THE HON. SIR THOMAS PLAYFORD, G.C.M.G., M.P.	<i>Minister of Works and Minister of Marine—</i> THE HON. G. G. PEARSON, M.P.
<i>Chief Secretary, Minister of Health and Minister of Mines—</i> THE HON. SIR LYELL McEWIN, K.B.E., M.L.C.	<i>Minister of Agriculture and Minister of Forests—</i> THE HON. D. N. BROOKMAN, M.P.
<i>Attorney-General and Minister of Labour and Industry—</i> THE HON. C. D. ROWE, M.L.C.	<i>Minister of Education—</i> THE HON. B. PATTINSON, M.P.
<i>Minister of Lands, Minister of Repatriation and Minister of Irrigation—</i> THE HON. SIR CECIL HINCKS, M.P.	<i>Minister of Local Government, Minister of Roads and Minister of Railways—</i> THE HON. N. L. JUDE, M.L.C.

## WESTERN AUSTRALIA.

*Governor*—LIEUT.-GENERAL SIR CHARLES GAIRDNER, K.C.M.G., K.C.V.O., K.B.E., C.B.

*Ministry (from 2nd April, 1959).*

<i>Premier, Treasurer and Minister for Tourists—</i> THE HON. D. BRAND, M.L.A.	<i>Minister for Mines, Housing and Justice—</i> THE HON. A. F. GRIFFITH, M.L.C.
<i>Deputy Premier, Minister for Agriculture and Electricity—</i> THE HON. C. D. NALDER, M.L.A.	<i>Minister for Lands, Forests and Immigration—</i> THE HON. W. S. BOVELL, M.L.A.
<i>Minister for Industrial Development, Railways and the North West—</i> THE HON. C. W. M. COURT, O.B.E., M.L.A.	<i>Chief Secretary and Minister for Health and Fisheries—</i> THE HON. R. HUTCHINSON, D.F.C., M.L.A.
<i>Minister for Education and Native Welfare—</i> THE HON. E. H. M. LEWIS, M.L.A.	<i>Minister for Local Government, Town Planning and Child Welfare—</i> THE HON. L. A. LOGAN, M.L.C.
<i>Minister for Works, Water Supplies and Labour—</i> THE HON. G. P. WILD, M.B.E., M.L.A.	<i>Minister for Transport and Police—</i> THE HON. J. F. CRAIG, M.L.A.

GOVERNORS AND STATE MINISTERS—*continued.*

## TASMANIA.

*Governor*—THE RT. HON. THOMAS GODFREY POLSON, BARON ROWALLAN K.T., K.B.E., M.C.

*Ministry (from 12th May, 1959).*

<i>Premier, Treasurer and Minister for Mines—</i>	<i>Chief Secretary and Minister administering the Department of Health Services—</i>
THE HON. E. E. REECE, M.H.A.	THE HON. J. F. GAHA, M.H.A.
<i>Deputy Premier and Attorney-General—</i>	<i>Minister for Forests, Tourists and Immigration—</i>
THE HON. R. F. FAGAN, M.H.A.	THE HON. A. C. ATKINS, M.H.A.
<i>Minister for Agriculture—</i>	<i>Minister for Transport—</i>
THE HON. J. J. DWYER, V.C., M.H.A.	THE HON. J. B. CONNOLLY, M.L.C.
<i>Minister for Lands and Works—</i>	<i>Minister for Housing, Licensing and Police—</i>
THE HON. D. A. CASHION, M.H.A.	THE HON. J. L. MADDEN, M.H.A.
<i>Minister for Education—</i>	
THE HON. W. A. NEILSON, M.H.A.	

4. **Leaders of the Opposition, Commonwealth and State Parliaments.**—The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments in March, 1962.

**Leader of the Opposition, Commonwealth and State Parliaments—**

*Commonwealth*—The Hon. A. A. Calwell, M.P.

*New South Wales*—R. W. Askin, M.L.A.

*Victoria*—The Hon. C. P. Stoneham, M.P.

*Queensland*—The Hon. J. E. Duggan, M.L.A.

*South Australia*—F. H. Walsh, M.P.

*Western Australia*—The Hon. A. R. G. Hawke, M.L.A.

*Tasmania*—The Hon. W. A. Bethune, M.H.A.

5. **The Course of Legislation.**—The actual legislation by the Commonwealth Parliament during 1960 and 1961 is indicated in alphabetical order in “The Acts of the Parliament of the Commonwealth of Australia passed during the year 1960, in the Second Session of the Twenty-third Parliament of the Commonwealth, with Appendix, Tables and Index”, and in “The Acts of the Parliament of the Commonwealth of Australia passed during the year 1961, in the Third Session of the Twenty-third Parliament of the Commonwealth, with Appendix, Tables and Index”.

A chronological table of Acts passed from 1901 to 1961 showing how they are affected by subsequent legislation or lapse of time is also given, and, further, a table of Commonwealth legislation passed from 1901 to 1961 in relation to the several provisions of the Constitution, is furnished in the latter volume. Reference should be made to these for complete information.

6. **Legislation during 1960 and 1961.**—The Acts passed by the Commonwealth Parliament during the years 1960 and 1961 are listed hereunder. In most cases the title of the Act indicates the general scope of the Act, but in some instances brief explanatory notes have been added and/or references given to other parts of this or the previous Year Book. The presence or absence of such references, however, should not be taken as indicative of the relative importance of the Acts concerned, and appropriate chapters of this Year Book should in any case be referred to for further information which may be available there.

The total enactments of the Commonwealth Parliament for a number of years at fairly even intervals since 1901 show a general increase. Seventeen Acts were passed in 1901, 36 in 1914, 38 in 1927, 87 in 1939 and 98 in 1961.

*Commonwealth Legislation passed during 1960.*

*Air Navigation Act 1960* (No. 39) amended the *Air Navigation Act 1920–1950* to provide *inter alia* for the establishment of an Aeronautical Information Service, designation of certain aerodromes as international airports, international air licences to fly over Australian territory, penalties for interference with navigational aids, and the making of regulations.

*Air Navigation (Charges) Act 1960* (No. 49).

*Airports (Surface Traffic) Act 1960* (No. 40) provided for regulations for parking, etc., of vehicles at airports.

*Aluminium Industry Act 1960* (No. 81) approved an agreement for the sale of the Aluminium Commission's Works at Bell Bay to the State of Tasmania.

*Antarctic Treaty Act 1960* (No. 48) gave effect to the Antarctic Treaty (*see p. 156 of Year Book No. 47*).

*Apple and Pear Export Charges Act 1960* (No. 80).

*Apple and Pear Organization Act 1960* (No. 79).

*Appropriation Act (No. 2) 1959–60* (No. 33).

*Appropriation Act 1960–61* (No. 50).

*Appropriation (Works and Services) Act (No. 2) 1959–60* (No. 34).

*Appropriation (Works and Services) Act 1960–61* (No. 51).

*Audit Act 1960* (No. 77).

*Australian National University Act 1960* (No. 3) provided for the inclusion of the Canberra University College as the School of General Studies of the University.

*Broadcasting and Television Act 1960* (No. 36) amended the *Broadcasting and Television Act 1942–1956* by re-stating the reasons for vacation of office by Commissioners and employees of the Commission, the insertion of revised provisions for the limitation of ownership or control of television stations, giving power to the Commission to order television films to be made available to a licensee under certain conditions, requiring records to be made of political matter broadcast, and making special provisions for licences for television or broadcast receivers hired or installed in lodging houses.

*Cattle and Beef Research Act 1960* (No. 6) and *Cattle and Beef Research Act (No. 2) 1960* (No. 71) established a Cattle and Beef Research Trust Account and set out purposes for which the fund may be applied.

*Cattle Slaughter Levy Act 1960* (No. 7) imposed on owners of cattle slaughtered a levy not to exceed 2s. per head of cattle.

*Cattle Slaughter Levy Collection Act 1960* (No. 8) made the proprietors of abattoirs agents for collection of the Cattle Slaughter Levy on behalf of the Commonwealth.

*Colonial Light Dues Registration Repeal Act 1960* (No. 12).

*Conciliation and Arbitration Act 1960* (No. 15) increased the number of judges who may be appointed to the Commonwealth Industrial Court from two to three.

*Copper Bounty Act 1960* (No. 31).

*Copper Bounty Act (No. 2) 1960* (No. 100) amended the *Copper Bounty Act 1958* as amended by the *Copper Bounty Act 1960* by providing for reduction or suspension of bounty in certain cases.

*Crimes Act 1960* (No. 84) amended the *Crimes Act 1914–1959* by providing for licences for offenders to be at large and the conditional release of offenders without proceeding to conviction; giving the Courts power to discharge or vary conditions of recognizance; providing for the custody of offenders found to be insane; expanding definitions and penalties for treason, treachery and sabotage, the intimidation of witnesses, coining and counterfeiting, espionage and similar activities; providing for the issue of search warrants, arrest without warrant and search of suspects in cases of espionage; and other miscellaneous provisions.

*Customs Act 1960 (No. 42), Customs Act (No. 2) 1960 (No. 111), Customs Tariff 1960 (No. 22), Customs Tariff (No. 2) 1960 (No. 43), Customs Tariff (No. 3) 1960 (No. 52), Customs Tariff (No. 4) 1960 (No. 98).*

*Customs Tariff (Canada Preference) 1960 (No. 54), Customs Tariff (Canadian Preference) 1960 (No. 23), Customs Tariff (Canadian Preference) (No. 2) 1960 (No. 53).*

*Customs Tariff (Federation of Rhodesia and Nyasaland Preference) 1960 (No. 25), Customs Tariff (Federation of Rhodesia and Nyasaland Preference) (No. 2) 1960 (No. 56).*

*Customs Tariff (New Zealand Preference) 1960 (No. 24), Customs Tariff (New Zealand Preference) (No. 2) 1960 (No. 55), Customs Tariff (New Zealand Preference) (No. 3) 1960 (No. 99).*

*Defence Forces Special Retirement Benefits Act 1960 (No. 68) provided for special retirement benefits for certain members of the Australian Regular Army discharged, or to be discharged, on account of a reduction of establishment.*

*Excise Tariff 1960 (No. 26), Excise Tariff (No. 2) 1960 (No. 57).*

*Explosives Act 1960 (No. 66) amended the Explosives Act 1952–1957 to extend its application to explosives owned or controlled by allied governments or defence forces.*

*Flax Industry Repeal Act 1960 (No. 5).*

*Income Tax and Social Services Contribution Act 1960 (No. 20), Income Tax and Social Services Contribution Act (No. 2) 1960 (No. 59).*

*Income Tax and Social Services Contribution Assessment Act 1960 (No. 18), Income Tax and Social Services Contribution Assessment Act (No. 2) 1960 (No. 58), Income Tax and Social Services Contribution Assessment Act (No. 3) 1960 (No. 108).*

*Income Tax (International Agreements) Act 1960 (No. 19).*

*Income Tax (International Agreements) Act (No. 2) 1960 (No. 29) amended the Income Tax (International Agreements) Act 1953–1959 as amended by the Income Tax (International Agreements) Act 1960, to implement the Agreement between the Australian and New Zealand Governments for the avoidance of double taxation.*

*Indus Basin Development Fund Agreement Act 1960 (No. 87) provided for payment from Consolidated Revenue of Australia's contribution under the Indus Basin Development Fund Agreement (India and Pakistan).*

*Insurance Act 1960 (No. 76) amended the Insurance Act 1932–1937 to provide new conditions for lodging of deposits by persons carrying on insurance business, to require information and returns to be furnished, and relevant matters.*

*International Development Association Act 1960 (No. 21) approved acceptance by Australia of membership in the International Development Association (see p. 1187 of Year Book No. 47).*

*International Monetary Agreements Act 1960 (No. 14) approved a change in Australia's quota in the International Monetary Fund.*

*International Organizations (Privileges and Immunities) Act 1960 (No. 103).*

*Judges' Remuneration Act 1960 (No. 110).*

*Judiciary Act 1960 (No. 32), Judiciary Act (No. 2) 1960 (No. 109).*

*Loan (Australian National Airlines Commission) Act 1960 (No. 86) approved the raising of a loan in the United States for purchase of aircraft for the Australian National Airlines Commission.*

*Loan (Housing) Act 1960 (No. 62) approved the raising of £37,200,000 for housing purposes.*

*Loan (Qantas Empire Airways Limited) Act 1960 (No. 78) approved the raising of a loan in the United States for the purchase of Boeing aircraft for Qantas Empire Airways Limited.*

*Meat Export Control Act 1960 (No. 9) amended the Meat Export Control Act 1935–1953 by establishing a Meat Industry Advancement Fund for improving the quality of exported meat or stimulating the meat export trade.*

*Meat Export Control Act (No. 2) 1960 (No. 72).*

*National Capital Development Commission Act 1960 (No. 83).*

*National Library Act 1960 (No. 69)* established the National Library of Australia (*see* p. 619 of Year Book No. 47).

*National Service (Discharge of Trainees) Act 1960 (No. 28)* provided for the discharge of National Service Trainees still undergoing training (*see* p. 1097 of Year Book No. 47).

*Nationality and Citizenship Act 1960 (No. 82)* amended the Nationality and Citizenship Act 1948-1959 in respect of the statement required in support of an application for registration or naturalization.

*Papua and New Guinea Act 1960 (No. 4)* provided for a guarantee by the Commonwealth in respect of public loans in the Territory of Papua and New Guinea.

*Papua and New Guinea Act (No. 2) 1960 (No. 47)* amended the Papua and New Guinea Act 1949-1957 as amended by the Papua and New Guinea Act 1960, to provide for a greater degree of self government in the Territory (*see* p. 131 of Year Book No. 47).

*Parliamentary Proceedings Broadcasting Act 1960 (No. 35)* provided for the making of sound recordings of parliamentary proceedings (c.f. Broadcasting and Television Act 1960).

*Patents Act 1960 (No. 107)* amended the Patents Act 1952-1955 by making changed provisions for the acceptance of applications and specifications, the time of acceptance, amendments allowable, applications under international conventions, fees, and associated matters.

*Pollution of the Sea by Oil Act 1960 (No. 11)* provided for giving effect to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954, by prohibiting the discharge of oils, etc., into certain sea areas and providing for powers of inspection, jurisdiction of courts and regulations to enforce this prohibition.

*Post and Telegraph Act 1960 (No. 85)* repealed Section 21 of the Post and Telegraph Act 1901-1950 which provided for special postage rates on letters for members of the defence forces.

*Public Service Act 1960 (No. 105)* amended the Public Service Act 1922-1958, principally in respect of provisions relating to the appointment and recruitment of officers. In addition to educational tests for appointment, provision was made for selection tests to be applied in some cases, and returned soldiers have to pass normal entrance examinations, though preference in appointment still applies.

*Public Works Committee Act 1960 (No. 13)* amended the Public Works Committee Act 1913-1953 and provided for the Committee to review its reports and make further reports to the House of Representatives.

*Pyrites Bounty Act 1960 (No. 102)* provided for payment of a bounty on the production of pyrites for use in the manufacture of sulphuric acid.

*Repatriation Act 1960 (No. 44)* amended the Repatriation Act 1920-1959 by raising the rates of pension payable under the Act.

*Salaries (Statutory Offices) Adjustment Act 1960 (No. 17)* provided for the payment of increased salaries to the holders of certain statutory offices.

*Sales Tax Act (No. 1) 1960 (No. 89), Sales Tax Act (No. 2) 1960 (No. 90), Sales Tax Act (No. 3) 1960 (No. 91), Sales Tax Act (No. 4) 1960 (No. 92), Sales Tax Act (No. 5) 1960 (No. 93), Sales Tax Act (No. 6) 1960 (No. 94), Sales Tax Act (No. 7) 1960 (No. 95), Sales Tax Act (No. 8) 1960 (No. 96), Sales Tax Act (No. 9) 1960 (No. 97).*

*Sales Tax (Exemptions and Classifications) Act 1960 (No. 65), Sales Tax (Exemptions and Classifications) Act (No. 2) 1960 (No. 88).*

*Seamen's Compensation Act 1960 (No. 67)* amended The Seamen's Compensation Act 1911-1959 to include seamen employed for the delivery voyage of a ship in those waters covered by the Act.

*Seamen's War Pensions and Allowances Act 1960 (No. 46).*

*Snowy Mountains Hydro-electric Authority Act 1960 (No. 104)* extended the term of office of the Commissioner until 26th April, 1964.



*Social Services Act* 1960 (No. 45) amended the Social Services Act 1947–1959 by substituting a new means test for pensioners (see pp. 691 and 703 of Year Book No. 47) and in other related provisions.

*State Grant (Special Assistance to South Australia) Act* 1960 (No. 16) (see Chapter XXI).

*States Grants (Special Assistance) Act* 1960 (No. 60) (see Chapter XXI).

*States Grants (Universities) Act* 1960 (No. 106) (see Chapter XXI).

*Stevedoring Industry Charge Assessment Act* 1960 (No. 61) amended the Stevedoring Industry Charges Assessment Act 1947–1958 by providing for exemption from the charge in respect of permanent employees.

*Sugar Agreement Act* 1960 (No. 63) approved an agreement made between the Commonwealth and the State of Queensland fixing the price of sugar in Australia.

*Sulphuric Acid Bounty Act* 1960 (No. 30), *Sulphuric Acid Bounty Act (No. 2)* 1960 (No. 101).

*Supply Act* 1960–61 (No. 37).

*Supply (Works and Services) Act* 1960–61 (No. 38).

*Tariff Board Act* 1960 (No. 41) amended the Tariff Board Act 1921–1958 by inserting new provisions relating to the appointment of Deputy Chairman and Acting Chairman, the delegation of powers by the Chairman and the appointment of persons to act in the place of ill, absent, etc., members in relation to an inquiry and report, and by providing for action pending receipt and consideration of a report by the Board.

*Taxation Administration Act* 1960 (No. 1).

*Telephonic Communications (Interception) Act* 1960 (No. 27) prohibited the interception of telephonic communications except when specially authorized in the interests of the security of the Commonwealth.

*Weights and Measures (National Standards) Act* 1960 (No. 64) provided for the establishment and use throughout Australia of uniform units of measurement and uniform standards of measurement of physical quantities.

*Whaling Act* 1960 (No. 10) repealed the Whaling Act 1935 and the Whaling Act 1948 and made provisions for regulation of the whaling industry by restricting the number and types of whales which may be killed, licensing of catchers, appointment of inspectors, etc. (see Chapter XXVI).

*Wheat Industry Stabilization Act* 1960 (No. 2) (see Chapter XXII).

*Wool Research Act* 1960 (No. 73) (see Chapter XXIII).

*Wool Tax Act (No. 1)* 1960 (No. 74) (see Chapters XXI and XXIII).

*Wool Tax Act (No. 2)* 1960 (No. 75) (see Chapters XXI and XXIII).

*Wool Use Promotion Act* 1960 (No. 70) (see Chapter XXIII).

#### *Commonwealth Legislation passed during 1961.*

*Air Navigation Act* 1961 (No. 72) amended the Air Navigation Act 1920–1960 by approving the ratification of a protocol amending the Chicago Convention of the International Civil Aviation Organization.

*Airlines Agreement Act* 1961 (No. 70) amending the Civil Aviation Agreement Act 1952–1957 by approving an agreement between the Commonwealth, the Australian National Airlines Commission, Ansett Transport Industries Limited and Australian National Airways Proprietary Limited.

*Appropriation Act (No. 2)* 1960–61 (No. 30).

*Appropriation Act* 1961–62 (No. 58).

*Appropriation (Works and Services) Act (No. 2)* 1960–61 (No. 35).

*Appropriation (Works and Services) Act* 1961–62 (No. 59).

*Audit Act 1961* (No. 89) amended the *Audit Act 1901-1960* by inserting a new section delimiting the application of the Act; and amending sections relating to moneys outside Australia and the jurisdiction of courts in respect of offences committed outside Australia and various other sections.

*Australian National Airlines Act 1961* (No. 71) amended the Australian National Airlines Act 1945-1959 in respect of the financial policy of the Australian National Airlines Commission and added a section setting out provisions for insurance procedure to be adopted by the Commission.

*Beaches, Fishing Grounds and Sea Routes Protection Act 1961* (No. 62).

*Broadcasting and Television Act 1961* (No. 32) amended the section of the Broadcasting and Television Act 1960 relating to hirer's licences.

*Cattle and Beef Research Act 1961* (No. 50) amended the Cattle and Beef Research Act 1960 by inserting amended provisions for the expenditure of moneys standing to the credit of the Research Account.

*Cattle Slaughter Levy Collection Act 1961* (No. 48) amended the Cattle Slaughter Levy Collection Act 1960 by providing for deduction of the levy from the purchase price payable by slaughterers and for the listing of recognized slaughterers.

*Cattle Slaughter Levy (Suspension) Act 1961* (No. 49) provided for the suspension of the Cattle Slaughter Levy from 14th October, 1960, to 13th October, 1961.

*Cellulose Acetate Flake Bounty Act 1961* (No. 33).

*Cellulose Acetate Flake Bounty Act (No. 2) 1961* (No. 57).

*Coal Excise Act 1961* (No. 19).

*Coal Loading Works Agreement (New South Wales) Act 1961* (No. 93) approved an agreement between the Commonwealth and the State of New South Wales with respect to certain coal loading works.

*Commonwealth Banks Act 1961* (No. 75) increased the capital of the Commonwealth Development Bank to £5 million.

*Commonwealth Electoral Act 1961* (No. 26) made a number of minor amendments to the Commonwealth Electoral Act 1918-1953.

*Commonwealth Serum Laboratories Act 1961* (No. 38) provided for the establishment of the Commonwealth Serum Laboratories Commission and transferred direction and control of the Commonwealth Serum Laboratories from the Department of Health to the Commission.

*Conciliation and Arbitration Act 1961* (No. 40).

*Customs Tariff* (1961) (No. 22).

*Customs Tariff (No. 2) 1961* (No. 51).

*Customs Tariff (Canada Preference) 1961* (No. 23).

*Customs Tariff (Canada Preference) (No. 2) 1961* (No. 52).

*Customs Tariff (Dumping and Subsidies) Act 1961* (No. 18) repealed the Customs Tariff (Industries Preservation) Act 1921-1957 and provided for the imposition of special customs duties where goods produced outside Australia are being sold at a price less than normal where the importation of such goods threatens an Australian industry ("dumping duty"), or where goods manufactured outside Australia and exported to Australia have been subsidized and where their importation threatens an Australian industry ("countervailing duty"). The Act also provided for "emergency duty" where goods manufactured or produced in a particular country are being imported into Australia under such conditions as to threaten Australian producers or manufacturers of similar goods.

*Customs Tariff (Federation of Rhodesia and Nyasaland Preference) 1961* (No. 53).

*Customs Tariff (New Zealand) Preference (No. 1) 1961* (No. 24), *Customs Tariff (New Zealand) Preference (No. 2) 1961* (No. 54), *Customs Tariff (New Zealand) Preference (No. 3) 1961* (No. 56).

*Customs Tariff Validation Act* 1961 (No. 97) validated collections under certain Customs Tariff proposals.

*Defence Forces Retirement Benefits Act* 1961 (No. 15) amended the Defence Forces Retirement Benefits Act 1948–1959 to provide for reduced pensions in certain cases and for gratuities in certain cases of retirement or invalidity.

*Defence Forces Retirement Benefits (Pension Increases) Act* 1961 (No. 87).

*Defence Pay Act* 1961 (No. 34) validated certain payments made to or in respect of members of the Defence Forces and to persons employed in a civil capacity under the Naval Defence Act 1910–1952.

*Excise Tariff* 1961 (No. 21), *Excise Tariff (No. 2)* 1961 (No. 55).

*Explosives Act* 1961 (No. 65) repealed the Explosives Act 1952–1960 and provided for the making of regulations for the handling of explosives for defence purposes and safety measures to be observed in relation thereto, for orders relating to the berthing of vessels, the control of Commonwealth explosives areas and miscellaneous general provisions.

*Exports Payments Insurance Corporation Act* 1961 (No. 14) amended the Export Payments Insurance Corporation Act 1956–1959 to allow the undertaking of contracts where the contingent liability was greater than the Corporation would normally undertake, provided the Minister approved the contract in writing after satisfying himself that the contract was in the national interest.

*Foot and Mouth Disease Act* 1961 (No. 44) established a Foot and Mouth Disease Eradication Trust Account in respect of the Australian Capital Territory and the Northern Territory for payment of compensation in respect of stock in infected areas destroyed or dying from Foot and Mouth Disease.

*Gold Mining Industry Assistance Act* 1961 (No. 66).

*Housing Agreement Act* 1961 (No. 31) authorized the making of agreements between the Commonwealth and any State or States for the grant of financial assistance by the Commonwealth for the purpose of housing and authorized the Treasurer to make advances in accordance with or in advance of such agreement.

*Income Tax and Social Services Contribution Act* 1961 (No. 95).

*Income Tax and Social Services Contribution Assessment Act* 1961 (No. 17) amended the Income Tax and Social Services Contribution Assessment Act 1936–1960 to exempt the superannuation business of life assurance companies from assessable income under certain conditions and to allow certain deductions from the assessable income of life assurance companies in respect of the cost of public securities included in their assets, and other related concessions.

*Income Tax and Social Services Contribution Assessment Act (No. 2)* 1961 (No. 27) provided that export market development expenditure should be an allowable deduction for the purpose of income tax.

*Income Tax and Social Services Contribution Assessment Act (No. 3)* 1961 (No. 94) provided that compensation for death or destruction of live-stock shall not form part of assessable income and added provision for deductions in respect of calls paid by certain holding companies.

*International Finance Corporation Act* 1961 (No. 69).

*Judges' Pensions Act* 1961 (No. 13).

*Life Insurance Act* 1961 (No. 29) amended the Life Insurance Act 1945–1959 to provide for the setting up of statutory funds in respect of the superannuation business of life insurance companies.

*Lighthouse Act* 1961 (No. 63).

*Loan (Housing) Act* 1961 (No. 60).

*Marriage Act* 1961 (No. 12) provided for the operation of uniform marriage law throughout the Commonwealth.

*National Health Act 1961 (No. 16).*

*Navigation Act 1961 (No. 96)* amended the Navigation Act 1912–1958 in respect of deserting seamen, the reporting of accidents, the cancellation or suspension of certificates and appeals against such cancellation, and other matters mostly of a routine nature.

*Northern Territory (Administration) Act 1961 (No. 68).*

*Northern Territory Supreme Court Act 1961 (No. 11)* abolished the former Supreme Court of the Northern Territory and created a new Supreme Court in its stead, provided for continuity of proceedings, the appointment of judges' sittings, jurisdiction, the concurrent administration of law in equity, registries, general matters of procedure and miscellaneous matters.

*Pay-roll Tax Assessment Act 1961 (No. 28)* amended the Pay-roll Tax Assessment Act 1941–1957 by making provision for rebate of tax where an employer has an increase in export sales after allowing for purchases from suppliers of component parts.

*Petroleum Search Subsidy Act 1961 (No. 74)* extended the scope of the Petroleum Search Subsidy Act 1959.

*Post and Telegraph Act 1961 (No. 64).*

*Quarantine Act 1961 (No. 61)* amended the Quarantine Act 1908–1950 in respect of powers of inspection by Quarantine Officers, medical inspections and examinations.

*Queensland Grant (Beef Cattle Roads) Act 1961 (No. 90)* provided for the grant of financial assistance to the State of Queensland for works in connexion with certain roads to be used for the transport of beef cattle.

*Railway Agreement (Queensland) Act 1961 (No. 92)* approved an agreement between the Commonwealth and the State of Queensland for financial assistance to that State for the reconstruction of the Collinsville-Townsville-Mount Isa Railway.

*Railway Agreement (Western Australia) Act 1961 (No. 67)* approved an agreement between the Commonwealth and the State of Western Australia for financial assistance to that State for the construction of a standard gauge railway between Kalgoorlie and Perth and Koolyanobbing and Kwinana.

*Railway Equipment Agreement (South Australia) Act 1961 (No. 98)* approved an agreement between the Commonwealth and the State of South Australia for financial assistance to that State for the purchase of diesel-electric locomotives and ore wagons for use between Port Pirie and Broken Hill.

*Repatriation Act 1961 (No. 46).*

*Sales Tax Act (No. 1) 1961 (No. 2), Sales Tax Act (No. 1a) 1961 (No. 77), Sales Tax Act (No. 2) 1961 (No. 3), Sales Tax Act (No. 2a) 1961 (No. 78), Sales Tax Act (No. 3) 1961 (No. 4), Sales Tax Act (No. 3a) 1961 (No. 79), Sales Tax Act (No. 4) 1961 (No. 5), Sales Tax Act (No. 4a) 1961 (No. 80), Sales Tax Act (No. 5) 1961 (No. 6), Sales Tax Act (No. 5a) 1961 (No. 81), Sales Tax Act (No. 6) 1961 (No. 7), Sales Tax Act (No. 6a) 1961 (No. 82), Sales Tax Act (No. 7) 1961 (No. 8), Sales Tax Act (No. 7a) 1961 (No. 83), Sales Tax Act (No. 8) 1961 (No. 9), Sales Tax Act (No. 8a) 1961 (No. 84), Sales Tax Act (No. 9) 1961 (No. 10), Sales Tax Act (No. 9a) 1961 (No. 85).*

*Sales Tax (Exemptions and Classifications) Act 1961 (No. 1), Sales Tax (Exemptions and Classifications) Act (No. 2) 1961 (No. 76).*

*Seamen's War Pensions and Allowances Act 1961 (No. 47).*

*Social Services Act 1961 (No. 45).*

*States Grants (Coal Mining Industry Long Service Leave) Act 1961 (No. 20).*

*States Grants (Special Assistance) Act 1961 (No. 88) (see Chapter XXI).*

*Stevedoring Industry Act 1961 (No. 39)* amended the Stevedoring Industry Act 1956–1957 by specifying ports as continuous or seasonal, by registering certain waterside workers as irregular workers, by providing for long service leave for waterside workers and other related matters,

*Superannuation (Pension Increases) Act 1961 (No. 86).*

*Supply Act 1961–62 (No. 36).*

*Supply (Works and Services) Act 1961–62 (No. 37).*

*War Service Homes Act 1961 (No. 73)* amended the War Service Homes Act 1918–1956 to provide for discharge of liabilities for rates, etc., or improvements to the property from money held by the Director surplus to instalments due, and by amending provisions relating to the resumption and transfer of properties.

*Western Australian Grant (Beef Cattle Roads) Act 1961 (No. 91)* provided for the grant of financial assistance to the State of Western Australia for works in connexion with certain roads to be used for the transport of beef cattle.

*Wine Overseas Marketing Act 1961 (No. 25).*

*Wool Tax Act (No. 1) 1961 (No. 41), Wool Tax Act (No. 2) 1961 (No. 42)* (see Chapters XXI and XXIII.).

*Wool Tax Assessment Act 1961 (No. 43)* (see Chapters XXI. and XXIII.).

#### § 4. Commonwealth Government Departments.

Official Year Book No. 37 contains, on pages 76–86, a list of the Commonwealth Government Departments as at 31st March, 1947, showing details of the matters dealt with by each Department, and the Acts administered by the Minister of each Department, and Year Book No. 39 contains, on pages 100–1, a description of major changes in Departmental structure from 1947 to 1951. Apart from the structural changes and transfers of functions described therein, there are several Departments which, in the interval between 1947 and 1956, were developed to cope with changing circumstances affecting the particular Department. The Prime Minister's Department, the Department of Immigration, and the Department of Social Services were among those whose organizations were thus altered. On page 81 of Official Year Book No. 43 details were shown of a major re-organization, in January, 1956, of the functions of the Departments of Commerce and Agriculture and Trade and Customs, resulting in the creation of the Departments of Trade, Customs and Excise, and Primary Industry. The reference to the Department of Trade's control of statutory marketing boards appearing in that issue should have been omitted, as this function was assumed by the Department of Primary Industry at the re-organization. In April, 1958, the Departments of Supply and Defence Production were amalgamated under the name of Department of Supply, consequent on the report of the Morshead Committee on the organization of the Defence group of Departments.

#### § 5. Cost of Parliamentary Government.

The tables in this section are intended to represent the expenditure incurred in the operation of the Parliamentary system in Australia, comprising the Governor-General and Governors, the Ministries, the Upper and Lower Houses of Parliament, and electoral activities; they do not attempt to cover the expenditure on Commonwealth and State administration generally.

Comparison between individual items should be made with caution because of differences in accounting and presentation which prevent the uniform classification of all items of expenditure.

In order to avoid incorrect conclusions as to the cost of the Governor-General's or Governor's establishment, it may be pointed out that a very large part of the expenditure under the head of Governor-General or Governor represents official services entirely outside the Governor's personal interest, and carried out at the request of the Government.

The following statement shows this expenditure for the Commonwealth and for each State, as well as the cost per head of population, for the year ended 30th June, 1960.

COST OF PARLIAMENTARY GOVERNMENT, 1959-60.

(£.)

Particulars.	C'wlth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
<b>1. Governor-General or Governor</b>								
<i>(a)</i> —								
Governor's and other salaries .. ..	25,594	31,831	16,469	17,555	28,184	10,758	27,232	157,623
Other expenses, including maintenance of house and grounds .. ..	138,171	18,830	53,431	31,840	9,744	26,449	13,296	291,761
<i>Total</i> .. ..	<i>163,765</i>	<i>50,661</i>	<i>69,900</i>	<i>49,395</i>	<i>37,928</i>	<i>37,207</i>	<i>40,528</i>	<i>449,384</i>
<b>2. Official Establishments</b> .. ..								
	15,896	..	..	..	..	..	..	15,896
<b>3. Ministry—</b>								
Salaries of Ministers .. ..	99,100	78,409	23,298	41,456	32,378	13,900	8,700	297,241
Travelling and other expenses .. ..	94,919	b 2,740	16,246	9,623	(c)	15,103	15,776	154,407
<i>Total</i> .. ..	<i>194,019</i>	<i>81,149</i>	<i>39,544</i>	<i>51,079</i>	<i>32,378</i>	<i>29,003</i>	<i>24,476</i>	<i>451,648</i>
<b>4. Parliament—</b>								
<b>A. Upper House:</b>								
Allowance to members .. ..	220,190	33,213	95,652	..	39,415	80,449	37,164	506,083
Travelling and other expenses .. ..	30,022	23,092	(d)9,000	..	2,045	8,051	1,279	73,489
<b>B. Lower House:</b>								
Allowance to members .. ..	467,660	250,748	188,639	174,428	79,083	132,357	72,262	1,365,177
Travelling and other expenses .. ..	112,656	51,452	(e)	27,894	4,321	16,928	2,585	215,836
<b>C. Both Houses:</b>								
Government contribution to Members' Superannuation Fund .. ..	33,823	f 14,749	27,016	14,752	11,744	10,862	..	112,946
Printing .. ..	152,369	60,355	43,076	28,286	38,406	27,935	13,886	364,313
Reporting Staff—								
Salaries .. ..	77,686	32,629	30,101	10,415	28,322	25,819	..	204,972
Contingencies .. ..	4,585	485	569	335	5,370	1,250	..	12,594
Library—								
Salaries .. ..	50,128	18,614	8,987	8,346	6,089	104	..	92,268
Contingencies .. ..	20,662	4,736	2,000	13,501	1,521	600	..	43,020
Salaries of other officers .. ..	384,557	141,994	80,118	34,976	32,367	43,464	28,320	745,796
Other .. ..	114,056	4,526	15,337	11,636	14,955	5,783	..	166,293
<b>D. Miscellaneous (Services, Furniture, Stores, etc.) ..</b>								
	424,416	79,538	34,806	20,444	24,713	7,366	30,080	621,363
<i>Total</i> .. ..	<i>2,092,810</i>	<i>716,131</i>	<i>535,301</i>	<i>345,013</i>	<i>288,351</i>	<i>360,968</i>	<i>185,576</i>	<i>4,524,150</i>
<b>5. Electoral—</b>								
Salaries .. ..	462,424	12,120	9,911	18,404	18,860	24,357	14,940	561,016
Cost of elections, contingencies, etc. .. ..	239,250	46,039	20,135	135,234	13,224	20,714	10,221	484,817
<i>Total</i> .. ..	<i>701,674</i>	<i>58,159</i>	<i>30,046</i>	<i>153,638</i>	<i>32,084</i>	<i>45,071</i>	<i>25,161</i>	<i>1,045,833</i>
<b>6. Royal Commissions, Select Committees, etc.</b>								
	13,098	..	20,608	..	..	7,108	4,155	44,969
<b>Grand Total</b> .. ..	<b>3,181,262</b>	<b>906,100</b>	<b>695,399</b>	<b>599,125</b>	<b>390,741</b>	<b>479,357</b>	<b>279,896</b>	<b>6,531,880</b>
<i>Cost per head of population</i> .. ..	<i>6s. 3d.</i>	<i>4s. 9d.</i>	<i>4s. 11d.</i>	<i>8s. 1d.</i>	<i>8s. 4d.</i>	<i>13s. 4d.</i>	<i>16s. 3d.</i>	<i>12s. 10d.</i>

(a) See text preceding table. (b) Excludes travelling expenses. Not available separately.  
(c) Not available separately (d) Both Houses. (e) Included with Upper House. (f) Lower House only.

Figures for total cost and cost per head during each of the years 1956-57 to 1960-61 are shown in the next table.

**COST OF PARLIAMENTARY GOVERNMENT.**

Year.	C'wealth.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
<b>TOTAL.</b>								
(£.)								
1956-57 ..	2,455,194	769,125	599,355	417,613	324,848	425,524	238,824	5,230,483
1957-58 ..	2,661,604	783,001	660,805	538,365	331,443	434,256	242,064	5,651,538
1958-59 ..	2,986,399	898,897	725,261	470,289	377,463	450,270	256,856	6,165,435
1959-60 ..	3,181,262	906,100	695,399	599,125	390,741	479,357	279,896	6,531,880
1960-61 ..	3,236,410	1,082,508	748,491	582,588	(a)	(a)	(a)	(a)

**PER HEAD OF POPULATION.**

(s. d.)								
1956-57 ..	5 2	4 3	4 7	6 0	7 7	12 6	14 9	11 0
1957-58 ..	5 6	4 3	4 11	7 7	7 6	12 6	14 7	11 7
1958-59 ..	6 0	4 10	5 3	6 6	8 4	12 9	15 2	12 5
1959-60 ..	6 3	4 9	4 11	8 1	8 4	13 4	16 3	12 10
1960-61 ..	6 3	5 7	5 2	7 9	(a)	(a)	(a)	(a)

(a) Not yet available. See Appendix.

**§ 6. Government Employees.**

Information concerning the number of employees of Australian Government Authorities may be found in Chapter XII.—Labour, Wages and Prices.

## CHAPTER IV.

## LAND TENURE AND SETTLEMENT.

## § 1. Introduction.

Descriptions of the land tenure systems of the several States and the internal Territories, and conspectuses of land legislation in force and of the systems of land tenure, have appeared in earlier issues of the Year Book (*see* List of Special Articles, etc., preceding General Index to this volume).

The land legislation in force in the several States may be classified broadly under five major types of land enactments, namely, Crown Lands Acts, Closer Settlement Acts, Mining Acts, Returned Service Personnel Settlement Acts, and Advances to Settlers Acts, but within the groupings there is, of course, a wide variety of individual Acts. In the two internal Territories, the legislation relating to lands is embodied in various Ordinances.

In each of the States, there is a Lands Department under the direction of a Minister who is charged generally with the administration of the Acts relating to the alienation, occupation and management of Crown Lands. In the Northern Territory, the Administrator, under the control of the Minister for Territories, is charged with the general administration of the Lands Ordinance and of Crown lands in the Northern Territory. In the Australian Capital Territory, the administration of the Leases Ordinances is in the hands of the Minister for the Interior.

In each of the States, there is also a Mines Department which is empowered under the several Acts relating to mining to grant leases and licences of Crown lands for mining and allied purposes. In the Northern Territory, there are several ordinances relative to mining.

As with land legislation, land tenures may be classified under broad headings; these indicate the nature of the tenure and comprise:—Free Grants and Reservations, Unconditional Purchases of Freehold, Conditional Purchases of Freehold, Leases and Licences under Land Acts, Closer Settlement, Leases and Licences under Mining Acts, and Settlement of Returned Service Personnel.

The following sections contain figures showing the extent of the different tenures in the several States and Territories, together with some general descriptive matter.

## § 2. Free Grants and Reservations.

1. New South Wales.—(i) *Free Grants.* Crown lands may, by notification in the *Gazette*, be dedicated for public purposes and be granted therefor in fee-simple. Such lands may be placed under the care and management of trustees, not less than three nor more than seven in number, appointed by the Minister.

(ii) *Reservations.* Temporary reservations of Crown lands from sale or lease may be made by the Minister.

(iii) *Areas Granted and Reserved.* During 1959–60, 174,813 acres were permanently reserved or dedicated for miscellaneous recreation reserves and similar purposes. The areas reserved at 30th June, 1960, were as follows:—For travelling stock, 5,087,685 acres; forest reserves, 1,561,126 acres; water and camping reserves, 796,594 acres; mining reserves, 1,042,976 acres; for recreation and parks, 683,596 acres; other reserves, 6,784,010 acres; total, 15,955,987 acres.

2. Victoria.—(i) *Free Grants.* The Governor may grant, convey or otherwise dispose of Crown lands for public purposes, if such lands were permanently reserved for public purposes prior to 18th October, 1929.

(ii) *Reservations.* The Governor may temporarily or permanently reserve from sale, lease or licence any Crown lands required for public purposes.

(iii) *Areas Granted and Reserved.* During 1960, 957 acres were granted without purchase. The areas both temporarily and permanently reserved at the end of 1960 were as follows:—For roads, 1,643,284 acres; water reserves, 316,261 acres; agricultural colleges, etc., 8,434 acres; forest and timber reserves, 5,721,332 acres; reserves in the mallee, 410,000 acres; other reserves, 542,954 acres; total, 8,642,265 acres.



3. **Queensland.**—(i) *Free Grants.* The Governor may grant in trust any Crown land which is or may be required for public purposes. Under the Irrigation Acts, land to be used for the purpose of any undertaking under the Acts may be vested in fee-simple in the Commissioner of Irrigation and Water Supply.

(ii) *Reservations.* The Governor may reserve from sale or lease, either temporarily or permanently, any Crown land which is or may be required for public purposes. Reserved lands may be placed under the control of trustees who are empowered to lease them, with the approval of the Minister, for not more than 21 years.

Under the Forestry Act of 1959, which repealed the State Forests and National Parks Acts, the Governor may permanently reserve any Crown lands and declare them to be a State Forest, a National Park, or a Scenic Area.

(iii) *Areas Granted and Reserved.* During 1960, the area granted in fee-simple without payment was 275 acres, 2,227,243 acres were set apart as reserves, and the area in reserves cancelled was 2,187,913 acres. The total area reserved, including roads, at the end of 1960 was as follows:—Timber reserves, 3,055,740 acres; for State forests and national parks, 5,964,753 acres; aboriginal reserves, 6,540,717 acres; for streets, surveyed roads and stock routes, 3,812,035 acres; general reserves, 5,628,923 acres; total, 25,002,168 acres.

4. **South Australia.**—(i) *Free Grants.* The Governor may dedicate Crown lands for any public purpose and grant the fee-simple of such lands, with the exception of foreshores and lands for quays, wharves or landing-places, which are inalienable in fee-simple from the Crown.

(ii) *Reservations.* The Governor may reserve Crown lands for the use and benefit of aboriginals, military defence, forest reserves, railway stations, park lands or any other purpose that he may think fit.

(iii) *Areas Granted and Reserves.* During 1959–60, free grants were issued for an area of 1,268 acres, and reserves comprising 3,051 acres were proclaimed. At 30th June, 1960, the total area of surveyed roads, railways and other reserves was 22,746,680 acres, including 18,210,654 acres set apart as aboriginal reserves.

5. **Western Australia.**—(i) *Free Grants.* The Governor may dispose of, in such manner as for the public interest may seem best, any lands vested in the Crown for public purposes, and may grant the fee-simple of any reserve to secure the use thereof for the purpose for which such reserve was made.

(ii) *Reservations.* The Governor may reserve any lands vested in the Crown for public purposes. Areas not immediately required may be leased by the Governor for periods up to 10 years. Reserves may be placed under the control of a local authority or trustees, with power to lease them for a period not exceeding 21 years, or may be leased for 99 years. Temporary reserves may also be proclaimed.

(iii) *Areas Granted or Reserved.* During the year ended 30th June, 1960, approximately 43,584 acres were reserved for various purposes. At 30th June, 1960, the total area reserved was 59,860,445 acres, comprising State forests, 4,329,514 acres, timber reserves, 1,768,303 acres and other reserves 53,762,628 acres.

6. **Tasmania.**—(i) *Free Grants.* No mention is made in the Crown Lands Act respecting free grants of land, and it is expressly stated that no lands may be disposed of as sites for religious purposes except by way of sale under the Act. Under the Returned Soldiers' Settlement Act 1916, returned soldiers who applied prior to 31st March, 1922, were eligible to receive free grants of Crown land not exceeding £100 each in value, but these grants were conditional on the land being adequately improved.

(ii) *Reservations.* The Governor in Council may except from sale or lease, and reserve to Her Majesty any Crown land for public purposes, and vest for such term as he thinks fit any land so reserved in any person or corporate body. Any breach or non-fulfilment of the conditions upon which such land is reserved renders it liable to forfeiture. A school allotment may also be reserved.

7. **Northern Territory.**—(i) *Reservations.* The Governor-General may resume for public purposes any Crown lands not subject to any right of, or contract for, purchase, and may reserve, for the purpose for which they are resumed, the whole or any portion of the lands so resumed.

(ii) *Areas Reserved.* The total area of reserves at 30th June, 1960, was 59,591,280 acres.

8. Summary.—The following table shows the total areas reserved in each State, and the grand totals, for the years 1956 to 1960.

**AREAS RESERVED.**  
(’000 Acres.)

Year.	N.S.W. (a)	Victoria. (b)	Q’ld. (b)	S. Aust. (a)	W. Aust. (a)	Tas. (a)	Nor. Terr. (a)	Total.
1956 ..	21,261	8,634	26,067	21,867	55,629	4,130	47,928	185,516
1957 ..	21,353	8,649	26,097	22,641	56,938	(c)	47,928	d 183,606
1958 ..	21,118	8,621	24,884	22,740	58,310	(c)	47,985	d 183,658
1959 ..	20,901	8,624	24,891	22,742	59,807	(c)	48,985	d 185,950
1960 ..	15,956	8,642	25,002	22,747	59,860	(c)	59,591	d 191,798

(a) At 30th June.

(b) At 31st December.

(c) Not available.

(d) Excludes Tasmania.

### § 3. Unconditional Purchases of Freehold.

1. New South Wales.—(i) *Auction Purchases.* Crown lands, not exceeding in the aggregate 200,000 acres in any one year, may be sold by public auction in areas not exceeding half an acre for town lands, 20 acres for suburban lands, and 640 acres for country lands, at the minimum upset price of £8, £2 10s., and 15s. an acre respectively. At least 10 per cent. of the purchase money must be paid at the time of sale, and the balance within three months, or the Minister may allow the payment of such balance to be deferred for a period not exceeding ten years, 4 per cent. interest being charged. Town blocks in irrigation areas may also be sold by auction.

(ii) *After-auction Purchases.* In certain cases, land offered at auction and not sold may be purchased at the upset price. A deposit in accordance with the terms and conditions under which the land was previously offered must be lodged, and, if the application be approved by the Minister, the balance of purchase money is payable as required by the specified terms and conditions.

(iii) *Special Purchases.* In certain circumstances, land may be sold in fee-simple, the purchaser paying the cost of survey and of reports thereon, in addition to the purchase money as determined by the local Land Board.

(iv) *Improvement Purchases.* The owner of improvements in land in authorized occupation by residence under any Mining Act or the Western Lands Act of land within a gold-field or mineral field may purchase such land without competition at a price determined by the local Land Board, but at not less than £8 an acre for town lands or £2 10s. an acre for other lands. The area must not exceed one-quarter of an acre within a town or village, or two acres elsewhere, and no person may purchase more than one such area within three miles of a similar prior purchase by him.

(v) *Road Purchases.* Land from roads that are closed may, with certain exceptions be sold to the owners of adjoining lands at a value determined by the local Land Board.

(vi) *Areas Sold.* During the year ended 30th June, 1960, the total area sold was 537 acres, of which 42 acres were sold by auction and five acres as after auction purchases, while 11 acres were sold as improvement purchases, 352 acres as road purchases and 127 acres as special purchases.

2. Victoria.—(i) *General.* Lands, not exceeding 100,000 acres in any one year, specially classed for sale by auction, may be sold by auction in fee-simple at an upset price of not less than £1 an acre. The purchaser must pay the survey fee at the time of the sale, together with a deposit of 12½ per cent. of the whole price; the residue is payable in equal half-yearly instalments with interest. Any unsold land in a city, town or borough area, areas specially classed for sale, isolated pieces of land not exceeding 150 acres in area, and sites for churches or charitable purposes, if not more than three acres in extent, may be sold by auction on the same terms. Swamp or reclaimed lands may also be sold by auction, subject to the condition that the owner keeps open all drains, etc., thereon.

(ii) *Areas Sold at Auction and by Special Sales.* During 1960, a total of 1,527 acres was disposed of under this tenure, 1,337 acres being country lands and 190 acres town and suburban lands.

3. **Queensland.**—From 1917 to 1929, the law precluded land being made available for any class of selection which gave the selector the right to acquire the freehold title. Amending legislation giving power to make land available under freehold tenures was passed in 1929. This provision was repealed in 1932, but restored in 1957.

4. **South Australia.**—(i) *Sales by Auction.* The following lands may be sold by auction for cash:—(a) special blocks; (b) Crown lands which have been offered for lease and not taken up within two years; (c) town lands; and (d) suburban lands which the Governor excepts from the operations of the Land Board. A purchaser must pay 20 per cent. of the purchase money in cash, and the balance within one month or within such extended time as the Commissioner of Crown Lands may allow. Town lands may be sold subject to the condition that they cannot be transferred or mortgaged within six years without the consent of the Commissioner. If the Commissioner of Crown Lands so determines, town lands may also be offered at auction on terms and the buyer may, at his option, purchase the lands for cash or on agreement for sale and purchase.

(ii) *Areas Sold, etc.* During the year ended 30th June, 1960, the area of town lands and special blocks sold by auction was 15 acres. In addition, 75,236 acres were sold at fixed prices, and purchases on credit of 23,976 acres were completed, making a total of 99,227 acres.

5. **Western Australia.**—(i) *Sales by Auction.* Town, suburban and village lands may be sold by auction after being surveyed into lots and notified in the *Gazette*. They may also be disposed of after being exempted from auction or after being passed in at auction. Ten per cent. of the purchase-money must be paid in cash, together with the value of any improvements, and the balance in four equal quarterly instalments. Suburban land must be fenced within two years, and no Crown grant may be issued until the land is fenced.

(ii) *Areas Sold.* During the year ended 30th June, 1960, the area of town and suburban allotments sold by auction was 259 acres in 244 allotments.

6. **Tasmania.**—(i) *Sales by Auction.* Lands may be sold by auction.

(ii) *After-Auction Sales.* Lands, which, after having been offered at auction, have not been sold, may be sold at the upset price by private contract.

(iii) *Sales of Land in Mining Towns.* Any person being the holder of a residence licence or a business licence who shall be in lawful occupation of any residence area or business area, and who shall be the owner of buildings and permanent improvements upon such land of a value equal to or greater than the upset price of such area, shall be entitled to purchase such area at the upset price at any time prior to the day on which such area is to be offered for sale as advertised. The upset price for such area shall be determined by valuation, excluding the value of improvements, cost of survey, and of grant deed. The area which may be so purchased must not exceed one-quarter of an acre.

#### § 4. Conditional Purchases of Freehold.

1. **New South Wales.**—At 30th June, 1960, the total number of conditional purchases of various types in existence was 26,930, covering an area of 9,358,969 acres. During the year, deeds were issued for 701,104 acres, bringing the total acreage for which deeds had been issued to 37,652,932 at 30th June, 1960.

2. **Victoria.**—The area purchased conditionally in 1960, excluding selections in the Mallee country, was 14,421 acres, all with residence. The number of selectors was 64. In the Mallee, 24,111 acres were purchased conditionally in 1960. The number of selectors was 23.

3. **Queensland.**—The following selections were made freehold during 1960:—agricultural farms, 177,589 acres, prickly pear selections, 27,601 acres, and prickly pear development selections, 17,930 acres. During 1960, an area of 7,369 acres was taken up as agricultural farms.

4. **South Australia.**—During 1959–60, 1,072 acres were allotted under agreements to purchase, comprising Eyre Peninsula Railway Lands, 11 acres, Murray Railway Lands, 45 acres, Town Lands, two acres, and other Crown Lands 1,014 acres.

5. Western Australia.—During the year ended 30th June, 1960, the number of holdings conditionally alienated was 518, all of which were conditional purchases by deferred payments, involving an area of 706,367 acres. Under the heading "deferred payments" are included conditional purchases of grazing lands.

In addition, Crown grants were issued during 1959–60 for the following selections, the prescribed conditions having been complied with:—free homestead farms, 7,175 acres, and conditional purchases, 506,532 acres.

6. Tasmania.—During 1959–60, Crown grants were issued for 23,242 acres. The total area sold conditionally was 2,601 acres, comprising selections for purchase, 2,477 acres, and town and suburban allotments, 124 acres. The number of applications confirmed was 133.

§ 5. Leases and Licences under Land Acts.

1. New South Wales.—At 30th June, 1960, the total area of leases and licences under the control of the Department of Lands, the Water Conservation and Irrigation Commission and the Western Lands Commission was 113,358,849 acres, of which 78,007,226 acres were held under the Western Lands Act, 27,812,710 acres under perpetual lease, and 7,538,913 acres under other forms of lease, licence and permissive occupancy. The following table shows the areas held under various descriptions of leases and licences at 30th June, 1960.

AREAS OCCUPIED UNDER LEASE OR LICENCE AT 30th JUNE, 1960: NEW SOUTH WALES.(a)  
(Acres.)

Particulars.	Area.	Particulars.	Area.
<i>Crown Lands or Closer Settlement Acts</i>		<i>Crown Lands or Closer Settlement Acts—continued.</i>	
Occupational licences .. .. .	492,413	Suburban holdings .. .. .	67,243
Conditional leases .. .. .	9,837,641	Group purchase leases .. .. .	222,441
Conditional purchase leases .. .. .	118,164	Irrigation areas .. .. .	212,549
Settlement leases .. .. .	2,587,832	Other leases(b) .. .. .	255,447
Annual leases .. .. .	423,012	<i>Western Lands Act.</i>	
Special leases .. .. .	1,349,833	Conditional leases .. .. .	130,880
Residential leases .. .. .	3,327	Leases being issued—occupation licences .. .. .	60,083
Permissive occupancies .. .. .	1,912,660	Perpetual leases .. .. .	67,746,377
Prickly pear leases .. .. .	86,925	Other long-term leases .. .. .	9,832,012
Crown leases .. .. .	7,041,194	Permissive occupancies .. .. .	211,181
Homestead farms .. .. .	4,969,182	Preferential occupation licences .. .. .	26,693
Homestead selections and grants .. .. .	1,690,095		
Closer settlement leases .. .. .	3,037,116		
Settlement purchase leases .. .. .	1,044,549	<b>Total .. .. .</b>	<b>113,358,849</b>

(a) Excludes mining leases and permits, forest leases, and occupation permits. (b) Includes leases outside irrigation areas, controlled by the Water Conservation and Irrigation Commission—241,595 acres.

2. Victoria.—The area of Crown lands occupied under leases and licences at 31st December, 1960, was as follows:—grazing licences—other than Mallee, 3,923,502 acres; Mallee, 2,138,798 acres; auriferous lands licences, 1,873 acres; perpetual leases—other than Mallee, 21,658 acres; Mallee, 1,071,691 acres; swamp lands leases, 62 acres; agricultural college lands, 30,244 acres; total, 7,187,828 acres.

3. Queensland.—During 1960, the areas taken up consisted of 9,543,680 acres as pastoral leases, 2,323,324 acres as grazing selections and 11,326 acres as perpetual lease selections. The area occupied under lease or licence, excluding mining leases, at 31st December, 1960, was as follows:—pastoral leases, 245,557,120 acres; occupation licences, 16,646,400 acres; grazing selections and settlement farm leases, 93,879,756 acres; special purposes leases—Crown land, 472,065 acres; reserves, 2,461,272 acres; perpetual lease (including prickly pear) selections, 6,712,876 acres; auction perpetual leases, 40,410 acres; forest grazing leases (reserves), 507,520 acres; total, 366,277,419 acres.

4. South Australia.—The total area, including repurchased lands held under lease or licence except mining lease and licence, at 30th June, 1960, was 145,376,831 acres, of which pastoral leases, 121,771,597 acres, constituted the major portion.

5. Western Australia.—At 30th June, 1960, the total area held under lease or licence issued by the Lands Department amounted to 223,532,143 acres, of which 216,908,871 acres were under pastoral lease.

6. **Tasmania.**—Crown lands leased at 30th June, 1960, for other than mining purposes amounted to 1,481,513 acres of which 1,022,117 acres were leased for pastoral purposes.

7. **Northern Territory.**—At 30th June, 1960, the total area under lease, etc., was 179,021,426 acres, of which pastoral leases accounted for 143,874,723 acres and other leases, licences and mission stations, 35,146,703 acres.

8. **Australian Capital Territory.**—Under the terms of the City Area Leases Ordinance 1936–61, each block is leased for a period of 99 years at a rental of five per cent. per annum of the unimproved capital value as assessed by the Commonwealth. The number of leases granted under this Ordinance to 30th June, 1960 (excluding leases surrendered and determined), was 5,242, representing an unimproved value of £2,262,270. Auction sales of city leaseholds are described in Official Year Book No. 22, page 599. During the year ended 30th June, 1960, 689 leases were granted for residential purposes and 69 for business purposes.

Seventeen leases under the Church Lands Leases Ordinance, which requires the lessees to submit a definite building programme within a specified period, and one lease under the Church of England Lands Ordinance, have been granted for church purposes. A further 35 leases have been granted for either church or scholastic purposes under the various Ordinances.

The total area held under lease and licence for grazing, agricultural, dairying or other purposes (including the Jervis Bay area) amounted to 292,824 acres at 30th June, 1960. These figures exclude city area leases.

9. **Summary.**—The following table shows particulars of the land held in each State under lease or licence for purposes other than mining and forestry, the total under lease or licence in the Territories, and the grand totals, for the years 1956 to 1960.

**AREAS OCCUPIED UNDER LEASE OR LICENCE OTHER THAN MINING  
AND FORESTRY.**  
(\*000 Acres.)

Year.	N.S.W. (a)	Vic. (b)	Q'land. (b)	S. Aust. (a)	W. Aust. (a)	Tas. (a)	N.T. (a) (c)	A.C.T. (a)(c)(d)	Total.
1956 ..	114,231	6,175	363,093	139,640	212,380	2,466	177,021	314	1,015,320
1957 ..	113,947	5,851	363,473	139,727	212,831	1,576	177,028	296	1,014,729
1958 ..	114,451	6,901	364,681	138,370	217,746	1,504	174,399	293	1,018,345
1959 ..	114,801	7,186	362,146	138,304	223,476	1,624	174,697	293	1,022,527
1960 ..	113,359	7,188	366,277	145,377	223,532	1,482	179,021	293	1,036,529

(a) At 30th June. (b) At 31st December. (c) Leases and licences for all purposes.  
(d) Includes Jervis Bay area.

### § 6. Leases and Licences under Mining Acts.

1. **New South Wales.**—At 30th June, 1960, total areas occupied under Mining Acts were as follows:—gold-mining, 3,007 acres; mining for other minerals, 187,632 acres; authorities to prospect, 110,745 acres; other purposes, 8,295 acres; total, 309,679 acres. In addition, 121,636,480 acres were occupied under petroleum prospecting and exploration licences.

2. **Victoria.**—Areas occupied at the end of 1960 were as follows:—gold-mining, 13,893 acres; coal, 11,227 acres; mineral search licences, 16,455 acres; other purposes, 5,445 acres; total, 47,020 acres. In addition, 34,703,020 acres were occupied under petroleum prospecting licences and petroleum exploration permits.

3. **Queensland.**—During 1960, there were 3,390 miners' rights and one business licence issued. Areas taken up during 1960 totalled 50,243 acres, of which 17,335 acres were for mining for minerals other than gold and 32,485 acres were occupied under coal prospecting permits. In addition, an area estimated at 2,500 acres was held under Miners' Rights and Dredging Claims. Total areas occupied at the end of 1960 were as follows:—gold-mining, 2,489 acres; mining for other minerals, 148,876 acres; miners' homesteads, 428,634 acres; coal prospecting, 93,400 acres; total 673,399 acres. In addition 517,649,920 acres were occupied under petroleum prospecting permits and authorities to prospect. The area of land held under lease only was 579,999 acres.

4. South Australia.—Areas taken up under Mining Acts during 1959–60 totalled 32,203,099 acres, including claims, 4,770 acres, mineral and miscellaneous leases, 1,766,269 acres, gold leases, 60 acres, and oil licences, 30,432,000 acres. Total areas occupied at 30th June, 1960, were as follows:—gold-mining, 668 acres; other mineral and miscellaneous leases, 1,837,203 acres; claims, 14,479 acres; oil licences, 207,216,640 acres; other purposes, 23 acres; total, 209,069,013 acres.

5. Western Australia.—Areas taken up during 1960 under Mining Acts totalled 20,558 acres, including gold-mining, 10,034 acres, and mining for other minerals, 10,312 acres. Total areas occupied at the end of 1960 were as follows:—gold-mining, 27,515 acres; mining for other minerals, 102,014 acres; other purposes, 38,128 acres; total, 167,657 acres. Of the total, 2,917 acres were held under lease, the balance being taken up under licences. In addition, 366,000 acres were occupied under licences to prospect for oil, and 402,464,000 acres under permits to explore, total 402,830,000 acres.

6. Tasmania.—During 1960, the number of leases issued was 145, covering 6,809 acres. Of these, 57, covering 932 acres, were for tin mining. Total areas occupied at the end of 1960 were as follows:—gold-mining, 810 acres; coal-mining, 11,549 acres; mining for other minerals, 28,976 acres; other purposes, 11,024 acres; total, 52,359 acres.

7. Northern Territory.—At 30th June, 1960, the number and acreage of holdings under mining leases and tenements were as follows:—gold-mining leases, 212 (4,251 acres); other mineral leases, 352 (23,181 acres); dredging areas, 11 (2,393 acres); gold and other mineral prospecting areas, 17 (181 acres); business and residence areas, 34 (134 acres); other purposes, 129 (6,194 acres); total, 755 (36,334 acres).

8. Summary.—(i) *Mining Leases, etc. (other than Oil Prospecting or Exploring Licences).* The following table shows the total areas occupied under Mining Acts in each State at the end of the years 1956 to 1960.

AREAS OCCUPIED UNDER MINING ACTS.  
(Acres.)

Year.	N.S.W. (a) (e)	Victoria.	Q'land. (b)	S. Aust. (a) (b)	W. Aust. (c)	Tasmania. (b)	Total. (d)
1956 ..	13,924,407	37,723	570,384	770,618	151,916	33,178	15,488,226
1957 ..	326,932	36,129	587,067	779,881	162,199	37,625	1,929,833
1958 ..	385,816	42,563	649,842	795,856	164,017	37,494	2,075,588
1959 ..	399,499	40,098	648,889	783,903	164,025	45,519	2,081,933
1960 ..	309,679	47,020	673,399	1,852,373	167,657	52,359	3,102,487

(a) Year ended 30th June. (b) Excludes lands held under miners' rights and dredging claims.  
(c) Excludes holdings under miners' rights. (d) Excludes Northern Territory. (e) Figure for 1956 include areas held under Mining Acts to prospect for petroleum, etc.

(ii) *Oil Prospecting or Exploring Licences.* The following table shows for each year from 1956 to 1960 the areas occupied in each State under authorities to prospect or explore for petroleum or other oils.

AREAS OCCUPIED UNDER AUTHORITIES TO PROSPECT OR EXPLORE  
FOR PETROLEUM.  
('000 Acres.)

Year.	N.S.W. (a)	Victoria.	Q'land.	S. Aust. (a)	W. Aust.	Tasmania.	N. Terr.	Total.
1956 ..	32,237	3,861	164,178	141,944	245,544	..	(b)	c 587,764
1957 ..	34,739	2,940	221,510	141,944	234,248	..	(b)	c 635,381
1958 ..	37,251	2,805	340,314	127,635	264,968	..	(b)	c 772,973
1959 ..	37,251	31,653	527,954	170,385	319,598	..	36,938	1,123,779
1960 ..	121,636	34,703	517,650	207,217	402,830	..	49,008	1,333,044

(a) Year ended 30th June, (b) Not available. (c) Excludes Northern Territory.

Revisions have been made to the foregoing table since the previous issue in order to incorporate particulars of authorities or permits granted for exploration purposes, which were previously not included in all cases.

## § 7. Closer Settlement.

1. **General.**—Particulars regarding the methods of acquisition and disposal of land for closer settlement in the several States are given in issues of the Official Year Book up to No. 22 (*see* No. 22, pp. 163–9) and the results of the operations of the several schemes have appeared in subsequent issues in considerable detail. Subsequently, however, the amalgamation, in some States, of closer settlement records with those of other authorities made it impossible to obtain up-to-date figures for those States and for Australia as a whole, although aggregations of State totals as at the latest dates available have been published as rough approximations intended to convey some idea of the extent of the schemes throughout Australia.

2. **New South Wales.**—From the inception of closer settlement in 1905 to 30th June, 1960, 2,659 estates totalling 7,112,723 acres had been purchased by the Crown at a cost of £34,925,107 for purposes of closer settlement of civilians and returned service personnel.

Closer settlement is now being effected entirely under perpetual leasehold tenure (closer settlement leases).

3. **Victoria.**—The Closer Settlement Commission was abolished as from 31st December, 1938, and land settlement was placed under the control of the Department of Lands and Survey. On 31st March, 1939, all Closer Settlement and Discharged Soldiers' accounts were amalgamated, the settlers' accounts adjusted and the new debt made payable over an extended period. Particulars of the operations under the provisions of the Closer Settlement Acts to 30th June, 1938, the latest date for which separate details are available, were given in earlier issues of the Official Year Book (*see* No. 42, p. 98).

4. **Queensland.**—Separate records relating to the closer settlement of re-purchased land are no longer kept by the Land Administration Board, and the operations under this heading are now included with "Leases and Licences under Land Acts". Details of the position at 31st December, 1934, the latest date for which the information is available, were given in earlier issues of the Official Year Book (*see* No. 42, p. 98).

5. **South Australia.**—The total area re-purchased for closer settlement at 30th June, 1960 was 948,885 acres, at a cost of £2,865,200. Included in these figures are 51,872 acres purchased for £185,285, and afterwards set apart for returned service personnel, 3,214 acres reserved for forest and waterworks purposes the purchase-money being £16,185, and also 26,563 acres of swamp and other lands, which were purchased for £111,850, in connexion with reclamation of swamp-lands on the River Murray. Of the total area, 823,105 acres have been allotted to 2,825 persons.

6. **Western Australia.**—The total area acquired for closer settlement up to 30th June, 1960 was 3,087,808 acres, costing £4,480,519. Particulars of operations under the Act for the year ended 30th June, 1960, are as follows:—Area selected during the year, 193,084 acres; number of farms, etc., allotted to date, 2,656; total area occupied to date, 2,440,844 acres; area set aside for roads, reserves, etc., and balance available for selection, 646,964 acres.

7. **Tasmania.**—Up to 30th June, 1960, 38 areas had been opened up for closer settlement, the total purchase-money paid by the Government being £371,548 and the total area acquired amounting to 104,554 acres, including 12,149 acres of Crown lands. The number of farms occupied at 30th June, 1960, was 55.

## § 8. Settlement of Returned Service Personnel.

1. **War Service Land Settlement Scheme.**—(i) *General.* The War Service Land Settlement Scheme provides for the settlement on the land of eligible ex-servicemen from the 1939–45 War and the Korea-Malaya operations. Finance for capital expenditure under the scheme in South Australia, Western Australia and Tasmania and for special loans to New South Wales and Victoria is provided through Loan (War Service Land Settlement) Acts. Finance for other aspects of the Scheme in all States is provided by annual parliamentary appropriation. The States Grants (War Service Land Settlement) Act 1952 provides that the responsible Commonwealth Minister may make grants of financial assistance to the States under such terms as he may from time to time determine.

New South Wales, Victoria and Queensland agreed, at the inception of the Scheme, to find their own finance for the acquisition and development of properties. In 1954, Queensland abandoned the Scheme and made available for general settlement all unallotted lands held under it.

In an effort to hasten the settlement of qualified applicants in New South Wales and Victoria, the Commonwealth, between 1st July, 1955, and 30th June, 1959, agreed to make available to New South Wales and Victoria repayable loans with a maximum of £2 million

to each State in any one year. The Commonwealth subsequently agreed to a request from the States that any surplus of the total finance the Commonwealth was prepared to make available for the year 1958-59 could be spent by the States in subsequent years. The extent of these loans was dependent on the amounts expended by the States from their own funds and can be briefly summarized as follows:—total advances made by the Commonwealth—New South Wales, £6,770,833; Victoria, £7,198,703.

Detailed information about the agreements and the methods of operation and administration of the Scheme are contained in earlier Year Books (see List of Special Articles, etc., preceding General Index to this volume).

(ii) *Summary of Operations to 30th June, 1961.* The following table shows the operations of the War Service Land Settlement Scheme in each State up to 30th June, 1961.

### WAR SERVICE LAND SETTLEMENT.

SUMMARY TO 30TH JUNE, 1961.

State.	Land Acquired.	Farms Allotted.		Farms in Course of Development.		Other.
		Acres.	No.	Acres.	No.	
<b>New South Wales(a)—</b>						
Western Lands ..	6,060,331	212	6,060,331	..	..	..
Subdivision—						
Irrigation ..	197,555	356	197,555	..	..	..
Dry ..	1,277,406	1,102	1,277,406	..	..	..
Promotions—						
Irrigation ..	126,565	230	126,565	..	..	..
Dry ..	1,432,164	1,147	1,432,164	..	..	..
<b>Total, New South Wales</b>	<b>9,094,021</b>	<b>3,047</b>	<b>9,094,021</b>	..	..	..
Victoria ..	61,181,599	3,048	1,181,599	..	..	..
Queensland ..	398,524	470	218,640	..	..	(c) 179,884
South Australia ..	755,040	1,015	666,854	10	14,000	(d) 74,186
Western Australia ..	62,082,186	1,007	1,920,456	32	161,730	..
Tasmania ..	(b) 310,535	512	277,271	85	33,264	..
<b>Total ..</b>	<b>13,821,905</b>	<b>9,099</b>	<b>13,358,841</b>	<b>127</b>	<b>208,994</b>	<b>254,070</b>

(a) In New South Wales, properties are regarded by the State as being allotted at the date of acquisition. Figures adjusted following review. (b) Figures adjusted following survey. Other land originally approved, but no longer required, has been disposed of outside the Scheme. (c) War Service Land Settlement was discontinued in 1954, and unallotted lands were made available for general settlement. (d) Will be surveyed on completion of projects under development.

(iii) *Expenditure.* The following table shows a dissection of the Commonwealth expenditure on War Service Land Settlement to 30th June, 1961.

### WAR SERVICE LAND SETTLEMENT (1939-45 WAR AND KOREA/MALAYA OPERATIONS): COMMONWEALTH EXPENDITURE TO 30th JUNE, 1961.

(£.)

Advances to States.	N.S.W.	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	Total.
For acquisition of land ..	..	..	..	3,447,557	3,455,966	2,510,250	9,413,773
For development and improvement of land ..	..	..	..	13,621,968	19,298,514	13,272,083	46,192,565
Special Loans ..	6,770,833	7,198,703	..	..	..	..	13,969,536
Commonwealth contributions to excess cost over valuation ..	402,243	4,537,858	116,105	1,155,600	632,722	468,931	7,313,459
To provide credit facilities to settlers ..	..	..	..	7,717,053	15,838,199	4,201,652	27,756,904
For remission of settlers' rent and interest ..	428,661	175,483	36,214	203,687	459,469	121,095	1,424,609
For payment of living allowances to settlers ..	1,014,849	1,181,000	163,136	359,109	454,097	135,187	3,307,378
For operation and maintenance of irrigation projects ..	..	..	..	739,372	16,611	1,751	757,734
Loss on advances ..	14,428	2,779	333,533	6,824	139,460	1,967	498,991
Cost of administration of credit facilities ..	..	..	..	279,997	603,783	118,452	1,002,232
<b>Total ..</b>	<b>8,631,014</b>	<b>13,095,823</b>	<b>648,988</b>	<b>27,531,167</b>	<b>40,898,821</b>	<b>20,831,368</b>	<b>111,637,181</b>



Repayments of expenditure to 30th June, 1961, on the acquisition, development and improvement of land amounted to £11,234,780, and on the provision of credit facilities to settlers to £13,557,106, so that the total expenditure was reduced by £24,791,886 to £86,845,295. In addition, miscellaneous receipts in South Australia, Western Australia and Tasmania to 30th June, 1961, amounted to £5,253,886.

2. Loans and Allowances (Agricultural Occupations) Scheme.—(i) *General*. Full details of the measures taken to provide for the re-establishment of ex-servicemen in rural occupations were given in an earlier Year Book (*see* List of Special Articles, etc., preceding General Index to this volume).

(ii) *Loans (Agricultural Occupations)*. The following table shows particulars for each State and certain Territories to 30th June, 1961.

**LOANS (AGRICULTURAL OCCUPATIONS) : SUMMARY TO 30th JUNE, 1961.**

State.	Applications.			Loans Approved.		Advanced by Commonwealth Treasury to Lending Authorities.	Advanced by Lending Authorities to Applicants. (b)	
	Re-ceived.	Ap-proved.	Refused, With-drawn or Not Yet Approved	Gross Amount.	Net Approvals.(a)			
					Applica-tions.			Amount.
				£	£	£	£	
New South Wales	7,778	6,303	1,475	4,960,417	5,484	4,254,353	2,660,000	4,282,588
Victoria ..	4,818	3,350	1,468	2,176,011	3,090	2,016,960	1,040,000	1,796,854
Queensland ..	2,379	1,975	404	1,097,690	1,610	891,584	610,000	874,154
South Australia ..	2,136	1,288	848	1,004,548	1,225	962,934	465,000	827,162
Western Australia	3,201	2,290	911	2,159,228	2,153	2,025,885	1,111,450	1,967,752
Tasmania ..	1,124	758	366	473,746	728	454,885	300,400	405,364
Northern Territory	34	15	19	11,945	11	10,148	10,148	10,148
New Guinea ..	17	8	9	7,272	6	6,772	6,772	6,772
Norfolk Island ..	3	1	2	1,000	..	..	..	..
<b>Total ..</b>	<b>21,490</b>	<b>15,988</b>	<b>5,502</b>	<b>11,891,857</b>	<b>14,307</b>	<b>10,623,521</b>	<b>6,203,770</b>	<b>10,170,794</b>

(a) After deduction of loans declined after approval—£1,268,336.

(b) Includes advances from principal repaid by borrowers.

These loans are made to eligible ex-servicemen for the purchase of land, effecting improvements on land, the acquisition of tools of trade, livestock, plant or equipment, the establishment of a co-operative business with other persons, reduction or discharge of a mortgage, bill of sale, etc.

(iii) *Allowances (Agricultural Occupations)*. The following table shows details for each State and New Guinea to 30th June, 1961.

**ALLOWANCES (AGRICULTURAL OCCUPATIONS) : SUMMARY TO 30th JUNE, 1961.**

State.	Applications.			Advanced by Commonwealth Treasury to Bank.	Allowances Paid.
	Received.	Approved.	Rejected, Withdrawn or Not Yet Approved.		
				£	£
New South Wales ..	4,078	3,625	453	587,000	580,056
Victoria ..	3,068	2,311	757	296,500	296,013
Queensland ..	3,044	2,515	529	477,851	477,657
South Australia(a) ..	2,265	1,756	509	325,000	324,609
Western Australia ..	3,020	2,610	410	480,800	480,788
Tasmania ..	634	523	111	116,150	116,114
New Guinea ..	5	4	1	1,360	1,360
<b>Total ..</b>	<b>16,114</b>	<b>13,344</b>	<b>2,770</b>	<b>(b)2,284,661</b>	<b>2,276,597</b>

(a) Includes allowances paid to four ex-servicemen in the Northern Territory. £6,120 returned by the States to the Commonwealth. New South Wales is holding £1,944 which, if not required, will also be returned.

(b) Includes.

These allowances are payable only in respect of the period during which the income derived from the occupation by the ex-serviceman concerned is considered inadequate.

3. War Service Land Settlement Division—Total Expenditure.—The following table shows details of the total expenditure on various projects by the War Service Land Settlement Division from the commencement of operations to 30th June, 1961.

**COMMONWEALTH WAR SERVICE LAND SETTLEMENT DIVISION:  
TOTAL EXPENDITURE TO 30th JUNE, 1961.  
(£.)**

Project.	N.S.W.	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	N.T.	N.G.	Total.
War Service Land Settlement expenditure from Revenue or Loan Funds ..	8,631,014	13,095,823	648,988	27,531,167	40,898,821	20,831,368	..	..	111,637,181
Agricultural Loans(a)	4,282,588	1,796,854	874,154	827,162	1,967,752	405,364	10,148	6,772	10,170,794
Agricultural Allowances ..	587,000	296,500	477,851	325,000	480,800	116,150	..	1,360	2,284,661
Administration Expenses ..	711,904	160,659	70,231	84,238	363,640	44,577	..	..	1,435,249
Rural Training ..	329,558	502,754	106,211	189,877	226,340	108,498	..	..	1,463,238
<b>Total ..</b>	<b>14,542,064</b>	<b>15,852,590</b>	<b>2,177,435</b>	<b>28,957,444</b>	<b>43,937,353</b>	<b>21,505,957</b>	<b>10,148</b>	<b>8,132</b>	<b>126,991,123</b>

(a) Includes expenditure on new loans of moneys repaid by borrowers.

The following summary sets out the net expenditure to 30th June, 1961, after allowing for miscellaneous receipts and repayments.

Miscellaneous Receipts to 30th June, 1961—	£
War Service Land Settlement .. ..	5,253,886
Agricultural Loans and Allowances .. ..	6,393,931
Rural Training .. ..	148,768
<b>Total .. ..</b>	<b>11,796,585</b>
Repayments, War Service Land Settlement Loans .. ..	24,791,886
<b>Total Receipts and Repayments .. ..</b>	<b>36,588,471</b>
Total Expenditure to 30th June, 1961 .. ..	126,991,123
less Receipts and Repayments .. ..	36,588,471
<b>Net Expenditure to 30th June, 1961 .. ..</b>	<b>90,402,652</b>

**§ 9. Advances to Settlers.**

1. General.—A detailed statement regarding the terms and conditions governing advances to settlers in the several States and the Northern Territory may be found in earlier issues of the Official Year Book (see List of Special Articles, etc., preceding General Index to this volume).

The summaries of loans and advances in the following paragraphs are compiled from returns supplied by the various State government lending agencies in the several States. They include transactions in lands acquired under closer and soldier settlement schemes, but exclude balances owing on former Crown lands sold on the conditional purchase, etc., system.

The amounts outstanding do not represent the actual differences between the total advances and settlers' repayments, for considerable remissions of indebtedness have been made in all States as a result of re-appraisements of land values and the writing down of debts. In general, they include both principal and interest outstanding.

A summary for Western Australia is not included, as practically the only governmental funds being made available are Commonwealth (see § 8 above).

In New South Wales and Victoria, expenditure on the acquisition, development and improvement of land for war service land settlement is provided for by the States, and particulars thereof are included in the respective summaries. In Queensland, no money is paid for the value of the land acquired, most land being occupied on lease from the Government, but advances in respect of improvements are included. In the other States, this expenditure is provided for by the Commonwealth and particulars are included in § 8 above.

Loans (Agricultural Occupations) under the Commonwealth Re-establishment and Employment Act 1945 and certain advances for the purchase of wire-netting and for other purposes made from finance provided by the Commonwealth are included in the summaries following.

2. New South Wales.—The following table shows particulars respecting advances, etc., under State authorities to 30th June, 1960.

ADVANCES TO SETTLERS, ETC.: NEW SOUTH WALES.

Advances, etc.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Accounts.	Amount.
	£	£		£
<i>Department of Lands—</i>				
Closer Land Settlement .. .. .	247	15,126,063	6,382	1,520,448
Soldier Settlers 1914-18 War .. .. .	..	3,196,005	56	13,588
1939-45 War .. .. .	402,711	14,457,281	4,885	4,406,693
Soldier Land Settlement—Acquisition, development and improvement of land, War Service Land Settlement Agreement Act .. .. .	379,531	28,679,956	2,430	26,899,104
Wire Netting .. .. .	..	1,494,653	8	701
Prickly Pear .. .. .	37,554	404,484	199	21,055
<i>Rural Bank—</i>				
<i>General Bank Department—</i>				
Commonwealth Re-establishment and Employment Act 1945 .. .. .	105	4,239,659	1,091	559,524
Other .. .. .	1,974,995	78,182,735	7,487	17,860,566
<i>Government Agency Department—</i>				
Rural Industries .. .. .	52,561	9,150,668	696	262,346
Unemployment Relief and Dairy Promotion .. .. .	193,108	4,108,635	2,111	1,187,763
Rural Reconstruction(d) .. .. .	301,024	14,569,539	773	2,259,794
Shallow Boring .. .. .	143,142	1,927,888	353	477,214
Farm Water Supplies .. .. .	142,110	827,380	665	531,233
Soil Conservation .. .. .	23,771	83,305	128	71,475
Rivers and Foreshores Improvement .. .. .	..	4,916	24	1,033
Irrigation Areas .. .. .	644,426	(e)	13,632	5,097,448
Government Guarantee Agency .. .. .	..	225,475	..	..
Closer Settlement Agency .. .. .	..	167,914	32	35,661
<b>Total .. .. .</b>	<b>4,295,285</b>	<b>176,846,556</b>	<b>40,952</b>	<b>61,205,646</b>

(a) In addition, the sum of £1,927,261 has been expended to 30th June, 1960, on subdivision maintenance, improvement and disposal of land acquired for closer settlement. (b) Excludes an amount of £4,692,374 capitalized to 30th June, 1960, on conversion into leasehold under the Closer Settlement Amendment (Conversion) Act 1943. (c) Includes capital value of 2,642 Closer Settlement Leases, £19,751,721, and unpaid balances on 2,430 Structural Improvement Accounts, £7,147,383. (d) Includes Debt Adjustment, Drought Relief, and Marginal Wheat Areas Scheme Advances (Commonwealth and State Moneys), amount outstanding £1,109,471. (e) Not available. (f) Incomplete.

3. Victoria.—The following table shows particulars respecting advances, etc., under State Authorities to 30th June, 1960.

ADVANCES TO SETTLERS, ETC.: VICTORIA.

Advances, etc.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Persons.	Amount.
	£	£		£
<i>State Savings Bank, Crédit Foncier—</i>				
Civilians .. .. .	78,620	12,011,698	468	467,756
Discharged Soldiers .. .. .	..	848,567	13	4,166
<i>Treasurer—</i>				
Cool Stores, Canneries, etc. .. .. .	32,000	1,718,367	(a) 2	706,854
<i>Department of Lands and Survey—</i>				
Closer Settlement Settlers and Soldier Settlers .. .. .	..	b 46,904,855	1,689	1,645,224
Cultivators of Land .. .. .	..	2,463,558	64	14,722
Wire Netting .. .. .	2,061	733,481	44	6,316
<i>Soldier Settlement Commission—</i>				
<i>For Soldier Settlement—</i>				
Purchase of Land .. .. .	-122,415	19,667,289	(c)	} 10,308,990
Development and Improvement of Holdings .. .. .	-773,230	25,544,148	(c)	
Advances for—				(d)
Settlers' Lease Liability .. .. .	2,493,359	21,993,619	2,203	19,635,339
Development of Single Unit Farms .. .. .	158,437	11,928,077	1,819	7,108,406
Improvement, Stock, etc. .. .. .	496,851	5,679,998	994	1,247,689
Other Advances .. .. .	113,341	3,411,616	607	498,811
<i>For General Land Settlement—</i>				
Purchase of Land .. .. .	441,435	441,435	(c)	} 2,827,561
Development and Improvement of Holdings .. .. .	2,399,962	2,399,962	(c)	
Advances for Sale of Land not required for Land Settlement .. .. .	7,163	7,163	..	..
<b>Total .. .. .</b>	<b>5,327,584</b>	<b>155,753,833</b>	<b>7,903</b>	<b>44,471,834</b>

(a) Number of Companies. (b) Represents consolidated debts of settlers (Section 30, Act 4091). (c) Not available. (d) After allowing an amount of £10,758,730 representing excess acquisition, development and improvement cost which has been written off.

4. Queensland.—The following table shows particulars of advances, etc., to 30th June, 1960. The figures exclude transactions in land.

ADVANCES TO SETTLERS, ETC.: QUEENSLAND.

Advances, etc.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Accounts.	Amount.
Co-ordination of Rural Advances and Agricultural Bank Acts	£ 3,173,057	£ 33,749,936	5,384	13,409,631
Discharged Soldiers' Settlement(a)	.. .. .	2,467,913	177	32,299
Water Facilities	.. .. .	58,079	..	..
Wire Netting, etc.	.. .. .	1,019,403	48	1,960
Seed Wheat and Barley	3,722 (b)	159,630	(c)	12,896
Drought Relief	.. .. .	1,329,059	159	155,478
War Service Land Settlement	264,193	4,489,619	324	1,709,967
Income (Unemployment Relief and State Development) Tax Acts(d)	.. .. .	1,183,891 (e)	153	9,791
Irrigation	.. .. .	54,914	2	158
Farmers' Assistance (Debt Adjustment Acts)	5,600	1,055,590	33	46,274
Commonwealth Re-establishment and Employment Act 1945	.. .. .	874,155	113	26,470
Water Supplies Assistance Act	76,965	81,986	53	82,376
Total	3,523,537	46,524,175 (e)	6,446	15,487,300

(a) Includes advances to group settlers through the Lands Department, as well as advances through the Agricultural Bank. (b) Includes accrued interest. (c) Not available. (d) Largely for relief to cotton and tobacco growers and for rural development (ringbarking, clearing, fencing, etc.). (e) Incomplete.

5. South Australia.—The following table shows particulars respecting advances, etc., under State Authorities to 30th June, 1960.

ADVANCES TO SETTLERS, ETC.: SOUTH AUSTRALIA.

Advances, etc.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Persons.	Amount.
<i>Department of Lands—</i>	£	£		£
Advances to Soldier Settlers	.. .. .	5,071,780	38	1,044,889
Advances to Blockholders	.. .. .	41,451	..	..
Advances for Sheds and Tanks	.. .. .	75,693	..	..
Advances under Closer Settlement Acts	.. .. .	2,730,516	558	587,551
Advances under Agricultural Graduates Settlement Act	.. .. .	62,258	8	16,391
Settlement of Returned Service Personnel, 1939-45	.. .. .	..	..	..
War	1,803,392	6,185,906	1,009	4,047,868
Advances under Crown Lands Development Act	117,039	234,381	42	198,427
<i>Primary Producers Assistance Department—</i>				
Advances in Drought-affected Areas	.. .. .	2,146,768	4	,088
Advances under Farmers Relief Acts	.. .. .	4,435,509	2	413
<i>Irrigation Branch—</i>				
Advances to Civilians	.. .. .	291,443	30	9,484
Advances to Soldier Settlers	.. .. .	1,048,174	246	236,335
<i>State Bank of South Australia (Crédit Foncier Department)—</i>				
Advances to Settlers for Improvements	54,922	1,236,436	243	263,917
Advances under Vermin and Fencing Acts	3,688	1,406,002	85	31,447
Advances under Loans to Producers Act	203,113	2,388,764	129	1,695,444
Commonwealth Re-establishment and Employment Act 1945	198	827,486	291	162,894
Total	2,182,352	28,182,567	2,685	8,296,148

6. Western Australia.—The operations prior to 1945 covered in this section related to moneys made available through, or by, the old Agricultural Bank and other Government Departments for the purpose of agricultural development. On 1st October, 1945, however, the Agricultural Bank was reconstituted as the Rural and Industries Bank of Western Australia, and was given authority to operate in similar manner to the associated banks. Certain securities in the books of the old bank were taken over by the general banking division of the new bank, and the clients concerned then operated with privileges and obligations similar to those provided by other banking institutions. The majority of the remaining securities, also, were eventually transferred.

At present, very limited funds are being made available by the State Government for advances for agricultural development, the bulk of the moneys for this purpose being provided by the Commonwealth Government under the War Service Land Settlement and Commonwealth Re-establishment and Employment Acts. Particulars of this expenditure are shown in § 8 above.

7. *Tasmania.*—The following table shows particulars of advances under State Authorities to 30th June, 1960. Although advances made for the purchase of land for closer and soldier land settlement are not regarded as outstanding advances by the Department of Agriculture, the figures have been included in the table for comparative purposes; the areas so purchased have been leased on 99-year terms with an option of purchase which the leaseholder may exercise at any time.

## ADVANCES TO SETTLERS, ETC.: TASMANIA.

Advances, etc.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Persons.	Amount.
<i>Agricultural Bank—</i>	£	£		£
State Advances Act and Rural Credits .. ..	201,667	3,881,605	789	764,804
Assistance to Fruitgrowers Act 1941 .. ..	..	34,556	1	6
Commonwealth Re-establishment and Employment Act 1945 .. ..	..	407,429	181	95,196
Primary Producers' Relief Act 1947 .. ..	..	297,846	60	10,674
<i>Minister for Agriculture—</i>				
<i>Soldier Settlers—</i>				
Advances .. ..	4,179	1,018,578	28 (a)	15,139
Purchase of Estates, etc.(b) .. ..	4,507	2,573,027	272	264,950
<i>Closer Settlers—</i>				
Advances .. ..	..	102,807	3	861
Purchase of Estates, etc.(b) .. ..	4,423	530,231	55	55,245
Total .. ..	214,776	8,846,079	1,389	1,206,875

(a) Excludes £204,813 advances capitalized, £79,166 advances written off to bad debts, and £40,789 written off to revaluation. (b) Not regarded by the Department as outstanding advances.

8. *Northern Territory.*—During the year 1959-60, seven advances totalling £8,377 were approved and advances made totalled £11,509. At 30th June, 1960, the balance outstanding from 97 settlers, including interest, was £179,525.

9. *Summary of Advances.*—The following table is a summary for each State (except Western Australia) and the Northern Territory to 30th June, 1960. The particulars, so far as they are available, represent the total sums advanced to settlers, including amounts spent by the various Governments in the purchase and improvement of estates disposed of by closer and soldier land settlement, while the amounts outstanding reveal the present indebtedness of settlers to the Governments, including arrears of principal and interest but excluding amounts written off debts and adjustments for land revaluations. Particulars of Loans (Agricultural Occupations) under the Commonwealth Re-establishment and Employment Act 1945 and of certain advances for wire-netting and other purposes provided from Commonwealth funds are included.

## ADVANCES TO SETTLERS, ETC.: SUMMARY.

State.	Advances, etc., made during 1959-60.	Total Advances, etc., to 30th June, 1960.	Balance outstanding at 30th June, 1960.	
			Number of Persons.	Amount.
	£	£		£
New South Wales(a) .. ..	4,295,285	176,846,556	40,952	61,205,636
Victoria(a) .. ..	5,327,584	155,753,833	7,903	44,471,834
Queensland .. ..	3,523,537	46,524,175	6,446 (b)(c)	15,487,300
South Australia .. ..	2,182,352	28,182,567	2,685	8,296,148
Tasmania .. ..	214,776	8,846,079	1,389	1,206,875
Northern Territory .. ..	11,509	241,594	97	179,525

(a) Includes expenditure on acquisition, development and improvement of land for war service land settlement (see p. 99). (b) Incomplete. (c) Number of accounts.

## § 10. Alienation and Occupation of Crown Lands.

1. **General.**—The figures shown in the previous parts of this chapter show separately the areas alienated, in process of alienation, or occupied under various tenures. The following tables set out the position with regard to the tenure of land in each State, in the Northern Territory, and in the Australian Capital Territory during 1960. A summary for each State and Territory and for Australia as a whole is also included. Particulars for each year from 1950 to 1960 appear in *Primary Industries Bulletin* No. 54, Part I.—*Rural Industries*, page 1. The area occupied includes roads, permanent reserves, forests, etc. In some cases, lands which are permanently reserved from alienation are occupied under leases or licences, and have been included therein. Lands occupied under leases or licences for pastoral purposes are frequently held on short tenures only, and could thus be made available for settlement practically whenever required.

2. **New South Wales.**—The total area of New South Wales is 198,037,120 acres, of which 27.8 per cent. had been alienated at 30th June, 1960; 5.5 per cent. was in process of alienation; 58.3 per cent. was held under leases and licences; and the remaining 8.4 per cent. was unoccupied, or held by the Crown.

The following table shows particulars as at 30th June, 1960.

**ALIENATION AND OCCUPATION OF CROWN LANDS: NEW SOUTH WALES**  
30th JUNE, 1960.  
(Acres.)

Particulars.	Area.	Particulars.	Area.
1. <i>Alienated</i> .. .. .	55,057,352	3. <i>Held under Leases and Licences.</i>	
		Homestead selections and grants ..	1,690,095
		Alienable leases, long-term and perpetual .. .. .	24,762,828
		Long-term leases with limited right of alienation .. .. .	1,568,495
		Other long-term leases .. .. .	81,884,965
		Short-term leases and temporary tenures .. .. .	3,452,535
		Forest leases .. .. .	1,854,930
		Mining and auriferous leases ..	199,369
		<i>Total</i> .. .. .	115,413,217
2. <i>In Process of Alienation.</i>		4. <i>Unoccupied</i> —Particulars of Lord Howe Island not being available, the area, 3,220 acres, is included under unoccupied (approximate) .. .. .	16,563,288
Conditional purchases .. .. .	9,358,969		
Closer settlement purchases .. .. .	1,133,478		
Soldiers' group purchases .. .. .	134,248		
Other forms of sale .. .. .	376,568		
<i>Total</i> .. .. .	11,003,263	5. <i>Total Area of State</i> .. .. .	198,037,120

3. **Victoria.**—The total area of Victoria is 56,245,760 acres, of which 55.9 per cent. had been alienated up to the end of 1960; 2.5 per cent. was in process of alienation under deferred payments and closer settlement schemes; 12.8 per cent. was occupied under leases and licences; and 28.8 per cent. was unoccupied or held by the Crown.

The following table shows the distribution.

**ALIENATION AND OCCUPATION OF CROWN LANDS: VICTORIA**  
31st DECEMBER, 1960.  
(Acres.)

Particulars.	Area.	Particulars.	Area.
1. <i>Alienated</i> .. .. .	31,431,316	3. <i>Leases and Licences held—</i> <i>Under Lands Department—</i>	
		Perpetual Leases .. .. .	1,093,349
		Agricultural College Leases .. .. .	30,244
		Other Leases and Licences .. .. .	1,935
		Temporary (Yearly) Grazing Licences .. .. .	6,062,300
2. <i>In Process of Alienation—</i> Exclusive of Mallee and Closer Settlement Lands .. .. .	100,558	<i>Total</i> .. .. .	7,187,828
Mallee Lands (exclusive of Closer Settlement Lands) .. .. .	1,100,778		
Closer Settlement Lands .. .. .	232,929	4. <i>Occupied by the Crown or Unoccupied</i> .. .. .	16,192,351
<i>Total</i> .. .. .	1,434,265	5. <i>Total Area of State</i> .. .. .	56,245,760

4. Queensland.—The total area of this State is 426,880,000 acres, of which, on 31st December, 1960, 6.0 per cent. was alienated; 0.6 per cent. was in process of alienation; and 86.3 per cent. was occupied under leases and licences. The remainder, 7.1 per cent., was either unoccupied or held as reserves or for roads.

The distribution is shown in the following table.

**ALIENATION AND OCCUPATION OF CROWN LANDS: QUEENSLAND,**  
31st DECEMBER, 1960.  
(Acres.)

Particulars.	Area.	Particulars.	Area.
1. <i>Alienated</i> .. .. .	25,564,896	3. <i>Occupied under Leases and Licences—</i>	
		Pastoral Leases .. .. .	245,557,120
		Occupation Licences .. .. .	16,646,400
		Grazing Selections and Settlement Farm Leases .. .. .	93,879,756
		Leases—Special Purposes(a) .. .. .	2,933,337
		Mining Leases .. .. .	2,134,532
		Perpetual Lease Selections and Perpetual Lease Prickly Pear Selections .. .. .	6,712,876
		Auction Perpetual Leases, etc. Forest Grazing Leases (of Reserves) .. .. .	40,410
		<i>Total</i> .. .. .	368,411,951
		4. <i>Reserves (net, not leased)</i> .. .. .	18,221,341
		5. <i>Surveyed Roads and Surveyed Stock Routes</i> .. .. .	3,812,035
		6. <i>Unoccupied</i> .. .. .	8,464,829
2. <i>In Process of Alienation</i> .. .. .	2,404,948	7. <i>Total Area of State</i> .. .. .	426,880,000

(a) Special leases of Crown land, 472,065 acres; special leases of reserves, 2,461,272 acres.

5. South Australia.—The area of South Australia is 243,244,800 acres and at 30th June, 1960, 6.4 per cent. was alienated; 0.2 per cent. in process of alienation; 59.8 per cent. occupied under leases and licences; and 33.6 per cent. occupied by the Crown or unoccupied.

The following table shows the distribution.

**ALIENATION AND OCCUPATION OF CROWN LANDS: SOUTH AUSTRALIA,  
30th JUNE, 1960.**  
(Acres.)

Particulars.	Area.	Particulars.	Area.
1. Alienated .. .. .	15,553,450	3. Held under Lease and Licence(a)— Perpetual Leases, including Irrigation Leases .. .. .	20,259,254
		Pastoral Leases .. .. .	121,771,597
		Other Leases and Licences .. .. .	3,345,980
		<i>Total</i> .. .. .	145,376,831
		4. Area Unoccupied(b) .. .. .	81,839,341
2. In Process of Alienation.. .. .	475,178	5. Total Area of State .. .. .	243,244,800

(a) Mining leases and licences have also been issued over an area comprising 209,069,013 acres.

(b) Includes surveyed roads, railways and other reserves, salt water lakes, lagoons, and fresh water lakes.

6. Western Australia.—The total area of Western Australia is 624,588,800 acres, of which, at 30th June, 1960, 4.4 per cent. was alienated; 2.0 per cent. was in process of alienation; and 36.5 per cent. was occupied under leases and licences issued either by the Lands, Mines or Forests Departments. The balance of 57.1 per cent. was unoccupied.

The following table shows the distribution.

**ALIENATION AND OCCUPATION OF CROWN LANDS: WESTERN AUSTRALIA,  
30th JUNE, 1960.**  
(Acres.)

Particulars.	Area.	Particulars.	Area.
1. Alienated .. .. .	27,343,902	3. Leases and Licences in Force— (i) Issued by Lands Department—	
		Pastoral Leases .. .. .	216,908,871
		Special Leases .. .. .	4,271,305
2. In Process of Alienation—		Leases of Reserves .. .. .	916,246
Free Homestead Farms .. .. .	331,383	Residential Lots .. .. .	4,595
Conditional Purchase .. .. .	11,102,490	Perpetual Leases .. .. .	1,431,126
Selections under the Agricultural		(ii) Issued by Mines Department—	
Lands Purchase Act .. .. .	273,192	Gold-mining Leases .. .. .	18,936
Grazing Land .. .. .	976,062	Mineral Leases .. .. .	40,337
Town and Suburban Lots .. .. .	3,725	Miners' Homestead	
Crown Grants of Reserves .. .. .	71,955	Leases .. .. .	33,727
		(iii) Issued by Forests Department—	
		Timber Permits .. .. .	4,024,720
		<i>Total</i> .. .. .	227,649,863
		4. Area Unoccupied .. .. .	356,836,228
<i>Total</i> .. .. .	12,758,807	5. Total Area of State .. .. .	624,588,800

7. Tasmania.—The total area of Tasmania is 16,778,000 acres, of which, at 30th June, 1960, 38.1 per cent. had been alienated; 1.2 per cent. was in process of alienation; 10.3 per cent. was occupied under leases and licences for either pastoral, agricultural, timber, or mining purposes, or for closer or soldier settlement; while the remainder (50.4 per cent. was unoccupied or reserved by the Crown.



The following table shows the distribution.

**ALIENATION AND OCCUPATION OF CROWN LANDS: TASMANIA,  
30th JUNE, 1960.  
(Acres.)**

Particulars.	Area.	Particulars.	Area.
1. <i>Alienated</i> .. .. .	6,385,654	3. <i>Leases and Licences—continued.</i>	
2. <i>In Process of Alienation</i> .. .. .	199,328	(i) Issued by Lands Department— <i>continued.</i>	
3. <i>Leases and Licences—</i>		Soldier Settlement ..	52,326
(i) Issued by Lands Department—		Short-term Leases ..	808
Islands .. .. .	76,909	(ii) Issued by Mines Department ..	45,519
Ordinary Leased Land ..	945,208	<i>Total</i> .. .. .	1,731,735
Land Leased for Timber ..	596,637	4. <i>Area Occupied by the Crown or Un-</i>	
Closer Settlement ..	14,328	occupied .. .. .	8,461,283
		5. <i>Total Area of State</i> .. .. .	16,778,000

8. **Northern Territory.**—The area of the Northern Territory is 335,116,800 acres, of which, at 30th June, 1960, only 0.1 per cent. was alienated; 53.4 per cent. was held under leases and licences; 17.8 per cent. was reserved for aboriginal, defence and public requirements; and the remaining 28.7 per cent. was unoccupied and unreserved.

The following shows the mode of occupancy of areas at 30th June, 1960:—alienated, 375,922 acres; leased—pastoral leases, 143,874,723 acres, other leases, licences and mission stations, 35,146,703 acres, total leased, 179,021,426 acres; reserved for aboriginal, defence and public requirements, 59,591,280 acres; unoccupied and unreserved, 96,128,172 acres; total, 335,116,800 acres.

9. **Australian Capital Territory.**—Alienated land of the Territory (excluding the Jervis Bay area) at the end of 1959 comprised 11.3 per cent. of the total area; land in process of alienation 7.1 per cent; land held under lease and licence 49.2 per cent; land otherwise occupied, including city tenures, 8.3 per cent.; and unoccupied 24.1 per cent.

The following are the particulars of land areas in the Australian Capital Territory at the end of 1960:—alienated 65,857 acres; in process of alienation 41,224 acres; leased—grazing, agricultural, etc., leases, 275,458 acres; grazing licences, 11,100 acres; otherwise occupied, including city area leases, 48,604 acres; total leased, 335,162 acres; unoccupied, 140,686 acres; total, 582,929 acres. Including the Jervis Bay area of 18,000 acres—6,266 acres leased and 11,734 acres otherwise occupied—the grand total for the whole Territory is 600,929 acres.

10. **Summary.**—The following table provides a summary for each State and Territory, and for Australia as a whole, of the alienation and occupation of Crown lands in 1960.

**ALIENATION AND OCCUPATION OF CROWN LANDS, 1960.**

State or Territory.	Private Lands.				Crown Lands.				Total Area.
	Alienated.		In Process of Alienation.		Leased or Licensed.		Other. (a)		
	'000 Acres.	Per Cent.	'000 Acres.	Per Cent.	'000 Acres.	Per Cent.	'000 Acres.	Per Cent.	
N.S.W.(b) ..	55,058	27.8	11,003	5.5	115,413	58.3	16,563	8.4	198,037
Victoria(c) ..	31,432	55.9	1,434	2.5	7,188	12.8	16,192	28.8	56,246
Queensland(c) ..	25,565	6.0	2,405	0.6	368,412	86.3	30,498	7.1	426,880
S. Aust.(b) ..	15,554	6.4	475	0.2	145,377	59.8	81,839	33.6	243,245
W. Aust.(b) ..	27,344	4.4	12,758	2.0	227,650	36.5	356,836	57.1	624,588
Tasmania(b) ..	6,386	38.1	199	1.2	1,732	10.3	8,461	50.4	16,778
Nor. Terr.(b) ..	376	0.1	41	6.8	179,021	53.4	155,720	46.5	335,117
A.C.T.(c)(d) ..	66	11.0	..	..	342	56.9	152	25.3	601
Australia ..	161,781	8.5	28,315	1.5	1,045,135	55.0	666,261	35.0	1,901,492

(a) Occupied by Crown; reserved; unoccupied; unreserved.  
(d) Includes Jervis Bay area.

(b) At 30th June.

(c) At 31st December.

## CHAPTER V.

## THE TERRITORIES OF AUSTRALIA.

NOTE.—The internal Territories of Australia are the Northern Territory and the Australian Capital Territory. External Territories under the control of Australia are:—Norfolk Island; Papua (formerly British New Guinea); the Territory of New Guinea (under Trusteeship Agreement with the United Nations); Nauru (under Trusteeship Agreement with the United Nations); the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; and the Territory of Christmas Island. There is also the Territory of Ashmore and Cartier Islands, to which the laws, ordinances and regulations of the Northern Territory, of which it is deemed to form part, apply wherever applicable. Information on all except Ashmore and Cartier Islands is contained in the following pages, and details of the acquisition of all the Territories will be found on pages 5, 23 and 24 of Chapter I. (See map on page 141 for location of Territories.)

## THE NORTHERN TERRITORY.

## § 1. Area and Population.

1. Area.—Upon the extension of New South Wales westward to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1st January, 1911. The total area is 523,620 square miles.

2. Population.—(i) *Population, excluding Full-blood Aboriginals.* At the Census of 30th June, 1961, the population of the Territory, excluding full-blood aboriginals, was 16,206 males, 10,889 females, 27,095 persons. Corresponding figures at the Census of 30th June, 1954, were 10,288, 6,181 and 16,469 respectively.

The European population of the Territory increased slowly from 670 at the Census of 1881 to 3,767 in 1918. By 1921, it had decreased to 2,458, and in 1933 was still only 3,306. At the Census of 1947, it had risen to 9,116, while at the Census of 1954 it had risen to 14,028. Comparable figures from the Census of 1961 are not yet available.

(ii) *The Aboriginals.* For particulars relating to the aboriginal population see Chapter IX.—Population. All aboriginals, by virtue of the Nationality and Citizenship Act 1948–1960, are Australian citizens. The Welfare Ordinance 1953–1960 recognizes this, and provides that only those deemed to be in need of special care and assistance may be declared wards under the control of the Director of Welfare. Declaration as a ward is subject to the right of individual appeal. This is the same basic idea that is expressed in social legislation applying to those members of the white community who are not able to look after themselves or who have to be protected (e.g., neglected children). Reserves for wards comprise an area of 94,509 square miles.

## § 2. Legislation and Administration.

On 1st January, 1911, the Territory was transferred from South Australia to the Commonwealth. The terms were outlined in Official Year Book No. 15, page 940. For particulars of the administration up to the Northern Territory (Administration) Act 1931, by which it was, for the second time, placed in the hands of an Administrator, see Official Year Book No. 38 and earlier issues.

The Northern Territory (Administration) Act 1910–1959 provides for the constitution of a Legislative Council consisting of the Administrator as President, six official members, three nominated non-official members and eight elected members. The Council makes

ordinances for the Territory, which must be submitted to the Administrator for assent. The Administrator may, or may not, assent to them, or he may reserve them for the Governor-General. The Governor-General may disallow any ordinance assented to by the Administrator within six months from the date of assent, and the operation of ordinances relating to certain matters, including Crown lands and aboriginal affairs, is dependent on his approval. Money votes may be proposed in the Council only by the Administrator himself, or by his permission or direction.

The Territory elects a member to the House of Representatives, who has the right to take part in debates but may vote only on matters that relate solely to the Northern Territory.

### § 3. Physiography.

1. **Tropical Nature of the Country.**—The Territory is within the torrid zone, with the exception of a strip about 180 miles wide which lies south of the Tropic of Capricorn.

2. **Contour and Physical Characteristics.**—The low flat coast-line seldom reaches a height of 100 feet. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl and laterite form the occasional cliffy headlands. The sea frontage of more than 1,000 miles is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries. The only practicable deep-water port, however, is Darwin.

Inland, the country generally is destitute of conspicuous landmarks. From the coast, there is a general rise southwards to the vicinity of the 17th or 18th parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply for the interior systems. Towards the centre of the continent, the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east and west trend.

### § 4. Climate, Fauna and Flora.

1. **The Seasons.**—There are two main climatic divisions, the wet season, November to April, and the dry season, May to October, with uniform and regular changes of weather. Nearly the whole of the rainfall occurs in the summer months. Further particulars appear in Official Year Book No. 6, page 1116.

2. **Fauna.**—The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous) and frogs abound. There are many varieties of fresh-water fish and littoral mollusca. Butterflies and beetles are strongly represented. The termite is a pest which is capable of serious damage to wooden buildings unless special preventative measures are taken. A species of the ant builds anthills which sometimes attain great dimensions. Mosquitoes and sandflies are very troublesome, particularly in the wet season. Some types of native fauna are protected. Buffalo formerly existed in large herds, but their number has been greatly reduced by indiscriminate shooting. Buffalo shooting is now controlled by Ordinance.

3. **Flora.**—The vegetation is North Australian in type, but a number of the forms belong to the Malayan and Oceanic regions. In the coastal regions, tropical vegetation grows luxuriantly to the water's edge. In the north, cypress pine, bloodwood and paper-bark timbers are now cut and milled for local building purposes. These three timbers are resistant to termites. On the wide expanses of plain country in the interior, there is little vegetation, the principal orders represented being:—*Euphorbiaceae*, *Compositae*, *Convolvulaceae*, *Rubiaceae*, *Goodeniaceae*, *Leguminosae*, *Utricaceae*.

### § 5. Production.

1. **Agriculture.**—Up to the present, agriculture has made little progress in the Territory, although rice, peanuts, tobacco, grain sorghum, bananas, pineapples, citrus fruits, mangoes, papaws, vegetables, fodder plants and improved pastures can be grown in certain areas. At the present time, commercial agricultural production is practically confined to peanuts, which have been an export crop for some time, and to vegetables and small-scale fruit production (mainly pineapple and citrus) for local consumption.

In 1946, the Commonwealth Scientific and Industrial Research Organization commenced scientific surveys to determine more accurately the potentialities of the Territory. Surveys have been completed of the Katherine-Darwin, Barkly Tableland and Victoria River Regions. The survey of the Katherine-Darwin Region indicated that further investigations into agricultural possibilities were warranted. As a result, the C.S.I.R.O. established an agricultural research station at Katherine to investigate the possibilities of dry farming in a land system covering an area of about 7,000 square miles in the Katherine-Daly River basin. The research work at this station was sufficiently encouraging in respect of the production of peanuts, grain sorghum, and pastures to warrant investigations into the application of the findings on a commercial scale. To further the investigations, the Commonwealth Government approved of the establishment by the Northern Territory Administration, in 1952, of an experimental farm at Katherine for the purpose of carrying out trials with these crops to determine the requirements for farming them on a commercial scale. The trials are in progress, but it is too early to make any definite pronouncements. In 1956, the Administration established an experimental farm at Berrimah, near Darwin. Investigations into fruit and vegetable growing and pasture production are being carried out under both dry land and irrigated conditions.

The survey of the Katherine-Darwin Region also indicated various soil types in other parts of the Region on which agricultural production tests would be worthwhile. Trials on soil types are carried out by agricultural field officers of the Administration in various areas of the Territory considered potentially suitable for agriculture.

Prospects for rice growing were indicated by the survey, and in 1952 the Administration established rice research stations at Humpty Doo and at a location known as Sixty Mile, on the Stuart Highway, 60 miles from Darwin. Since the 1959-60 season, rice research work on the sub-coastal plains has been carried out in the Territory by the C.S.I.R.O. at its Coastal Plains Research Station at Middle Point, near Humpty Doo. The Administration carries out rice investigational work outside the coastal plains at the Upper Adelaide River Agricultural Experiment Station. At the rice research stations, it has been demonstrated that rice can be grown in the Territory, but that the main problems are adequate water control and drainage, determination of cultivation techniques in the soil conditions, and the production of suitable rice varieties. Territory Rice Limited, a firm with Australian and American capital, carried out commercial scale operations near Humpty Doo from the 1954-55 season until the 1959-60 season. Under arrangements with the company, four former employees grew a crop of rice in the 1960-61 season.

On 25th July, 1959, the Minister for Territories appointed an expert committee, under the chairmanship of Dr. H. C. Forster, Professor of Agriculture at the Melbourne University, to investigate the prospects of promoting agricultural settlement in the Northern Territory on an economic basis and the major factors to be considered in shaping an agricultural policy for the Territory, including the areas best suited to agricultural settlement; the crops most likely to prove economic; the relationship of agriculture to the expansion of the pastoral industry; the availability of land and the distribution and tenure of land; credit and other forms of assistance to primary producers; marketing opportunities; research and agricultural extension work; and water use and conservation. The full Committee and its individual members have made a number of visits to the Territory, but its report had not been completed at the time of writing.

**2. Pastoral Industry.**—The pastoral possibilities of certain parts of the Territory were recognized at an early date, and in 1866 stock were brought into the Macdonnell Range country from South Australia. Six years later, cattle were moved from Queensland to the northern parts of the Territory, and in 1879 Giles reached the Katherine River with 2,000 head of cattle and 12,000 sheep from South Australia. For various reasons, sheep-raising was not very successful. The cattle industry, however, progressed steadily and is continuing to expand.

Cattle exported during 1960-61 numbered 169,103—96,521 to Queensland, 65,773 to South Australia, 4,444 to Western Australia and 2,365 to Hong Kong. Other livestock exports included 578 horses, 23 pigs and 90 buffaloes. Imports of livestock were—Bulls, 1,314, other cattle, 10,541; horses, 672; sheep, 3,620; pigs, 132; and poultry, 29,588.

The estimated numbers of livestock in the Territory at 30th June, 1957 to 1961, are given in the following table.

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## NORTHERN TERRITORY: LIVESTOCK.

At 30th June—	Horses.	Cattle.	Sheep.	Pigs.	Goats.	Mules.
1957 .. ..	38,180	1,175,997	30,466	755	11,189	286
1958 .. ..	38,668	1,243,588	26,795	3,071	9,938	324
1959 .. ..	39,131	1,138,156	22,141	3,191	9,126	300
1960 .. ..	37,171	1,088,982	16,611	2,272	9,440	318
1961 .. ..	40,054	1,154,656	16,089	2,845	6,692	359

3. **Hides and Skins.**—The numbers of hides and skins exported from the Territory during 1960–61 were as follows: sheep, 2,207; crocodile, 5,270; cattle, 7,398; and buffalo, 451.

4. **Mining.**—During 1960, the value of output of the mining industry in the Territory, excluding uranium mining, was £2,621,000.

The mining of copper ores and concentrates is the most important in terms of value of output, and accounts for more than half of the Territory's total recorded production. Prior to 1956, gold minerals, first mined in 1869, accounted for most of the value of output, but from 1956 onwards gold production has remained relatively constant while copper production has increased considerably. The bulk of the copper and gold is won at Tennant Creek where, in 1958, the government battery was re-opened to encourage gold mining by smaller operators.

Uranium minerals were first discovered at Rum Jungle in 1949, and other deposits have been found since. Production of uranium concentrate at the Government's Rum Jungle treatment plant commenced in 1954. During 1959, additional plants for the processing of ores mined from the South Alligator River area were established by private companies at Moline and South Alligator. The uranium concentrate produced at the latter two plants is sold under contract to the United Kingdom Atomic Energy Commission. The production of manganese and salt, two minerals used in these uranium treatment plants, commenced in 1955 and 1957 respectively.

The Harts Range field in Central Australia continues to produce the bulk of Australian high grade mica, but production is declining because of the ready availability of lower priced mica from overseas. Production of tin and wolfram concentrates, important in the past, is now negligible. Increasing interest is being shown in tin mining, and production is expanding.

The following table shows the value of output of the mining industry in the Territory for the years 1956 to 1960. Particulars of the value of output from quarries are not included.

**NORTHERN TERRITORY: VALUE OF OUTPUT<sup>(a)</sup> OF THE MINING INDUSTRY.**  
(EXCLUDING URANIUM.)  
(£'000.)

Year.	Copper Ore and Concentrate.	Gold. (b)	Manganese Ore.	Mica.	Other.	Total All Minerals.
1956 .. ..	1,360	1,032	29	42	131	2,594
1957 .. ..	1,024	973	20	50	59	2,126
1958 .. ..	1,286	895	70	47	16	2,314
1959 .. ..	1,455	901	37	45	33	2,471
1960(c) .. ..	1,600	938	41	17	25	2,621

(a) Selling value at point of sale of mine products less transport costs from mine to point of sale.  
(b) Ore, concentrate, bullion, alluvial gold, etc. (c) Subject to revision.

5. **Forestry.**—In August, 1958, the Commonwealth Government approved a six-year programme of forestry improvement and development to preserve existing forest areas and increase possible timber resources. The programme is being carried out by the Forestry and Timber Bureau, and it is intended that it will be handed over to the Administration at the end of the six-year period. Fundamental forestry research work, however, will still be carried on by the Bureau. Experimental work in reforestation is being carried out in small plantation areas. Cypress pine appears the most promising species for large-scale commercial plantings. Local production of sawn timber, mainly cypress pine, amounted to 465,000 super. feet in 1959–60, but to meet local requirements about 1,800,000 super. feet of timber was imported from the States and overseas.

6. Pearl Fisheries.—In 1884, mother-of-pearl-shell was discovered in the harbour of Port Darwin. Since that time, the areas fished have extended to the various banks to seaward and coastwise along the Northern Territory coast. Figures for production and value of shell for the seasons ended January, 1957 to 1961, are shown in the following table.

## NORTHERN TERRITORY: PEARL FISHING.(a)

Season Ended January—	Boats Engaged.	Pearl-shell Taken.	
		Quantity. (‘000 lb.)	Value. (£’000.)
1957.. .. .	10	585	146
1958.. .. .	11	753	135
1959.. .. .	5	314	57
1960.. .. .	5	188	36
1961.. .. .	5	222	45

(a) Excludes operations of Queensland and Japanese pearlers operating in Northern Territory waters.

7. Secondary Industries.—The secondary industries that have so far been established in the Territory have been largely the service industries normally associated with a developing area, for example, home building, electrical repairs, printing, motor and marine engineering, plumbing, welding, joinery, sheet metal work and blue metal crushing. Major industrial investments by private interests in recent years include two breweries and a factory for the manufacture of milk, ice cream and aerated waters.

## NORTHERN TERRITORY: INDUSTRIAL PRODUCTION.

Particulars.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Factories.. .. . No.	83	85	94	95	98
Average Number Employed (including Working Proprietors) .. .. .	656	685	734	784	839
Salaries and Wages Paid (excluding drawings by Working Proprietors) .. £’000	549	618	657	751	861
Value of Materials and Fuel Used .. .. .	571	709	978	1,159	1,313
Production (value added) .. .. .	997	995	1,293	1,528	1,742
Output .. .. .	1,568	1,704	2,271	2,687	3,055

## § 6. Land Tenure.

1. General.—A description of the system of land tenure in force in the Territory in 1928 is given in Official Year Book No. 22, Chapter V.—Land Tenure and Settlement. It was revised in Official Year Book No. 39, pages 329-30, and Chapter IV.—Land Tenure and Settlement of this issue contains up-to-date statistical information on the subject.

Almost half the land in the Territory is reserved, or unoccupied and unreserved, the remainder, apart from a very small proportion alienated, being held under various forms of lease or licence, which are described briefly below and in more detail in Official Year Book No. 39, pages 329-30.

2. Pastoral, Agricultural, etc., Leases.—*Pastoral Leases*—granted for periods not exceeding 50 years.

*Pastoral Homestead Leases*—granted in perpetuity but available only to persons who intend to reside *bona fide* on the leased land. Companies are not eligible to hold this type of lease.

*Agricultural Leases*—granted in perpetuity, with the area for any one lease limited according to the type of farm (Cultivation farms, Class 1, 1,280 acres, Class 2, 2,560 acres; Mixed farming and grazing, Class 1, 12,800 acres, Class 2, 38,400 acres).

*Leases of Town Lands*—granted in perpetuity.

*Special Purpose Leases*—granted for periods up to 99 years, for purposes other than pastoral, agricultural or mining, or private residential purposes within a town.

*Agricultural Development Leases*—granted for periods up to 30 years for the purpose of large-scale agricultural development.

*Church Lands Leases*—granted for church purposes at a nominal rental in perpetuity.

*Leases to Aboriginals*—granted for areas not exceeding 160 acres each for any period of years upon such terms and conditions as thought fit.

*Leases to Mission Organizations*—granted for periods up to 21 years.

*Miscellaneous Leases*—granted for any prescribed or approved purpose, for periods not exceeding 21 years.

*Grazing Licences*—granted to graze stock on Crown lands for periods not exceeding one year.

*Occupation Licences*—granted for manufacturing, industrial or any prescribed purposes, for periods not exceeding five years.

*Miscellaneous Licences*—granted for periods not exceeding one year.

The foregoing leases and licences are granted at specified rentals or rentals fixed by the Administrator and subject to re-appraisal, and under various prescribed or specified conditions.

3. **Mining Leases, etc.**—*Holdings under Miners' Rights*—entitling the holder, for a fee of 5s. for 12 months from the date of issue, to take possession of and occupy Crown lands for mining purposes.

*Gold-mining Leases*—granted for a period of 21 years, renewable for further periods of 21 years, for areas not exceeding 20 acres each, at an annual rental of 5s. an acre for the first year and £1 an acre thereafter and with payment of a royalty of 3d. in the £1 on the value of gold won, or 6d. in the £1 if on Aboriginal Reserves.

*Mineral Leases*—granted in blocks not exceeding 40 acres each, at an annual rental of 5s. an acre, with term, renewal, and royalty conditions as for gold-mining leases.

*Dredging Claims*—granted for gold or minerals claims, the area not exceeding 300 acres each, at an annual rental of 2s. an acre and with payment of a royalty of 6d. in the £1 on the value of minerals won if on Aboriginal Reserves.

*Petroleum Prospecting Permits*—granted to search for oil over one, two or three areas not exceeding in the aggregate 10,000 square miles for an initial term not exceeding 12 months with provision for extensions in three-year periods up to a maximum of 10 years. The permittee must lodge a fee of £100 and enter into a bond for at least £1,000 to comply with the conditions of the permit and the provisions of the Petroleum (Prospecting and Mining) Ordinance 1954-1961 and the regulations thereunder.

*Petroleum Licences*—confer an exclusive right to carry out the detailed surveys and other operations necessary to test the land for petroleum. For a fee of £20 a licence is granted to a permittee only over an area not exceeding 2,500 square miles upon the permittee entering into a bond of at least £5,000 to comply with the provisions of the licence and the Ordinance and Regulations. The total term of a licence may not be greater than eight years.

*Petroleum Leases*—granted, to a licensee, only for a period of 21 years, and renewable for further periods of 21 years, in respect of an area not exceeding 500 square miles. The lessee is required to pay a royalty of 10 per cent. on the gross value of all crude oil produced.

*Coal Licences*—granted to search for coal over an area not exceeding 1,000 square miles for a period of five years, at an annual fee of £10.

*Coal Leases*—granted for a period of 21 years, renewable for 21 years at an annual rental of 1s. an acre and a royalty fixed by regulation.

*Business and Residence Areas*—granted at the prescribed fee, authorizing the holder to occupy on a gold or mineral field an area not exceeding 1 acre for residence and carrying on business (one-quarter of an acre if for residence only).

*Garden Areas*—granted under prescribed conditions, on a gold or mineral field for growing fruit or other garden produce, the area of each garden not exceeding 5 acres.

There are various conditions regarding working, employment and value of machinery used, which apply to the foregoing leases and licences.

## § 7. Trade, Transport and Communication.

1. **Trade.**—No record is kept of the trade between the States and the Territory. In the years 1945–46 to 1948–49, direct oversea imports averaged about £200,000 a year, but in the four years 1950–51 to 1953–54 the average was about £625,000 a year. Imports totalled £1,484,791 in 1959–60 and £1,206,246 in 1960–61, while direct oversea exports amounted to £551,199 in 1959–60 and £435,069 in 1960–61.

2. **Shipping.**—Shipping services to Darwin are provided from the eastern States at intervals of about four weeks by ships of the Australian National Line, and from Western Australia by four to five ships a month of the Western Australian State Shipping Service. Oversea tankers visit Darwin approximately ten times annually with supplies of aircraft fuel and other petroleum products. Other oversea vessels call at irregular intervals. During 1960–61, approximately 144,000 tons of merchandise were landed at Darwin. Petroleum products were the principal commodities imported. A vessel operated by John Burke and Company from Thursday Island serves settlements on the Gulf of Carpentaria, and some mission-owned boats carry cargo from Darwin to mission stations and government settlements along the coast.

3. **Air Services.**—At 30th June, 1960, there were 24 government aerodromes and 91 licensed aerodromes in the Territory. The oversea passenger services using the Darwin international airport are Qantas (Sydney to Tokyo through Hong Kong); Qantas/B.O.A.C. (Sydney to London); Transports Aériens Intercontinentaux (Paris to Noumea and Auckland); Air-India International (Sydney to London); and Cathay Pacific Airways Ltd. (Sydney to Tokyo). Qantas also conducts a freight service from Sydney to London. Regular inland services to Darwin, with, in some cases, intermediate stops at Territory centres, are operated by Trans-Australia Airlines (from Adelaide, Melbourne, Sydney and Brisbane), and MacRobertson-Miller Airways Ltd. (from Perth and Wyndham). A service from Melbourne to Alice Springs through Broken Hill is operated by Ansett-A.N.A. MacRobertson-Miller Airways Ltd. and Connellan Airways Ltd. operate a network of air services throughout the Territory, the latter company's base being at Alice Springs. The Royal Flying Doctor Service also operates aircraft, while charter services can be secured at Darwin and Alice Springs.

4. **Railways.**—The Commonwealth Railways Commissioner, under the Commonwealth Railways Act 1917–1957, operates the Central Australia Railway from Port Augusta to Alice Springs over a distance of more than 750 miles, of which about 200 are in the Northern Territory. The line from Port Augusta to Maree, a distance of 217 miles, has been converted to standard gauge (4 ft. 8½ in.). Proposals are now being examined to convert the remaining 3 ft. 6 in. line to standard gauge, firstly to Oodnadatta and later through to Alice Springs. The Commissioner also operates the North Australia Railway between Darwin and Birdum on a 3 ft. 6 in. gauge over a distance of 317 miles. The two inland terminals, Alice Springs and Birdum, are about 630 miles apart and are connected by road transport along the Stuart Highway. Larrimah, on the highway and 6 miles north of Birdum, is the point of trans-shipment for passengers and goods and is, at present, the effective terminal. A road-rail freight service operates between Adelaide and Darwin via Alice Springs.

5. **Roads.**—During the 1939–45 War, roads were built connecting Alice Springs with Darwin, and Mount Isa (Queensland) with Tennant Creek. The first of these roads, known as the Stuart Highway, is 954 miles long, and runs via Larrimah and Tennant Creek. The Mount Isa–Tennant Creek Road (Barkly Highway) is 403 miles long and joins the Stuart Highway some 16 miles north of Tennant Creek. Both were used extensively during the war, and the Stuart Highway, in particular, experienced very heavy and continuous traffic. The highways are now used for carrying various freights including cattle, particularly to and from the railheads at Alice Springs, Larrimah and Mount Isa. The routes are used also for overland tourists and travellers from the southern States to Darwin. With the further development of the pastoral and mining industries in the Territory, road trains are now being used on both highways for the export of cattle and ore. Both roads have good water bores and communications. There are now approximately 13,000 miles of road in the Territory of which 1,370 miles are sealed.



**6. Posts, Telegraphs, Telephones and Wireless.**—Postal communication is maintained by road, rail and air transport between Darwin and the capital cities of Australia. In addition, vessels belonging to the Western Australian State Shipping Service provide a regular service between Fremantle and Darwin. Inland, the northern part of the Territory receives its mail via Darwin or by means of the aerial services, and the southern districts are served via Adelaide.

The overland telegraph line, covering a length of 2,230 miles, runs from Adelaide to Darwin, and links Darwin in telegraphic communication with other parts of the world.

Long-distance telephone communication is established between Darwin and the capital cities of Australia, and oversea telephone communication through Sydney or Perth is also available.

Regional national broadcasting stations are situated at Darwin, Alice Springs, Tennant Creek and Katherine, and there is a commercial station at Darwin. The majority of homesteads on pastoral leases are equipped with pedal wireless sets operated under licence from the Postmaster-General's Department. These stations are in daily communication with Flying Doctor Bases situated at Alice Springs (Northern Territory), Wyndham (Western Australia), Broken Hill (New South Wales) and Cloncurry (Queensland), and are used for transmission of radio-telegrams and other communications.

## § 8. Education.

**1. European.**—Schools for European and part-European children in the Territory are conducted for the Commonwealth, on an agreed basis of reimbursement, by the South Australian Department of Education, which is represented in Darwin by an Assistant Supervisor of Education, Northern Territory Schools.

At 30th June, 1961, there were 20 Government schools in the Territory with 3,507 pupils, and three private schools with 848 pupils, providing instruction according to the South Australian curriculum. High Schools with classes up to the Leaving Certificate level have been established at both Alice Springs and Darwin.

All children who live more than 10 miles from an established school receive an allowance of £80 per annum plus fare concessions if they board away from home in order to attend school. Twelve exhibitions on the results of the Intermediate Certificate and twelve Leaving Honours scholarships on the results of the Leaving Certificate are available annually. Benefits are £40 and £50 respectively, subject to a means test.

Approximately 148 children receive correspondence education under the South Australian Correspondence School system. The radio session "School of the Air" supplements normal correspondence instruction for certain children in isolated areas.

Eleven pre-school centres have been established in the Territory, the staff of all except one being officers of the Northern Territory Administration. A number of scholarships are offered each year for Territory girls to qualify as pre-school teachers.

**2. Special Aboriginal Schools.**—The social, cultural, and educational background of the aboriginals has made necessary the establishment of special schools for them. It is envisaged that this necessity will ultimately pass. As from the beginning of the 1956 school year, control of these schools passed from the Commonwealth Office of Education to the Welfare Branch of the Administration. Fourteen schools have so far been established. A special syllabus and series of readers have been prepared for use in these schools. Free mid-day meals, milk, and school clothes are supplied to the pupils. In addition to the fourteen Administration schools, sixteen schools for aboriginal children are conducted by Missions with the aid of Government subsidies. Also, four schools aided by Government subsidies have been established on pastoral properties, and the establishment of others along similar lines is planned. Three pre-school centres are operated by the Administration for aboriginal children.

3. **Theoretical Training of Apprentices.**—The recognition that technical school training is an extension of workshop training has led to the introduction of day-time classes which apprentices attend without loss of pay. Apprentices are directed by the Apprentices Board to undertake correspondence courses conducted by the Technical Correspondence School of the South Australian Education Department and the Sydney Technical College, these courses covering the work prescribed for the various trades in South Australia and New South Wales.

### § 9. Aboriginal Welfare.

The Welfare Ordinance, which came into operation on 13th May, 1957, established the principle that aboriginals would be committed to the care of the State only on the grounds of their need for special care and assistance and not on the grounds of race or colour, and it laid on the Director of Welfare a positive responsibility for the advancement of wards in his care. The Wards' Employment Ordinance provides for the training of wards and assistance in establishing them in occupations, either on their own account or as employees. The Ordinance envisages, among other forms of training, apprenticeships for the better-educated wards and training on the job for those wards not yet capable of entering into apprenticeships. It also envisages financial aid to wards or groups of wards who, under the guidance of the Director, may be able to engage in activities (for example in agriculture, cattle raising, hunting or fishing) on their own behalf. The Director of Welfare is responsible for supervising employment for the wards in his care, and protective legislation for those in employment is retained. The legislation does not, of course, apply to any persons who are not wards, and aboriginals who have ceased to be wards will come within the normal industrial customs of the country.

### § 10. Finance.

Details of revenue and expenditure of the Territory for the years 1956–57 to 1960–61 are shown below. The information given covers the transactions of the Commonwealth Consolidated Revenue Fund relating to the Northern Territory and the transactions of the North Australia Railway. Public debt charges allocated to Northern Territory operations, formerly included in the table on expenditure, have now been excluded therefrom, as this allocation is no longer made.

#### NORTHERN TERRITORY: REVENUE AND EXPENDITURE. (£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>REVENUE.</b>					
<i>Taxation—</i>					
Probate and Stamp Duties ..	10,499	22,861	31,661	31,840	49,249
Motor Registration ..	42,994	47,476	52,610	60,429	70,602
<i>Total .. ..</i>	<i>53,493</i>	<i>70,337</i>	<i>84,271</i>	<i>92,269</i>	<i>119,851</i>
<i>Business Undertakings—</i>					
North Australia Railway ..	130,083	182,324	202,573	271,782	148,868
Electricity Supply ..	375,207	418,482	448,536	532,915	573,875
<i>Total .. ..</i>	<i>505,290</i>	<i>600,806</i>	<i>651,109</i>	<i>804,697</i>	<i>722,743</i>
<i>Other—</i>					
Rent and Rates .. ..	210,356	278,342	341,894	394,651	418,299
Miscellaneous .. ..	268,159	348,161	349,761	406,535	627,913
<i>Total .. ..</i>	<i>478,515</i>	<i>626,503</i>	<i>691,655</i>	<i>801,186</i>	<i>1,046,212</i>
<b>Grand Total ..</b>	<b>1,037,298</b>	<b>1,297,646</b>	<b>1,427,035</b>	<b>1,698,152</b>	<b>1,888,806</b>

NORTHERN TERRITORY: REVENUE AND EXPENDITURE—*continued.*

(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>EXPENDITURE.</b>					
<i>Business Undertakings—</i>					
North Australia Railway ..	238,750	220,615	168,764	202,014	169,942
Electricity Supply ..	300,961	288,633	335,769	363,378	351,020
Water Supply .. ..	79,866	95,429	106,105	101,783	115,861
Hostels Loss .. ..	36,339	29,468	38,000	42,738	18,000
<i>Total</i> .. ..	<i>655,916</i>	<i>634,145</i>	<i>648,638</i>	<i>709,913</i>	<i>654,823</i>
<i>Social Expenditure—</i>					
Aboriginal Affairs ..	508,743	684,308	719,695	979,984	965,227
Educational Services ..	160,815	208,162	243,327	278,096	352,993
Public Health, Recreation and Charitable .. ..	(a)751,766	795,953	854,843	857,423	1,049,686
Law, Order and Public Safety	63,567	92,914	103,984	118,831	123,735
<i>Total</i> .. ..	<i>1,484,891</i>	<i>1,781,337</i>	<i>1,921,849</i>	<i>2,234,334</i>	<i>2,491,641</i>
<i>Capital Works and Services—</i>					
North Australia Railway ..	79,812	85,595	44,712	22,533	44,639
Water Supplies, Roads, Stock Routes, etc. ..	110,987	377,218	500,395	386,583	509,516
Buildings, Works, Sites, etc.	2,175,099	2,416,750	2,638,159	2,705,798	3,004,007
Plant and Equipment ..	336,344	322,665	212,164	322,440	348,552
Loans for Housing ..	176,000	105,000	166,000	379,298	581,000
Loans for Encouragement of Primary Production ..	..	53,589	71,244	10,038	23,315
Other .. .. .	..	25,000	89,820	69,730	65,000
<i>Total</i> .. ..	<i>2,878,242</i>	<i>3,385,817</i>	<i>3,722,494</i>	<i>3,896,420</i>	<i>4,576,029</i>
<i>All Other—</i>					
Territory Administration ..	a1,313,044	1,529,533	1,767,085	2,159,480	2,448,306
Developmental Services ..	148,472	169,366	183,984	221,600	219,997
Municipal, Sanitary and Gar- bage Services .. ..	(a)71,831	209,969	190,260	223,632	206,710
Shipping Subsidy .. ..	3,500	2,000	2,000	2,333	2,563
Airmail Service Subsidy ..	35,416	29,197	30,850	35,615	33,149
Railway Freight Concessions	21,280	21,880	24,424	22,500	22,845
Rent, Repairs and Mainte- nance, n.e.i. .. ..	233,898	249,266	276,169	(b)837,021	(b)942,535
<i>Total</i> .. ..	<i>1,827,441</i>	<i>2,211,211</i>	<i>2,474,772</i>	<i>3,502,181</i>	<i>3,876,105</i>
<b>Grand Total</b> .. ..	<b>6,846,490</b>	<b>8,012,510</b>	<b>8,767,753</b>	<b>10,342,848</b>	<b>11,598,598</b>

(a) Not completely comparable with subsequent years.  
and Barkly Highways: 1959-60, £499,900; 1960-61, £515,892.

(b) Includes expenditure on Stuart

## THE AUSTRALIAN CAPITAL TERRITORY.

1. *Introductory.*—The City of Canberra, in the Australian Capital Territory, is the National Capital. Section 125 of the Commonwealth Constitution (*see* p. 22 of this Year Book) provided for the establishment of a "Seat of Government", and on 5th December, 1910, a proclamation was issued vesting in the Commonwealth on and from 1st January, 1911, the former part of New South Wales chosen for this purpose. A further area at Jervis Bay in New South Wales was transferred as from 4th September, 1915. For further particulars of the transfer of the Territory *see* page 5 of this Year Book.

On 12th March, 1913, the official ceremony to mark the start of operations in connexion with the establishment of the Seat of Government was carried out. At this ceremony, the selection of "Canberra" as the name of the capital city was announced.

On 9th May, 1927, Parliament House at Canberra was officially opened by His Royal Highness Albert, Duke of York, afterwards His Majesty King George VI., the occasion being the 26th anniversary of the opening of the first Parliament of the Commonwealth at Melbourne by His Royal Highness George, Duke of Cornwall and York, afterwards His Majesty King George V., on 9th May, 1901. (For particulars of the opening ceremony *see* Official Year Book No. 21, p. 604.)

The development of the Territory administration prior to the taking over of control by the Federal Capital Commission on 1st January, 1925, is described in summarized form in Official Year Book No. 18, and in Official Year Book No. 22 a summary is given of the administrative activities of the Federal Capital Commission. The administration of the Territory by this authority was continued until 30th April, 1930, when the Seat of Government (Administration) Act 1924–1929 was repealed, and the powers and functions of the Commission reverted to the Government.

Since April, 1932, the general control of the Territory has been exercised by the Minister for the Interior, certain specific services, however, being undertaken by the Department of Health, the Department of Works, the Attorney-General's Department, and the National Capital Development Commission.

An amendment to the Seat of Government Acceptance Act in 1938 provides that the Territory shall be known as the Australian Capital Territory.

Information regarding the selection and establishment of Canberra as the Australian capital city, the physiography of the Territory, and its early history, will be found in earlier issues of the Official Year Book—*See* List of Special Articles, etc., at the end of this volume under "Canberra" and "Federal Capital City".

2. *Progress of Works.*—(i) *National Capital Development Commission.* (a) *General.* The National Capital Development Commission Act 1957–1960 provides for a Commission to undertake and carry out the planning, development and construction of the City of Canberra as the National Capital of the Commonwealth. The year 1960–61 was the third year of the Commission's operations. Construction work was carried out by means of agency arrangements with the Department of Works and private consultants.

Details of the expenditure by the Commission during each of the three years of its operations are as follows.

## NATIONAL CAPITAL DEVELOPMENT COMMISSION: EXPENDITURE.

(£'000.)

Item.	1958–59.	1959–60.	1960–61.
Housing and Flats .. .. .	5,836	4,617	3,427
Education .. .. .	635	1,036	1,501
Commonwealth Administration .. .. .	528	738	1,391
Other Architectural Projects .. .. .	216	677	466
Engineering Services .. .. .	1,952	3,050	3,312
Minor Works .. .. .	170	197	255
Fees and Charges .. .. .	645	731	635
<b>Total .. .. .</b>	<b>9,982</b>	<b>11,046</b>	<b>10,987</b>

(b) *Housing.* During the year 1960–61 contracts were let for the construction of 714 houses and 172 flats including bachelor flats. Housing units completed included 724 houses, 87 two-bedroom flats and 42 bachelor and one-bedroom flats. Units under construction at the 30th June, 1961, were 641 houses and 172 flats. Principal construction areas were Narrabundah, Red Hill, Dickson, Downer, Ainslie and Watson.

(c) *Architectural—Education.* School buildings completed in the year were the Narrabundah High School, assembly halls at Ainslie Primary School and Telopea Park High School, additional classrooms at Lyneham and North Ainslie Primary Schools, and pre-school centres in Campbell, Dickson and Lyneham. Schools under construction at the 30th June, 1961, were the Downer and Campbell Primary Schools, Dickson High School, and an assembly hall for the Canberra High School.

During the year 1960–61 the Commission completed the first Hall of Residence and the Physics Building for the Australian National University. The latter is the first of a group of buildings for the Faculty of Science. The second unit of the group, the Chemistry Building, is under construction.

Establishment of the Canberra Technical College at Reid was commenced by construction of the School of Commerce which was occupied at the beginning of 1962. The second stage, for which tenders were called in 1961–62, will be lecture rooms, drawing rooms and laboratories for the School of Engineering and Science.

*Commonwealth Offices.* Work continued on the first four buildings of the proposed group of seven office buildings for the defence departments at Russell Hill near Duntroon. Two buildings were completed in 1960–61. The remaining two are expected to be completed in 1962. Preliminary sketch plans of the remaining three buildings in the group have been approved and documentation is proceeding with a view to tenders being called in 1961–62.

A contract was let during 1960–61 for the construction of an office block in Barton for the Tariff Board. This building was completed early in 1962.

Work on the Civic Offices, the Upper Plaza and terminating feature in Ainslie Avenue, was completed in 1961. The offices accommodate the Department of the Interior and the Civic branch of the Canberra Public Library. Design studies are being undertaken for buildings planned for the head of City Square comprising the Civic Auditorium, an exhibition building, and an intimate theatre.

(d) *Engineering—Lake and Bridges.* At 30th June, 1961, King's Avenue Bridge, commenced in 1959–60, was nearing completion and was completed early in 1962. A contract was let during 1960–61 for the construction of Commonwealth Avenue Bridge and construction of Parkes Way commenced. Construction of the Lake Dam began during the year and landscaping of the lake foreshore continued.

*Other Engineering Works.* Some 1,700 residential blocks were serviced with water supply, sewerage, stormwater drainage, kerbs and gutters, roads and footpaths in 1960–61, compared with 1,570 in the previous year. At the end of the period, servicing of a further 760 blocks had started.

Work on the main water supply continued, and the end of the period saw the completion of the Upper Cotter Dam in which storage of water had commenced. A 36-in. water main between Winslade and Mt. Stromlo was completed, and a contract was let for a 42-in. main between the Cotter Pumping Station and Winslade.

Several major city roads were completed, also major parking areas at Civic Centre and Kingston.

Major engineering projects under construction at 30th June, 1961, included the sub-arterial road between Watson and Hackett, Narrabundah reservoir and mains, services for the Campbell shopping centre and extensions to the sewerage treatment works.

(e) *Private Enterprise.* The increasing role of private enterprise in participating in the development of the National Capital is reflected by its activities in 1960–61.

During the year, 544 private houses were completed. At 30th June, 1961, 589 were under construction. The completions during 1959–60 were 443. About 1,000 residential

blocks were taken up at auctions in 1960-61 compared with 578 in the previous year. The main areas of housing development were in Narrabundah, Red Hill, Dickson, Downer, Ainslie and Watson.

Leases for the construction of eight commercial office blocks in Hobart Place on London Circuit were auctioned in September, 1960. These buildings were commenced during 1961-62. Sites at Civic Centre for retail activity were auctioned at the same time. These groups, together with the Hobart Offices, will double existing retail and private office accommodation at Civic Centre.

Twenty-five industrial sites at Fyshwick and blocks for four wholesale showrooms at Kingston and Griffith were also released during the year.

(ii) *Department of Works.* Apart from the work it carries out for the National Capital Development Commission, the Department of Works acts as design and supervision agent for other Commonwealth departments and instrumentalities. The following particulars relate to works of this nature.

During the year 1960-61, the Department of Works completed eight houses on behalf of civil (other than National Capital Development Commission) and defence departments in the Australian Capital Territory. Of the other building operations undertaken, the major projects were as follows.

*Government Printing Office.* Work commenced on construction of the new Government Printing Office, Kingston, which is required to meet the increasing printing requirements of the Commonwealth Parliament and government departments located in Canberra. The general layout of the new building provides for an extensive single-storey production area divided into a number of specific process locations, connected to a two-storey administrative block. The building will cover an area of approximately 10 acres with a total floor area of 360,000 square feet. The total estimated cost of the work is £3.4 million and the project is scheduled for completion during the first half of 1963.

*Canberra Community Hospital.* At the close of 1960-61, work was almost completed on construction of the new boiler house and laundry at the Canberra Community Hospital, which is the first step in the conversion of the hospital from 250 to 600 beds. This first section of the work will cost approximately £295,000.

A further stage in the development of the Canberra Community Hospital was reached during 1960-61 with the letting of a tender for construction of a new Nurses' Home. The new home, which will provide accommodation for 290 nurses, will consist of two units. The project is due for completion in June, 1963, and will cost approximately £850,000.

*Biochemistry Laboratory.* Work continued during the year on construction of this three-storey brick building for the C.S.I.R.O. which is designed to provide the necessary facilities for experiments in biochemistry by C.S.I.R.O. scientists. The final cost of this building is expected to be approximately £210,000.

*Royal Military College, Duntroon.* During 1960-61 four major projects, costing in total more than £230,000, were completed for the Department of the Army at Duntroon. These projects were: a two-storey barracks block; a new physics laboratory; a central "Q" Store providing further storage space for Army stores and equipment; and a new two-storey quarters to accommodate Army nursing staff.

*Harman and Belconnen Naval Stations.* To meet the demand for increased accommodation for Navy personnel, two barracks buildings, one at Harman to accommodate 214 personnel, the other at Belconnen to accommodate 30 personnel, were constructed for the Department of the Navy during 1960-61. The total cost of the two projects was £265,000.

In addition to its building activities in the Australian Capital Territory, the Department of Works carried out a programme of new works and maintenance on roads and footpaths, water supply, sewerage and drainage.

Total expenditure during 1960-61 on all operations amounted to £3,077,699, compared with £1,842,333 in 1959-60. Major items in 1960-61 were:—Building Works—Housing, £19,434, Other Building, £1,394,802; Engineering Works, £186,877; Repairs and Maintenance—Building, £736,993, Engineering, £733,227; Purchase of Plant, £6,366.

3. **Forestry.**—A considerable amount of reforestation work has been undertaken, and plantations (mainly *Pinus radiata*) have been established at Uriarra, Mount Stromlo, Pierce's Creek, Green Hills and Kowen. Experimental plots have been established in the Brindabella mountains and soil conservation areas at various locations throughout the Territory.

The total area of softwood plantations at 30th June, 1961, was 24,418 acres, of which 22,218 acres were *Pinus radiata*, the balance consisting of other softwood species, chiefly *Pinus ponderosa* and *Pinus nigra*, and 221 acres of experimental planting at Jervis Bay, mainly *Pinus radiata* and *Pinus elliotii*.

Forestry operations in the Territory were begun on Mount Stromlo in 1915. Plantings up to 1925 were chiefly on decorative lines, but since then a much wider programme has been undertaken. Sawmill timber is now being obtained, mainly from thinning operations. The yearly output of pine logs has increased from 2,500 cubic feet in 1930–31 to about one million cubic feet at the present time, the total amount cut to date being about 14.5 million cubic feet. The present output consists of approximately 50 per cent. logs yielding building material, and 50 per cent. case-making material.

In 1926, a comprehensive review was undertaken of the Territory's potentialities for forest development. The existing forest area has been placed under management and a considerable amount of survey and assessment work has been completed, resulting in the extension of operations, including fire protection, to 100,000 acres of hardwood forests in the Cotter catchment area. Hardwood log production during 1960 and 1961 was 195,000 cubic feet per annum, all of which was used in building operations in Canberra. The total amount of hardwood cut from Australian Capital Territory forests to date is about 3,700,000 cubic feet.

4. **Lands.**—(i) *General.* Reference has been made in previous issues of the Official Year Book to the general conditions of land tenure in the Territory and to the area of alienated and leased land, and Chapter IV.—Land Tenure and Settlement of this issue contains statistical information on the subject.

Under the Seat of Government (Administration) Act 1910, Crown lands in the Territory may not be sold or disposed of for any estate in freehold except in pursuance of some contract entered into before the commencement of that Act. Leases of land in the city area are granted under the City Area Leases Ordinance 1936–1961, and leases of other lands under the Leases Ordinance 1918–1958. Land is also leased for various purposes in the city area under the Church Lands Leases Ordinance 1924–1932 and the Leases (Special Purposes) Ordinance 1925–1943, while one lease under the Church of England Lands Ordinance 1926 has been granted for church purposes.

Under the City Area Leases Ordinance 1936–1961, the Commonwealth may grant leases of Crown land in the city area for business or residential purposes. Such leases may be issued for a period not exceeding 99 years at a rental equal to five per cent. per annum of the unimproved value of the land, which value is subject to re-appraisal at the expiration of 20 years, and thereafter every 20 years. A suitable building must be commenced within six months and completed within 12 months unless an extension of time is allowed.

As considerable portions of the Territory lands are not immediately required in connexion with the establishment of the city, large areas have been leased for agricultural or grazing purposes. Leases may be granted for grazing, dairying, fruitgrowing, horticulture, agriculture or other purposes for periods not exceeding 50 years. The annual rental is 5 per cent. of the assessed value of the land inclusive of rates, the rental being subject to re-appraisal every 10 years.

(ii) *Jervis Bay Territory.* The Commonwealth acquired from the State of New South Wales sovereign rights over the area comprising about 28 square miles of land and water at Jervis Bay for possible use as a port in connexion with the Australian Capital Territory. The Royal Australian Naval College was established in this area on a site known as Captain's Point, but was removed in 1930 to Flinders Naval Base, Victoria. It was, however, re-established at the original site as from the beginning of 1958. Some 5,000 acres of land in the Jervis Bay area, mostly of little value agriculturally, are used for grazing purposes. The natural forest is being utilized for the production of hardwood building material and the area treated is being reforested with softwoods on an experimental basis.

5. **Transport and Communication.**—Canberra is connected with the railway system of New South Wales at Queanbeyan by a line  $4\frac{1}{2}$  miles long. This line was opened for goods traffic on 25th May, 1914, and for passenger traffic on 15th October, 1923. The railway terminus is situated in the suburb of Kingston. Direct or linking services operate between Canberra and Sydney and Canberra and Melbourne.

Two airlines provide several services daily each way on the Sydney—Canberra—Melbourne route.

Regular motor-coach services link Canberra with towns in New South Wales, Victoria and South Australia.

There are three radio broadcasting stations in the Territory, 2CY and 2CN of the national broadcasting system and 2CA, a commercial station, and work is in progress on the construction of a commercial television station. The station is expected to be in full operation by June, 1962.

6. **Population.**—From 1911 until 1921, the population of the Territory remained at about 2,000 persons. In 1922, it commenced to rise, and by 1927 was nearing 6,000. The following year, with the transfer of departments from Melbourne, it passed 8,000.

Little growth was made thereafter until the later 'thirties, and at the outbreak of the 1939–45 War the population had reached just under 13,000 persons. During the war, growth was again slow, and at the Census of 30th June, 1947, the population was 16,905 persons. Subsequently, the population showed steady increases and at the Census of 30th June, 1954, it was 30,315 persons. At the Census of 30th June, 1961, the population had reached 58,828 persons (30,858 males and 27,970 females), made up of 56,449 in the Canberra city area and 2,379 in the rural districts (including 527 in Jervis Bay).

7. **Production.**—During 1960–61, the production of the more important items of the agricultural and pastoral industry was—Wheat, 30,219 bushels; wool, 2,472,000 lb.; whole milk, 994,000 gallons; meat (carcass weight, fresh), 2,749 tons. The numbers of livestock depastured at 31st March, 1961, were—Horses, 699; cattle, 12,520; sheep, 278,200; and pigs, 109.

8. **Education.**—The Australian Capital Territory Education Ordinance provides for the compulsory attendance at school of children between the ages of six and fifteen years. The Commonwealth Department of the Interior is primarily responsible for the education of children in the Australian Capital Territory. By agreement, however, the New South Wales Department of Education arranges the teaching programme in accordance with its own curriculum and provides the teaching staff. It is reimbursed for expenses incurred.

At 31st October, 1961, there were four public secondary schools in Canberra providing courses to the Leaving Certificate standard—Canberra High School, Acton, Telopea Park High School, Barton, Lyneham High School, Lyneham, and Narrabundah High School, Narrabundah. Seventeen schools provided courses for children in infants and primary classes, including two in the Jervis Bay area and three in rural districts. There is also a school for mentally handicapped children.

At the same date, there were thirteen private schools in Canberra. Of these, St. Edmund's Christian Brothers' College, the Catholic Girls' High School, the Canberra Grammar School (Boys), and the Canberra Church of England Girls' Grammar School provide courses leading to the Leaving Certificate Examination.

Twenty-one pre-school centres, including an occasional care centre and a mobile unit which visits outlying areas, provide pre-school facilities for approximately 1,700 children between the ages of three and five years.

The Canberra Technical College, which follows the curriculum set by the New South Wales Technical Education Department, provides trades courses for apprentices, vocational (non-trades) courses including accountancy, women's handicrafts, and sheep and wool courses, hobbies courses including ceramics, dressmaking, art, woodwork and motor maintenance, and courses for Commonwealth authorities, including workshop practice for Royal Military College cadets, motor maintenance for Australian Forestry School cadets, and shorthand and typing courses for the Public Service Board. In addition, the Technical College undertakes the trade testing of migrants seeking to enter skilled trades.

An area of about 250 acres has been set aside at Acton for the Australian National University. Provision has been made for the University to establish such research schools as may be thought desirable, including a School of Medical Research, and Research Schools



of Physical Sciences, Social Sciences and Pacific Studies. Provision for undergraduate studies and some post-graduate study is made by the School of General Studies. Further reference to this University appears in Chapter XV.—Education.

9. Finance.—Details of revenue and expenditure for the years 1956–57 to 1960–61 as recorded in the Commonwealth Consolidated Revenue Fund are given in the following table.

**AUSTRALIAN CAPITAL TERRITORY: REVENUE AND EXPENDITURE.**

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>REVENUE.</b>					
<i>Taxation—</i>					
Motor Registration .. ..	91,198	101,695	121,567	143,884	161,421
Liquor .. ..	30,174	30,985	39,783	47,534	48,173
Rates .. ..	63,583	72,165	81,706	146,998	176,912
Other .. ..	402	1,938	3,082	2,091	465
<i>Total</i> .. ..	<i>185,357</i>	<i>206,783</i>	<i>246,138</i>	<i>340,507</i>	<i>386,971</i>
<i>Business Undertakings(a)—</i>					
Railways .. ..	20,531	18,532	46,287	25,115	41,763
Abattoirs .. ..	32,436	35,654	44,662	33,498	34,884
<i>Total</i> .. ..	<i>52,967</i>	<i>54,186</i>	<i>90,949</i>	<i>58,613</i>	<i>76,647</i>
<i>Rent—</i>					
Housing .. ..	628,615	691,455	822,743	1,052,792	1,185,673
Land .. ..	146,751	223,917	159,553	214,920	259,986
Miscellaneous .. ..	9,157	11,313	11,384	17,146	25,217
<i>Total</i> .. ..	<i>784,523</i>	<i>926,685</i>	<i>993,680</i>	<i>1,284,858</i>	<i>1,470,876</i>
Fees for Services and Fines ..	65,409	80,781	95,923	136,615	245,012
Sale of Houses—Mortgages and					
Cash Sales .. ..	354,189	324,337	314,795	309,586	424,225
Other .. ..	181,643	136,949	251,935	661,396	1,149,962
<b>Grand Total</b> .. ..	<b>1,624,088</b>	<b>1,729,721</b>	<b>1,993,420</b>	<b>2,791,575</b>	<b>3,753,693</b>
<b>EXPENDITURE.</b>					
<i>Public Debt Charges—</i>					
Interest .. ..	176,119	176,035	172,511	171,775	164,412
Debt Redemption .. ..	103,319	108,479	113,890	119,581	125,569
Other .. ..	..	..	496	245	194
<i>Total</i> .. ..	<i>279,438</i>	<i>284,514</i>	<i>286,897</i>	<i>291,601</i>	<i>290,175</i>
<i>Business Undertakings(a)(b)—</i>					
Railways .. ..	50,274	49,750	49,897	52,448	58,500
Water Supply and Sewerage ..	195,859	222,415	231,860	254,884	328,109
Abattoirs .. ..	26,432	30,829	33,170	32,010	35,698
Transport Services(c) .. ..	60,000	72,000	62,000	62,000	60,000
Hostels(d) .. ..	22,479	37,337	32,254	..	..
Other .. ..	1,000	..	586	..	10,359
<i>Total</i> .. ..	<i>356,044</i>	<i>412,331</i>	<i>409,767</i>	<i>401,342</i>	<i>492,666</i>

NOTE.—For notes see end of table, page 123.

## AUSTRALIAN CAPITAL TERRITORY: REVENUE AND EXPENDITURE

—continued.

(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>EXPENDITURE—continued.</b>					
<i>Social Expenditure (b)—</i>					
<i>Education—</i>					
Primary and Secondary .. ..	408,353	441,321	519,732	601,130	805,795
Technical College .. ..	48,692	52,809	56,115	68,719	75,687
University .. ..	157,009	183,740	320,675	349,530	290,723
Science, Art, Research, etc. ..	6,206	6,263	7,906	8,445	23,419
Nursery Schools and Pre-School Centres .. ..	25,708	29,067	30,175	32,861	38,196
Public Health and Recreation ..	103,752	113,492	127,124	132,261	160,926
<i>Charitable—</i>					
Hospital—General .. ..	260,720	298,669	356,819	396,250	408,800
Relief of Aged, Indigent, etc. ..	4,684	4,166	4,687	5,102	12,485
Other .. ..	22,796	28,899	64,749	38,674	51,805
<i>Law, Order and Public Safety—</i>					
Justice .. ..	28,999	34,675	38,570	45,942	53,428
Police .. ..	109,710	142,462	137,894	168,952	197,275
Public Safety .. ..	26,823	34,376	63,834	68,523	79,880
<i>Total .. ..</i>	<i>1,203,452</i>	<i>1,369,939</i>	<i>1,728,280</i>	<i>1,916,389</i>	<i>2,198,419</i>
<i>Capital Works and Services (e)—</i>					
National Capital Development Commission(f) .. ..			10,000,000	11,000,000	10,950,000
Railways .. ..			2,958	2,645	10,500
Electricity .. ..			347,153	494,788	629,251
Transport Services .. ..			61,818	67,406	79,500
Health Buildings .. ..			91,302	52,498	284,881
Housing .. ..	(g)	(g)	170,000	317,000	350,000
Loans to Co-operative Building Societies .. ..				17,500	500,000
Forestry .. ..			70,000	70,000	70,000
Civil Aviation .. ..			98,573	36,004	34,735
Public Works, n.e.i. .. ..			357,880	392,182	293,470
<i>Total Capital Works and Services .. ..</i>	<i>4,960,592</i>	<i>8,421,686</i>	<i>11,199,684</i>	<i>12,450,023</i>	<i>13,202,337</i>
<i>All Other—</i>					
Roads and Bridges .. ..	301,870	295,810	321,342	329,955	378,255
Parks and Gardens, etc. .. ..	281,173	307,779	319,108	350,396	459,721
Lands and Surveys .. ..	56,323	58,416	58,718	150,921	154,222
Agriculture and Pasture .. ..	23,714	24,953	24,955	25,550	26,252
Housing .. ..	228,240	237,110	274,470	(g)	(g)
Civil Aviation .. ..	31,345	33,439	48,644	53,505	57,434
Legislative and General Administration .. ..	293,551	329,739	482,683	718,588	663,513
Public Works, n.e.i. .. ..	48,132	42,572	68,352	409,589	571,903
Miscellaneous .. ..	40,581	45,847	46,494	50,862	58,541
<i>Total .. ..</i>	<i>1,304,929</i>	<i>1,375,665</i>	<i>1,644,766</i>	<i>2,089,366</i>	<i>2,369,841</i>
<b>Grand Total .. ..</b>	<b>8,104,455</b>	<b>11,864,135</b>	<b>15,269,394</b>	<b>17,148,721</b>	<b>18,553,438</b>

(a) Excludes Electricity transactions in Australian Capital Territory Electricity Supply Trust Account. Revenue excludes particulars of Water Supply and Sewerage, which are not available separately and are included in Rates and Other. (b) Other than Capital Works and Services. (c) Payment to Australian Capital Territory Transport Trust Account (loss on omnibus service). (d) Includes loss on operations, 1956-57, £15,000; and 1957-58, £30,000. Since 1958-59, Commonwealth-owned hostels in the A.C.T. have been operated by Commonwealth Hostels Ltd. (e) Excludes repairs and maintenance. (f) For details see para. 2 (i), p. 117. (g) Not available.

## NORFOLK ISLAND.

1. **Area, Location, etc.**—Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29° 3' 30" S., longitude 167° 57' 5" E. Its total area is 8,528 acres, the island being about 5 miles long and 3 miles wide. From Sydney, it is distant 930 miles, and from Auckland, 660 miles. The length of the coast line is 20 miles, and its form that of an irregular ellipse. Except for a portion on the south side and the landing place at Cascade on the northern side, almost inaccessible cliffs rise from the water's edge. The climate is equable, the temperature ranging between 49° and 85° F. with a mean of 68° F. The average annual rainfall is 53 inches. It has been said that the healthy climate together with the beauty of its landscapes and seascapes, should make Norfolk Island "the Madeira of the Pacific".

2. **Settlement and Population.**—The first colonization, in 1788, was by Lieutenant King of H.M.S. *Supply*, who established a small penal station on the island as a branch settlement of that at Port Jackson. The settlement was abandoned in 1813 and for 13 years thereafter the island was used chiefly as a whaling station and place of call for British warships.

From 1826 to 1855, it was again a penal station. In 1844, it was annexed to Van Diemen's Land (Tasmania).

The descendants of the *Bounty* mutineers, having become too numerous to subsist on Pitcairn Island, were removed to Norfolk Island in 1856. The new community, numbering 94 males and 100 females, were the descendants of British sailors and Tahitian women. The last of those transferred died at Norfolk Island on 1st March, 1943. The population of the island as disclosed by the Census of 30th June, 1961, was 844, consisting of 421 males and 423 females.

3. **Administration.**—In 1856, the island was created a distinct and separate settlement under the jurisdiction of New South Wales. In 1896, it was made a dependency under the Governor of that Colony, and finally, by the passage of the Norfolk Island Act 1913, it was accepted by the Commonwealth Parliament as a territory of Australia. From July, 1914, until 1st January, 1929, Norfolk Island was administered by the Department of Home and Territories, and then, until 25th June, 1941, by the Territories Branch of the Prime Minister's Department, but it is now controlled by the Minister for Territories through an Administrator. An amending measure, the Norfolk Island Act 1935, provided for the establishment of an Advisory Council of eight elected members which may advise the Administrator on matters affecting Norfolk Island.

The Norfolk Island Act 1957, which came into operation on 7th April, 1960, provides for variations in the administrative and judicial arrangements of the island. It also provides for a local government body, the Norfolk Island Council, which replaced the former advisory council, retaining its advisory functions, but in addition having a certain autonomy in local government matters on the island.

4. **Economic Activity.**—The major economic activities of the island are primary production, whaling, the tourist trade and Government instrumentalities.

(i) **Primary Industries.** The soil on the island is particularly fertile, the climate equable, and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation and trading difficulties with New Zealand hamper production, although a relaxation of some restrictions enabled a limited quantity of out-of-season fruit and vegetables to be sent by air freight to Auckland.

Prior to 1939, the principal primary product was passion fruit pulp. However, the introduction of disease, together with the high cost of trellising and land reclamation, has led to the curtailment of this industry. Apart from whaling, bean seed is now the main export industry. The island's isolation from many plant diseases, plus the fairly reliable dry period, has ensured satisfactory production. Export figures for the five years to 1959–60 were 1,084, 2,680, 1,713, 3,922, and 2,568 bushels. However, wide fluctuations in prices, as in recent years, react unfavourably against the industry. The conditions on Norfolk Island also favour the production of other types of seed.

The Plant and Fruit Disease Ordinance 1959 aims at preventing the entry of fruit fly and other insect pests, and controlling the spread of plant diseases.

Island conditions are also conducive to good pasture growth, and as a joint product of pastoral pursuits quantities of hides and wool are exported.

Fish and, in certain months, whales abound off the island. In the past, a number of ventures have been formed to exploit these resources. They have been short-lived owing, for the most part, to the lack of a sheltered harbour. However, a modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. The quota of 150 humpback whales in 1956, 120 in 1957 and in 1958, 150 in 1959, and 170 in 1960 and 1961, was caught and processed at the station.

An active forestry programme is being carried out to increase the resources of Norfolk Island pine and to introduce suitable types of eucalypts.

(ii) *Tourists.* The unique history and unusual beauty of the island have always attracted a number of tourists. Before the 1939–45 War, the only means of transport to the island was by ship, but the building of the aerodrome in 1943 made the island far more accessible and a tourist industry has developed which is at present limited only by the accommodation available, there being at present one licensed residential hotel and five guest houses.

(iii) *Government Instrumentalities.* A large proportion of the population is employed by Commonwealth Government instrumentalities, namely:—Department of Civil Aviation, Norfolk Island Administration, Overseas Telecommunications Commission, and Department of the Interior (Meteorological Branch). The bulk of the finance for the operation of these instrumentalities is supplied by the Commonwealth Government and this greatly increases the income of the island.

5. *Trade, Transport and Communication.*—Imports to Norfolk Island since the 1939–45 War have risen from £32,402 in 1945–46 to £288,788 in 1959–60. In 1959–60, the major proportion (£244,634 or 85 per cent.) came from Australia, while New Zealand supplied £10,286 or 4 per cent. Exports have risen from £9,024 in 1945–46 to £187,479 in 1959–60. The big increase is due mainly to the commencement of operations by the whaling station in the 1956–57 season. Australia was the principal market, exports thereto amounting to £179,673 in 1959–60, while exports to New Zealand amounted to £2,705 and those to Pacific Islands to £3,943.

No duties are chargeable on goods imported into Australia from Norfolk Island if the goods are (a) the produce or manufacture of Norfolk Island; (b) shipped direct to Australia; and (c) not goods which if manufactured or produced in Australia would be subject to excise duty.

A shipping service to the island is maintained at approximately seven-week intervals by Burns Philp & Co. Ltd., Sydney. The route is from Sydney via Norfolk Island to the New Hebrides, Solomon Islands and other island groups and thence back to Sydney. Shipping between the island and New Zealand is infrequent.

The construction of the aerodrome on the island was completed during 1943. A fortnightly passenger and air freight service between Sydney and Norfolk Island, maintained by Qantas Empire Airways Ltd., extends to New Zealand under charter to Tasman Empire Airways Ltd.

There are approximately 50 miles of usable road on the island. As a substantial section of the population possesses private motor cars, and taxi-cab services are available, transport is almost exclusively by motor vehicle.

The cable from Great Britain via Vancouver, Fanning Island, and Fiji bifurcates at Norfolk Island, one line connecting with New Zealand, the other with Brisbane. Until 10th June, 1947, the post office at the island was part of the Commonwealth postal system, but as from that date Norfolk Island was established as a separate postal administration with its own issue of stamps.

6. *Education.*—Education is free and compulsory up to the age of fifteen years. The school conforms to the Australian standard of public education, ranging from kindergarten to the intermediate certificate, with a two years' super-primary course of instruction in cultural subjects and in woodwork, needlework, leatherwork, basketry and hat-making. The teachers are provided by the New South Wales Education Department, but they are paid by the Norfolk Island Administration. The number of scholars enrolled at 30th June, 1960, was 140. Free dental service is provided for school children.

7. *Judiciary.*—The judicial system of the Territory was reconstituted by the Norfolk Island Act 1957 which was proclaimed in the Territory on 7th April, 1960. There is now a Supreme Court of Norfolk Island and a Court of Petty Sessions which replaced the Court of Norfolk Island in its full and limited jurisdictions. The Supreme Court is the highest judicial authority in the Territory with original criminal and civil jurisdiction. The jurisdiction of this Court is exercised by a judge sitting in Court or to the extent provided by the

Supreme Court Ordinance 1960 or any other Ordinance or by rules of Court, and in all matters of practice and procedure by a judge sitting in Chambers. The jurisdiction of the Court of Petty Sessions is exercised by a Chief Magistrate or any three Magistrates other than the Chief Magistrate. This Court has jurisdiction to hear and determine in a summary manner under the provisions of the Court of Petty Sessions Ordinance 1960. There is right of appeal to the Supreme Court from the Court of Petty Sessions, and, in certain circumstances, a right of appeal to the High Court of Australia from judgments of the Supreme Court.

8. Finance.—The revenue of the Territory, together with an annual grant from the Commonwealth Government for administrative expenses, is paid to the credit of the Norfolk Island Trust Fund, and advances for administrative and developmental expenses are drawn from the account. The principal items of revenue and expenditure for the five years 1956–57 to 1960–61 were as follows.

**NORFOLK ISLAND: REVENUE AND EXPENDITURE.**  
(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>REVENUE.</b>					
Commonwealth Subsidy .. ..	-37,000	33,133	31,000	32,000	32,000
Customs Duties .. ..	11,016	10,439	13,045	12,884	14,474
Sale of Liquor .. ..	7,108	8,721	8,418	9,021	9,627
Post Office .. ..	8,780	4,886	7,853	16,620	43,930
All Other .. ..	12,263	12,058	12,785	11,479	8,806
<b>Total Revenue .. ..</b>	<b>76,167</b>	<b>69,237</b>	<b>73,101</b>	<b>82,004</b>	<b>108,837</b>
<b>EXPENDITURE.</b>					
Administrative .. ..	22,745	23,030	23,091	24,196	23,643
Miscellaneous Services .. ..	25,427	25,016	29,012	26,915	22,855
Repairs and Maintenance .. ..	6,910	7,138	10,381	10,406	8,715
Capital Works and Services .. ..	2,939	7,640	19,901	12,748	6,592
Postal Services .. ..	3,257	3,507	3,055	5,211	14,722
Other Business Undertakings .. ..	..	..	..	..	717
<b>Total Expenditure .. ..</b>	<b>61,278</b>	<b>66,331</b>	<b>85,440</b>	<b>79,476</b>	<b>77,244</b>

**PAPUA AND NEW GUINEA.**

NOTE.—The information under this heading is applicable to both the Territory of Papua and the Trust Territory of New Guinea. For details of the respective Territories *see* pages 134 (Papua) and 139 (New Guinea) and following pages.

**§ 1. Administration.**

Following the outbreak of war, civil administration in Papua and in New Guinea was suspended on 11th February, 1942, and military control commenced. The Territory of New Guinea came under Japanese occupation in 1942, but the greater part had already been recaptured by Australian and Allied Forces when the Japanese surrendered in August, 1945. Information relating to the transfer back from military to civil control under the Papua-New Guinea Provisional Administration Act 1945–1946 may be found in Official Year Book No. 39 and earlier issues.

The Papua-New Guinea Provisional Administration Act 1945-1946 was repealed by the Papua and New Guinea Act 1949 which came into force on 1st July, 1949. The latter Act approved the placing of the Territory of New Guinea under the International Trusteeship system and provided for an Administrative Union of the Territory of Papua and the Territory of New Guinea with one Administrator, one Supreme Court and one Public Service.

Provision was made for an Executive Council of not less than nine officers of the Territory, who shall be appointed by the Governor-General, and a Legislative Council consisting of twenty-nine members, namely:—(a) the Administrator; (b) sixteen officers of the Territory (who shall be known as official members); (c) three non-official members possessing such qualifications as are provided by Ordinance and elected, as provided by Ordinance, by electors of the Territory; (d) three non-official members representing the interests of the Christian missions in the Territory; (e) three non-official native members; and (f) three other non-official members.

The Legislative Council was inaugurated on 26th November, 1951, by His Excellency Sir John Northcott, while Administrator of Australia.

In October, 1960, the Commonwealth Parliament passed amendments to the Papua and New Guinea Act to change the composition of the Legislative Council, the new Council consisting of 37 members, namely:—(a) the Administrator; (b) 14 official members (who may be either native or non-native); (c) 12 elected members (six elected by natives and six by non-natives); and (d) 10 nominated members of whom at least five will be natives. Eventually, elected members will be chosen by voters of all races registered on a common roll.

## § 2. Finance.

1. General.—The following table shows particulars of the financial operations of the Papua and New Guinea Administration for the years 1956-57 to 1960-61. Further information on each Territory will be found on pages 139 and 147.

### TERRITORY OF PAPUA AND NEW GUINEA: REVENUE AND EXPENDITURE.

(£.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>REVENUE.</b>					
<b>Taxation—</b>					
Income Tax .. .. .	.. .. .	.. .. .	.. .. .	1,812,963	2,347,978
Customs Duties .. .. .	2,493,895	2,746,977	3,373,528	2,411,529	2,433,732
Motor Registration .. .. .	54,520	62,136	71,733	77,770	87,768
Stamp Duties .. .. .	50,688	86,589	68,357	81,672	86,489
Licences .. .. .	27,633	31,255	29,433	31,337	34,084
Personal .. .. .	.. .. .	103,486	153,772	175,489	146,867
<b>Business Undertakings—</b>					
Post Office .. .. .	245,199	296,022	354,272	412,428	496,256
Harbour Dues, Wharfage, etc. .. .. .	76,686	116,836	155,082	156,323	189,211
Electricity Supply .. .. .	305,805	380,945	436,863	471,060	521,673
Sale of Timber .. .. .	122,609	136,529	126,768	128,497	129,326
Copra and Rubber Production .. .. .	16,742	22,690	26,321	43,762	29,721
Other Agricultural Production .. .. .	23,525	39,076	56,714	84,857	74,025
Water Supply and Sewerage .. .. .	16,922	18,676	17,876	22,800	27,301
Transport .. .. .	.. .. .	.. .. .	43,029	40,795	22,277
<b>Lands—</b>					
<b>Mining—</b>					
Royalty on Gold .. .. .	59,103	15,825	6,438	9,230	7,417
Other .. .. .	9,467	10,446	9,612	8,650	9,418
Forestry .. .. .	81,674	81,555	81,529	101,415	121,394
Land Sales, Rents, etc. .. .. .	71,370	147,766	110,449	99,675	127,495
Commonwealth Grant .. .. .	9,645,090	10,796,491	11,478,910	12,808,282	14,796,648
Fees and Fines .. .. .	113,822	135,918	155,565	159,940	166,949
All Other .. .. .	384,050	292,304	327,406	263,736	392,719
<b>Total .. .. .</b>	<b>13,798,800</b>	<b>15,521,522</b>	<b>17,083,657</b>	<b>19,402,210</b>	<b>22,248,748</b>

TERRITORY OF PAPUA AND NEW GUINEA: REVENUE AND EXPENDITURE—  
*continued.*

(£.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>EXPENDITURE.</b>					
<b>Business Undertakings—</b>					
Post Office .. .. .	540,104	607,037	696,001	815,305	881,968
Harbours .. .. .	93,444	88,158	133,579	138,773	122,411
Electricity Supply .. .. .	395,333	289,742	380,226	409,070	447,354
Saw-mill .. .. .	101,151	82,247	90,370	84,397	76,678
Water Supply and Sewerage .. .. .	119,478	114,002	124,116	120,416	128,107
<b>Social Expenditure—</b>					
Education .. .. .	784,942	839,563	1,035,945	1,290,592	1,641,296
Grants to Missions for Education .. .. .	99,226	180,605	194,689	261,093	405,260
Public Health, Hospitals, etc. .. .. .	1,965,858	1,673,676	1,738,009	2,115,460	2,402,790
Mission Medical Services—Grants .. .. .	274,258	232,239	267,061	286,233	305,264
Law, Order and Public Safety .. .. .	763,202	575,306	627,094	862,115	1,023,707
District Services and Native Affairs .. .. .	1,120,516	1,013,017	1,106,568	1,246,727	1,372,150
Capital Works and Services .. .. .	3,713,897	4,326,456	4,608,033	4,822,424	5,133,965
All Other .. .. .	3,765,128	5,493,955	6,075,746	6,880,042	8,390,108
<b>Total .. .. .</b>	<b>13,736,537</b>	<b>15,516,003</b>	<b>17,077,437</b>	<b>19,332,647</b>	<b>22,331,058</b>

2. **Taxation.**—The main forms of taxation are income tax, personal tax and import duties.

*Income Tax* was imposed on 1st August, 1959, to operate from 1st July, 1959. The scale of taxation is about 50 per cent. of the tax payable on the same taxable income in Australia. Deductions for dependants the taxpayer is maintaining, and maximum deductions for medical, dental and educational expenses are considerably higher than those allowed in Australia. The tax on public companies is at a flat rate of 4s. in the £1, which is a little over half the predominant rate of company tax in Australia. While on private companies the rate is 2s. 6d. in the £1 for the first £5,000 and 3s. 6d. for the remainder, and generally comparable deductions are allowed. On 1st January, 1958, a *Personal Tax* was introduced for all males (including non-indigenous) of 18 years of age and over, in Papua and New Guinea. The maximum tax is £2 per annum; the tax assessed is subject to the taxpayers' ability to pay, and consequently large areas have been exempted. Native Local Government Councils (which are formed voluntarily by the natives) are, however, empowered to levy taxes on villagers for the purpose of providing for local services carried out by the Councils. These taxes are set off against the native's Personal Taxation.

The present *Customs Tariff* provides high revenue rates on imports of ale, spirits, tobacco and cigarettes, timepieces, cigarette papers, fancy goods and jewellery, but allows entry of most necessities affecting living and building costs duty free, or at a low rate of duty. There is a by-law provision under the Customs Tariff to enable duty-free admission to be granted for plant, machinery and chemicals to be used mainly for industrial and development purposes and for goods imported by passengers. No preferential rates are specified in the schedule. Export duties imposed on copra, cocoa, rubber, mother-of-pearl, trochus and burgos shell and gold were repealed in July, 1959.

Provision is made in the Australian Customs Tariff (Papua and New Guinea Preference) 1936 for the free entry into Australia of certain goods produced in and imported direct from the Territory (see Chapter XIII.—Trade), and a proclamation of 25th September, 1935 exempted from primage duty goods produced or manufactured in the Territory.

### § 3. Agriculture and Animal Industry.

1. **Soils.**—Although a large proportion of Papua and New Guinea is covered by skeletal soils unsuitable for agriculture, there are extensive areas in all parts where fertile soils occur, suitable for growing a wide range of crops. Most of the agriculture of the Territory up to the present has been on soils on the coastal plains, which, apart from the swamp soils, consist mainly of alluvium and podsolized alluvium. So far, these have been

mostly under coconut plantations, although other crops such as rubber and cocoa have also been grown. The swamp soils, of which there are extensive areas in the delta plains and other parts of the Gulf of Papua, and in smaller areas, are found intermittently around the coasts and along the lower reaches of the rivers, and are in general quite unsuited to any form of agricultural development.

Volcanic soils probably offer the greatest prospects for development. They are found mostly on the Central Plateau and southern foothills of the main island, but there are also areas in New Britain (particularly in the Gazelle and Willaumez Peninsulas), Bougainville and New Ireland, as well as in numbers of smaller islands. Other rich soils are the alluvials of the river valleys. The largest single area of this type is in the trough occupied by the Ramu and Markham Rivers.

2. *Climate.*—The climate, particularly the rainfall, over so wide an area as Papua and New Guinea, with its numerous islands and varying elevations, naturally presents many variations. Generally speaking, the climate is moist and tropical, except at high altitudes. There are only small differences in both daily and seasonal extremes. The Territory has no winter and summer, and thus no great variation in day-length over the year. The two seasons which are experienced are generally described as the "south-east" and the "north-west", corresponding with the periods of the year when the south-east trade winds and the north-west monsoons direct the main Territory air-flow. The south-east season prevails approximately from May to October, the trade winds attaining maximum velocities during July and August. The north-west monsoon operates over a considerably shorter period, from the end of December to about March. During the periods between these seasons, November and early December, and about March to April, there are two short spells of calm weather.

Rainfall varies considerably, from an average annual rainfall of 245 in. at Gasmata in New Britain and 231 in. at Kikori in Papua, to about 88 in. at Wewak in New Guinea and 40 in. at Port Moresby.

Although the Territory has no summer and winter, it has a wide temperature range, due to differences in altitude, varying from an absolute highest temperature of about 100° F. along the coast, to freezing point on its highest peak, Mt. Wilhelm (15,400 ft.).

Humidity in the Territory is very high throughout the year. Some coastal stations register an average relative humidity of more than 90 per cent. Humidities below 60 per cent. are rare at coastal stations, average figures varying from 80 per cent. at 9 a.m. to 65 per cent. at noon and 75 per cent. at 3 p.m. Humidity in mid-mountain forests appears to be higher than in the lowlands, while in the mossy forests there are periods when the whole belt is saturated.

3. *Land Tenure.*—There is considerable variation throughout the Territory in the nature of customary ownership of land. In most areas, some rights remain in the landholding group and individuals within the group have limited rights of use, either for life or for a shorter period. Thus the normal system by which the rights of ownership in land use are acquired is by birth to a landholding group. Transfer of rights between individuals by sale and purchase appears to have been unusual in the past, but this practice is now an established custom in some localities and appears to be increasing. Inheritance may be based on either patrilineal or matrilineal descent, or both. In parts of the Territory, however, there is a tendency for the whole inheritance system to change, particularly in communities where it is based on matrilineal descent. Following a close study of the problems in relation to land holdings by natives, the Government has laid down the following broad principles of policy.

- (i) The ultimate and long-term objective in Papua and New Guinea is to introduce throughout the Territory a single system of land holding regulated by the central Government by statute, administered by the Department of Lands of the central Government, and providing for secure individual registered titles after the pattern of the Australian system.
- (ii) Only the central Government (i.e. the Administration working through the Department of Lands and the Registrar of Titles) may issue and register land titles.



- (iii) Land subject to native custom remains subject to native custom only until it is taken out of custom either by acquisition by the Administration or by a process, to be provided for by Ordinance of the Territory, of conversion of title to an individual registered title.
- (iv) Upon either acquisition or conversion of title, compensation is to be provided in respect of extinction of rights under native custom.
- (v) Land held under native custom may not be acquired outside of native custom by other than the Administration.
- (vi) For the time being, land may not be acquired by the Administration unless the native owners are willing to sell and in the opinion of the Administration: the land is not required by them; and conversion of title from native custom to individual registered title may take place only if the majority of those interested in the land under native custom consent to conversion and the method of conversion.
- (vii) The services of Native Land Commissioners are to be used, as a first priority, on investigations into claims by the Administration that land is ownerless and may therefore be declared administration land, on investigation into the ownership under native custom of land proposed to be acquired by the Administration, on settlement of disputes about the ownership of land held under native custom, and, when legislative provision has been made, on investigations into the rights held under native custom in land proposed to be converted to individual registered title. The aim is that all the time of the Commissioners should be taken up with this work. To the extent that at any time it is not, the Commissioners should continue investigations into the holding of land under native custom; the results of such investigations are to be recorded for use in connexion with future acquisitions or conversions of title, but are no longer to be registered.

Consideration is being given to the legislation and administrative steps necessary to put this policy into effect.

**4. Suitable Crops.**—The crops which can be grown in Papua and New Guinea include coconuts, rubber, tea, coffee, cocoa, jute, kenaf, manila hemp, sisal, rice, pepper, tobacco, peanuts, kapok, cassava, ginger, cinchona, nutmeg, vanilla, tropical fruits and vegetables, sago and tung oil, but of these, the only crops of any commercial importance are coconuts, cocoa, rubber, coffee and peanuts.

**5. Plantation Agriculture.**—*Coconuts.* Territory coconut plantations suffered severely from damage and neglect during the 1939–45 War. Rehabilitation was rapid, however, and in 1959–60 about 550 plantations, together with native coconut stands, produced 65,396 tons of copra, valued at £6,126,443, for export. In addition, 25,526 tons of coconut oil, valued at £3,813,649, and about 12,269 tons of copra oilcake and meal, valued at £346,423, were exported in 1959–60. A copra crushing mill was established at Rabaul in 1952. Native stands produce about 25 per cent. of the copra exported.

*Rubber.* Exports of rubber, almost exclusively to Australia, have increased from 1,952 tons, valued at £802,177, in 1950–51 to 4,399 tons, valued at £1,500,197, in 1959–60. The latter figure represents about 10 per cent. of Australia's annual requirement for natural rubber.

*Cocoa.* Exports of cocoa beans increased from 317 tons, valued at £92,181, in 1950–51 to 5,870 tons, valued at £1,671,427, in 1959–60. Nearly 50 per cent. of the exports go to Australia. At present native growers produce about 25 per cent. of the cocoa production in the Territory.

*Coffee.* Exports of coffee rose from 33 tons, valued at £8,359, in 1950–51 to 1,487 tons, valued at £717,141, in 1959–60. Of the 17,600 acres planted to coffee in the Territory, about 60 per cent. is in native-owned groves and the rest grown by Europeans in plantations. The bulk of the Territory coffee production is marketed in Australia.

6. **Native Agriculture.**—Most of the native inhabitants of Papua and New Guinea are agriculturalists producing fruit and vegetables for their own consumption. The crops grown vary according to environment and altitude, and include yams, taro and sweet potatoes, coconuts, bananas, papaws, maize, sugar-cane, cassava, beans, peanuts, rice, cucurbits and tobacco. Sago is the staple food in the extensive semi-inundated areas which occur along the lower valleys of the major rivers. In these areas, it is cut largely from naturally occurring stands. In other parts of the country, small areas of sago are grown along stream banks and in swampy patches and are regarded as a reserve in times of poor harvest. In recent years, the natives have taken up the production of introduced crops such as peanuts, rice, cucurbits and maize for their own consumption and cocoa and coffee for export. In coconut areas, large quantities of copra are produced. In 1959-60, native copra production was estimated at about 24,800 tons.

In many localities, the natives follow a farming system known as "Bush Fallowing Rotation". The inhabitants of each village have, at any one time, a number of distinct and separate cleared garden areas in the land surrounding the village. The garden clearings may be located some miles from the village and are not usually contiguous. Each garden area may be made up of a number of distinct plots owned by individual natives or families. Communal ownership of gardens is rare. The number of garden clearings (and their area) attached to each village depends on the size of the village and the fertility of the land.

The method of cultivation followed is for the jungle trees to be felled and undergrowth cleared with axes and knives, the larger trees usually being left standing. The timber and foliage is allowed to dry out and then burnt. In some localities, there is little cultivation before the crops are planted, and root vegetables are placed in holes dug with a stick. In other places, however, there is careful preparation of the soil. Some weeding is done while the crops are growing. After harvesting, a second crop is rarely planted immediately in that garden area, but a new area of land is selected, cleared, burnt and planted. The natives return to the first area to harvest fruit from trees, such as papaw and banana, that may have been planted in the garden, but these are soon submerged in the new jungle growth which quickly appears. The plot is allowed to lie fallow for a number of years, the period varying from 7 to 10 years or even longer, depending upon the local population pressure. During this time, high secondary jungle has probably grown. Ultimately the natives return to the original plot, and clear, burn and plant again. The cycle continues year by year throughout the agricultural land belonging to the village. The foregoing is a broad generalization of the method followed. There are, however, many variations.

The growing of food is done by both the men and women. The division of work is usually clearly defined within the village itself but this division is not necessarily the same in all areas. Generally it is found that felling the forests is always done by the men, and carrying the harvested food home to the village is nearly always done by the women. Other work, however, such as cultivating, planting and weeding may be done by either men or women according to the customs of the particular village or area.

The advancement of native agriculture for local food supply and improved land use in village gardens, as well as for economic production of crops for sale, has a high priority in Government policy for the Territory.

7. **Animal Industry.**—Livestock in the Territory as at 31st March, 1960, included cattle, sheep, goats and pigs, approximate figures for each species being:—cattle, 16,320; sheep, 621; goats, 3,050; and pigs, 4,232. Other livestock includes horses, mules and poultry. These figures represent European-owned livestock only; native-owned livestock consists almost entirely of pigs and poultry.

A number of British breeds of cattle are represented in Territory herds. For dairying, Jersey and Australian Illawarra Shorthorns are most popular; Black Polled, Polled and Horned Shorthorns, and Red Polled cattle are raised for meat production. Under good management these breeds have done well in the Territory.

Most of the sheep now in the Territory are Romney Marsh breed located at Nondugl in the highlands of New Guinea.

*The introduction of rabbits, foxes, hares and monkeys into the Territory is prohibited.*

8. *Co-operative Societies.*—The following table sets out details of the number of societies, members, etc., for the year ended 31st March, 1961.

**TERRITORY OF PAPUA AND NEW GUINEA: CO-OPERATIVE SOCIETIES,  
YEAR ENDED 31st MARCH, 1961.**

Type of Society.	Number of Societies.	Number of Members.	Turnover.	Total Distribution of Profits.	Total Capital.	Total Fixed Assets.
			£	£	£	£
Consumer Societies ..	16	2,320	125,709	1,854	30,520	23,416
Producer Societies ..	15	12,234	18,129	695	28,112	6,573
Dual Purpose Societies ..	186	59,380	1,038,071	68,956	454,027	107,865
<b>Total .. ..</b>	<b>217</b>	<b>73,934</b>	<b>1,181,909</b>	<b>71,505</b>	<b>512,659</b>	<b>137,854</b>

#### § 4. Native Labour.

Most of the indigenous inhabitants are farmers who are mainly living a subsistence existence and are comparatively free of economic or other pressures forcing them into wage employment.

Labour policy is designed to serve the general aim of the advancement of the people of the Territory and the development of its resources, particularly by controlling the nature and rate of social change.

As from 6th October, 1960, previous native labour legislation was superseded by the Native Employment Ordinance 1958, which covers the great majority of native workers. The Ordinance divides the native labour force into three categories: agreement workers, casual workers and advanced workers.

*Agreement workers* are those who enter into an agreement with an employer to work for a specified period. The maximum agreement period for workers unaccompanied by their dependants is two years, but other workers may work for periods up to four years.

*Casual workers* are those workers who are employed without an agreement and their employment may be terminated at their own or the employer's desire at any time. Casual workers can only be employed within their own home sub-district except where the place of employment is within 25 miles of their home.

Workers who have a skill which should enable them to secure remunerative employment and whose education and social advancement enables them to look after themselves and their families properly in a cash economy may be classed as *Advanced Workers* and be issued with an Advanced Workers' Certificate. Advanced Workers may be employed anywhere in the Territory and be paid a cash wage which includes cash in lieu of rations, clothing and other articles as prescribed under the Ordinance.

The Ordinance prescribes a minimum cash wage of 390s. a year, equivalent to 30s. a lunar month. In the case of an employee who has more than one year's service with an employer, the prescribed minimum wage is 455s. a year. For workers engaged in heavy labour the wage is increased by 130s. a year. In addition to the cash wage, an employer is required to provide the worker, free of charge, with rations, clothing and other articles such as blankets, eating utensils and toilet gear. Rations take into account the dietary needs of the worker and clothing and blanket issues vary according to location.

In addition, the employer is required to provide accommodation and to arrange for the movement of the agreement worker from and to his home village at the beginning and at the end of the contract, without cost to the worker.

The Ordinance requires the employer to provide, free of charge, first aid equipment for the use of his employees and to provide medical supervision of the employees on a full time basis. Medical and hospital treatment is provided at the employer's expense.

Rations, clothing, etc., accommodation, medical and hospital care have also to be provided to the workers' dependants when accompanying him with the employer's consent.

The maximum working week without penalty rates is 44 hours and provision is made for overtime, call-out duty and a stand-by rate.

Provision is made under the Workers' Compensation Ordinance 1958-1960 for compensation in the case of injury or death.

Natives employed in the native constabulary come under the provisions of the Royal Papua and New Guinea Constabulary Ordinance 1955-1959, while those employed in the Auxiliary Division and the Third Division of the Territory Public Service come under the provisions of the Public Service Ordinance 1949-1960.

### § 5. Secondary and Tertiary Industries.

Secondary industries which have been established in the Territory are most frequently of the type associated with the elementary processing for export of local products such as copra, rubber, cocoa, coffee, passion-fruit and timber on or near the plantations. There has been a gradual growth in the manufacture of more highly processed products, and industries already established include a paint factory, twist tobacco factories, a copra crushing mill, a plywood factory, biscuit factories, soft drink factories and breweries. Large service industries already well established include air, sea and land transport services, and the building industry, which is serviced by sawmilling, joinery, furniture and metal industries, concrete products manufactures, brickworks, etc.

A wide variety of maintenance facilities is also available to service the various Territory industries, including engineering workshops, slipways, etc.

The following table shows details of factory operations for the year ended 30th June, 1960.

**TERRITORY OF PAPUA AND NEW GUINEA: FACTORY OPERATIONS.**

Particulars.	Class of Industry.				
	Industrial Metals, Machines and Conveyances.	Food, Drink and Tobacco.	Sawmills, Plywood and Joinery.	Other Industries. (a)	Total.
Number of Factories .. ..	45	35	45	17	142
Employment—					
Non-indigenous .. ..	341	106	288	104	839
Indigenous .. ..	501	676	1,719	301	3,197
<b>Total .. ..</b>	<b>842</b>	<b>782</b>	<b>2,007</b>	<b>405</b>	<b>4,036</b>
	£'000.	£'000.	£'000.	£'000.	£'000.
Salaries and Wages Paid .. ..	502	169	585	158	1,414
Value of Output .. ..	1,285	1,126	2,819	3,995	9,225
,, Materials and Fuel Used ..	557	630	1,215	3,615	6,017
,, Production .. ..	728	496	1,604	380	3,208

(a) Includes coconut oil processing, tyre retreading, paint manufacture, printing, etc.

## PAPUA.

## § 1. General Description.

1. **Early Administration.**—Particulars of the early administration of Papua are given in Official Year Book No. 19, page 576.

2. **Administration by the Commonwealth of Australia.**—The Territory was placed under the authority of the Commonwealth on 1st September, 1906, by proclamation issued in pursuance of Letters Patent of 18th March, 1902, and was accepted by the Commonwealth by the Papua Act, 1905, which came into force by virtue of the aforesaid proclamation. The transfer was made under the authority of Section 122 of the Constitution. The Territory is under the control of the Commonwealth, but not included within it, and is divided into six magisterial districts, Southern Highlands, Western, Gulf, Central, Milne Bay and Northern.

3. **Area, etc.**—Papua lies wholly within the tropics. The northernmost point touches 5° S. latitude; its southernmost portion, comprising Tagula and Rossel Islands, lies between 11° S. and 12° S. latitude. It is separated from Australia by Torres Strait. The length of Papua from east to west is upwards of 920 miles; towards either end the breadth from north to south is about 200 miles, but about the centre it is considerably narrower. The Territory comprises also the islands of the Trobriand, Woodlark, D'Entrecasteaux and Louisiade groups. The length of coast-line is estimated at 3,664 miles—1,728 on the mainland, and 1,936 on the islands. The total area is about 90,600 square miles, of which 87,806 are on the mainland, and 2,794 on the islands. A reference to the physical characteristics of the Territory appears in previous issues of the Official Year Book (*see* No. 18, p. 633).

## § 2. Population.

1. **Non-indigenous Population.**—At the Census of 30th June, 1961, the non-indigenous population of Papua was 5,490 males, 4,304 females, 9,794 persons. The total non-indigenous population at the Censuses of 1921, 1933, 1947 and 1954 was, respectively, 2,078, 2,173, 3,239 and 6,313 persons.

The European population of Papua increased slowly, and with some reversals in trend, from less than 700 in 1906, the year in which the Territory came under Commonwealth control, to 1,343 at the Census of 1921. It numbered only 1,148 at the 1933 Census, but at the 1954 Census amounted to 5,295.

2. **Native Population.**—It is not possible to give exact data regarding the number of natives, because part of the interior is not as yet under complete Government control. However, the enumerated and estimated population of the Territory of Papua at 30th June, 1960 numbered 493,518 persons. This comprised 410,478 enumerated persons (218,164 males and 192,314 females) and 83,040 estimated. The total number was distributed through districts as follows:—Southern Highlands, 146,871; Western, 51,332; Gulf (including the former Delta district), 63,485; Central, 98,868; Milne Bay, 84,850; and Northern, 48,112.

## § 3. Education and Health.

1. **Education.**—Education in the Territory is provided by the Administration and various Mission Organizations. Schools for natives have also been established by Native Village Councils. The Education Ordinance 1952–1957 enables the Administration to establish an education advisory board, district education committees and European and native schools, and to grant financial aid for educational purposes. European teachers are recruited from Australia, and native teachers are trained in the Territory by the Administration and Missions. During the year ended 30th June, 1960, 107 schools were maintained by the Administration for 7,758 children, of whom 709 were Europeans, 81 Asian or of mixed race, and 6,968 natives. The total number of pupils in the various grades of mission schools was 57,849, of whom there were 224 Europeans, and 466 Asian or of mixed race. To assist

the educational work of the Missions, the Administration provides expert advice, educational equipment, and text-books. In addition, the sum of £107,404 was distributed among the Missions as grants-in-aid during the year ended 30th June, 1960.

2. Health.—The Department of Public Health of the Territory of Papua and New Guinea has the general oversight of all dental and medical services. The Department has the following seven functional divisions: Medical Services; Preventive Medicine; Medical Training; Infant, Child and Maternal Health; Medical Research; Administration; and Mental Health. The services for the Territory of Papua are under the administrative control of a regional medical officer, with headquarters staff at Port Moresby.

At 30th June, 1960, the Administration had established 27 general hospitals, three special hospitals for the treatment of tuberculosis and Hansen's disease and one mental hospital; the Missions had established 24 general hospitals, with special wards at Balimo and Tari for the treatment of Hansen's disease. There were 374 village aid posts (175 Mission) and 112 maternal and child welfare clinics (45 Mission). School medical examinations, immunization, ante-natal and post-natal care and pre-school services are also provided. The Missions employ their own doctors and nurses in their medical establishments.

For some years, suitably qualified natives have attended the Central Medical School at Suva, Fiji, to be trained as Assistant Medical Officers and in auxiliary medical schools. In 1959, first year students were enrolled at the Papuan Medical College established in association with the Port Moresby General Hospital. Training for nurses and medical auxiliaries in many categories is also being provided.

The cases treated in hospital are mainly malaria, tropical ulcers, pneumonia, tubercular infections and tuberculosis, bronchitis and confinements.

#### § 4. Land Tenure.

The basic principle of the land laws of Papua is that all land not specifically alienated by due process from the natives, or established to be vacant and ownerless, is native land. At 30th June, 1960, of the total estimated area of Papua, approximately 58,000,000 acres, only 1,866,119 acres had been alienated. The distribution of alienated land at 30th June, 1960, according to tenure, was as follows:—held by private non-indigenous inhabitants freehold, 24,280 acres, leasehold, 335,452 acres; native reserves, 68,197 acres, other, including public reserves and land available for leasing, 1,438,190 acres.

Although, as the figures above show, a small amount of freehold land exists in Papua, no further estates in freehold can be granted under the provisions of the Land Ordinance 1911–1961 of Papua. Leases of various kinds may be granted by the Administration. The principal types of leases available are agricultural leases, pastoral leases, leases of town allotments, business leases and residence leases of other than town allotments, and various forms of special leases and licences over land. Leasehold terms are liberal and, in general, leases may be granted for periods of up to 99 years. Rent is based on the unimproved value of the land. For agricultural leases, the rental rate per annum is 5 per cent. of the unimproved value and for pastoral leases the rate is 2½ per cent. Concessions regarding freedom from, or reduction of, rents apply during the early developmental periods of agricultural and pastoral leases. All leases are subject to improvement conditions which may be varied or relaxed under certain circumstances. The following classes of leases were in force in Papua at 30th June, 1960:—agricultural, 716—285,829 acres; pastoral, 31—42,437 acres; residence, 174—262 acres; business, 161—284 acres; town allotment, 816—355 acres; mission, 407—1,076 acres; special, 290—3,677 acres; agricultural (mission), 7—1,532 acres; total, 2,602—335,452 acres.

Leases of Crown land are granted by the Administrator following a land use examination, advertisement of leases available and consideration of applications by the Land Board. Dealings in privately-owned land are a matter for private treaty. Native-owned land, however, cannot be acquired or leased from the native owners by private individuals. The Administration alone may purchase native-owned land, and then only if the owners are willing to sell and the Administration is satisfied that the owners do not require, and are not likely to require, the land.

The registration of titles, interests and dealings in alienated land is provided for under the Real Property Ordinance 1913–1955 modelled on the Torrens system of land registration. A start has been made on the recording of native land ownership under the Native Land Registration Ordinance 1952.

### § 5. Production.

1. **General.**—The products of the Territory are obtained principally from its agricultural, forestry, mining and fishing industries. Native subsistence agriculture, fishing and hunting produce most of the food requirements of the native population. The main native agricultural products are taro, yams, sweet potatoes, bananas and papaws. Peanuts are becoming of increasing importance in native diet. Non-indigenous enterprise produces most of the commodities exported. Natives, however, do produce copra for export, while native enterprise in other fields of agricultural production for export purposes, e.g., cocoa and coffee, is being encouraged. The principal agricultural products of Papua for the export trade are copra and rubber. Native production of copra is increasing. Practically all the timber milled during 1959–60 was absorbed by local building requirements. The main products of fisheries exported from Papua are trochus and green snail shell. Gold, manganese, zinc-lead and copper ores have been mined in commercial quantities in the past, but current production is limited.

For the sake of convenience, agricultural and pastoral conditions in Papua and New Guinea have been dealt with as a whole, and reference should be made to pages 128–131 for information on the soils, climate, crops, methods of cultivation, etc., throughout both Territories. The following paragraphs relate to forestry, mining, fisheries and water-power resources in Papua.

2. **Forestry.**—(i) *General.* A general description of the forest policy which applies in Papua as well as in the Trust Territory of New Guinea is given under the heading “Timber” on page 144.

(ii) *Timbers.* Mixed species tropical rain forest covers most of Papua, although north-east of Port Moresby there is an area of monsoonal savannah country. Because of the mixed nature of the timbers in any one area, their utilization on an economical basis is somewhat difficult. Mangroves occur in large areas fringing the Gulf of Papua.

(iii) *Survey Work.* Forestry field work is carried out in Papua with a view to assessing the forest resources available and also to survey areas subsequently made available for cutting.

(iv) *Permits.* At 30th June, 1960, 26 permits and four licences were current. The total areas of forest involved were 140,044 acres and 28,927 acres respectively. The total number of mills was 11, and the total sawn-timber produced for the year was 3 million super. feet, most of which was used locally.

3. **Mining.**—(i) *Variety of Minerals.* Although a large number of minerals have been found in Papua, including platinum, gold, silver, copper, tin, lead, zinc, cinnabar, iron, osmiridium, manganese, sulphur, chromite, gypsum and lignite, current mineral production is not of economic importance.

Gold was discovered in 1888 and has been found since in many parts of Papua. Before the 1939–45 War, gold was an important item in the Territory's production, but has dwindled to insignificance since the war. During 1960–61, the production of gold realized £998 bringing the total value of gold won up to 30th June, 1960, to £3,346,362.

Large quantities of copper ore were mined and exported up to 1940. Good samples of galena (sulphide of lead) have been obtained, but other minerals are not found in commercial quantities.

(ii) *Oil Search.* Since the search for oil began in Papua in 1911, over £33 million has been spent. The existence of petroleum has been traced at scattered intervals over a large area, but commercial quantities have not been discovered. At 30th June, 1961, four companies held petroleum prospecting permits and licences under the provisions of the Petroleum (Prospecting and Mining) Ordinance 1951–1961. Oil prospecting is, at present, confined mainly to the Gulf and Western Divisions.

4. Fisheries.—Surveys have been carried out of the fisheries resources of Papua. These have been demonstrated to be considerable, and efforts are being made to increase the small degree of utilization. Shell fishing, particularly trochus, provides the main cash return, exports being valued at £38,000 in 1959–60.

5. Water Power.—Most of the rivers in Papua carry a large volume of water from a great height over a relatively short distance, thereby offering opportunities for the installation of hydro-electric power plants. It is estimated that there is at least 10 million horse-power available for this purpose.

## § 6. Trade, Transport and Communication.

1. Imports and Exports.—(i) *Total Values.* The table below summarizes the values of imports and exports for the years 1955–56 to 1959–60.

### TERRITORY OF PAPUA: IMPORTS AND EXPORTS.

(£.)

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
<i>Imports</i> (a) .. ..	9,046,753	8,734,152	8,850,437	8,324,388	8,409,546
<i>Exports</i> —					
Domestic exports .. ..	2,965,559	2,261,734	2,082,667	2,564,551	2,986,448
Re-exports .. ..	398,976	504,588	693,385	1,040,909	871,111
<i>Total Exports</i> .. ..	3,364,535	2,766,322	2,776,052	3,605,460	3,857,559

(a) Includes outside packages previously excluded.

(ii) *Imports.* The following table shows the countries of origin of imports. Since the 1939–45 War, Australia has supplied a far greater proportion of the imports than in pre-war years.

### TERRITORY OF PAPUA: COUNTRY OF ORIGIN OF IMPORTS.

(£.)

Country of Origin.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Australia .. ..	5,759,504	5,838,299	5,632,004	5,684,265	5,439,082
Canada .. ..	7,254	7,657	101,575	4,871	6,991
Germany (Federal Republic) ..	144,273	103,576	141,409	135,715	140,250
Hong Kong .. ..	163,424	151,555	209,398	193,364	278,796
Indonesia .. ..	228,979	376,521	239,206	353,697	365,920
Japan .. ..	216,731	153,394	190,702	234,419	407,997
United Kingdom .. ..	1,131,401	550,585	689,640	562,596	552,241
United States of America ..	1,020,436	1,118,046	1,219,289	749,079	754,548
Other Countries .. ..	303,832	361,619	363,535	331,900	463,721
<i>Total Imports</i> .. ..	8,975,834	8,661,252	8,786,758	8,249,906	8,409,546

(a) Includes outside packages.



(iii) *Exports. (a) Countries of Destination.* The countries of destination of exports from Papua are shown below.

**TERRITORY OF PAPUA: COUNTRY OF DESTINATION OF EXPORTS.**  
(£.)

Country of Destination.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Australia .. .. .	2,699,059	2,240,392	2,200,285	2,982,549	3,102,673
United Kingdom .. .. .	610,832	396,921	386,532	485,833	603,453
Other Countries .. .. .	54,644	129,009	189,235	137,078	151,433
<b>Total Exports .. .. .</b>	<b>3,364,535</b>	<b>2,766,322</b>	<b>2,776,052</b>	<b>3,605,460</b>	<b>3,857,559</b>

(b) *Principal Commodities.* The following table provides details of the value of the principal domestic exports for the same years. The decrease in value of total domestic exports during 1956-57 and 1957-58 was caused mainly by decreases in the prices of copra and shell.

**TERRITORY OF PAPUA: PRINCIPAL DOMESTIC EXPORTS.**  
(£.)

Commodity.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Rubber .. .. .	1,386,787	1,148,542	1,114,716	1,151,871	1,500,197
Copra .. .. .	1,390,068	942,286	847,472	1,303,017	1,362,650
Cocoa Beans .. .. .	8,759	7,717	13,825	23,275	19,185
Gold .. .. .	8,837	5,911	7,093	6,408	2,003
Shell (Marine) .. .. .	137,938	101,265	43,276	26,580	37,970
Crocodile Skins .. .. .	23,791	26,568	35,579	15,345	21,360
Other .. .. .	9,379	29,445	20,706	38,055	43,083
<b>Total Domestic Exports .. .. .</b>	<b>2,965,559</b>	<b>2,261,734</b>	<b>2,082,667</b>	<b>2,564,551</b>	<b>2,986,448</b>

2. *Shipping.*—In 1959-60, 167 British vessels and 25 of other nationalities called at Territory ports and discharged 92,335 tons of cargo and loaded 23,612 tons. Corresponding figures for 1958-59 were 173, 16, 96,672 and 27,969 respectively.

Regular passenger and freight services operate between Australia, New Guinea and Papua. Vessels trading between Australia and the East also call at Territory ports, and there are occasional ships to the United Kingdom, vessels of one shipping line trading between the United Kingdom and Australia calling at Port Moresby approximately at quarterly intervals. Coastal and inter-island shipping services are maintained by vessels operating from the two principal ports of Port Moresby and Samarai.

3. *Other Forms of Transport and Communication.*—Air services link Papua with Australia, New Guinea, the British Solomon Islands and Hong Kong. There were 67 aerodromes and seaplane alighting areas in Papua at 30th June, 1960, and of these 16 were the responsibility of the Department of Civil Aviation, 28 were operated and maintained by the Administration, and 23 owned and maintained by Missions, plantation and mining interests. Much of the internal traffic and freight is carried on a charter basis. Regular air services operate from Port Moresby to Daru in the West, Samarai and Popondetta in the East, and to various centres in New Guinea.

At 30th June, 1960, there were 1,576 miles of road in Papua, of which 591 miles were suitable for medium and heavy traffic, the greater proportion being located in the Central and Northern Districts.

Telephone services operate in the main centres. The radio station at Port Moresby for both transmission and reception is jointly shared by the Overseas Telecommunications Commission and the Administration. The former provides a service between Papua, Australia and the Territory of New Guinea, while the latter operates radio telephone and radio telegraph services from Port Moresby and Samarai to outstations.

Medium and short-wave programmes are broadcast from the Australian Broadcasting Commission stations 9PA and VLT located at Port Moresby.

## § 7. Finance.

The following table shows the principal items of revenue and expenditure for the Territory for each year from 1956-57 to 1960-61.

**TERRITORY OF PAPUA: REVENUE AND EXPENDITURE.**  
(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>REVENUE.</b>					
Commonwealth Grant ..	4,146,911	4,607,669	4,772,537	4,948,361	5,515,054
Customs Duties(a) ..	867,697	969,688	1,135,095	868,813	1,023,644
Income Tax ..	..	..	..	882,558	1,136,394
All Other ..	633,496	829,317	914,279	1,017,446	1,162,620
<b>Total Revenue ..</b>	<b>5,648,104</b>	<b>6,406,674</b>	<b>6,821,911</b>	<b>7,717,178</b>	<b>8,837,712</b>
<b>EXPENDITURE.</b>					
Public Health ..	703,704	652,350	709,654	899,370	1,004,342
Native Affairs ..	341,015	332,970	396,939	446,895	490,154
Education ..	341,574	378,489	450,961	672,504	754,051
Maintenance ..	836,311	589,910	784,932	862,487	1,298,003
Capital Works and Assets ..	1,870,133	2,262,548	2,041,676	1,996,824	2,277,046
All Other ..	1,493,104	2,184,888	2,431,529	2,769,535	3,096,426
<b>Total Expenditure ..</b>	<b>5,585,841</b>	<b>6,401,155</b>	<b>6,815,691</b>	<b>7,647,615</b>	<b>8,920,022</b>

(a) Includes Harbour Dues and Wharfage.

For particulars of the finances of the combined Territory administration, see page 127.

**TRUST TERRITORY OF NEW GUINEA.**

**§ 1. General Description.**

The land area of the Territory of New Guinea is about 93,000 square miles, and the area, including the sea, within the lines drawn through its extreme outer points is more than one million square miles. As the coast lines have not been completely surveyed, the areas of the various islands are known only approximately.

The approximate areas of the principal islands, together with the small islands adjacent thereto, are as follows:—North-East New Guinea, also called the mainland, 70,200 sq. miles; Bismarck Archipelago—New Britain, 14,100 sq. miles, New Ireland, 3,340 sq. miles, Lavongai, 460 sq. miles, Admiralty Islands, 800 sq. miles, total Bismarck Archipelago, 18,700 sq. miles; Solomon Islands—Bougainville, 3,880 sq. miles, Buka, 220 sq. miles, total Solomon Islands, 4,100 sq. miles; grand total, 93,000 sq. miles.

Information regarding physiography and climate will be found in Official Year Book No. 22, page 613, and in the *Official Handbook of the Territory of New Guinea*.

**§ 2. Government.**

1. **The Military Occupation (1914-18 War).**—On 17th September, 1914, the Acting Governor of German New Guinea signed terms of capitulation with the officer commanding a Naval and Military Expedition sent from Australia, and thereafter the Territory was under military administration until the establishment of Civil Government on 9th May, 1921.

2. **Mandate (1920).**—In 1919, it was decided by the Principal Allied and Associated Powers that the Territory of New Guinea, which Germany gave up as one of the terms of peace, should be entrusted to the Government of the Commonwealth under Mandate from the League of Nations. However, the issuing of the Mandate was delayed and it was not until 17th December, 1920, that its terms were settled, and the Mandate itself did not reach Australia until April, 1921.

The terms of the Mandate are given in Official Year Book No. 33 (see p. 264).

3. 1939–45 War.—For the events following the outbreak of the Pacific War and the formation of the Papua-New Guinea Provisional Administration in 1945, see page 126 of this chapter and earlier issues of the Official Year Book.

4. Trusteeship (1946).—The Commonwealth Government undertook to place the Territory of New Guinea under the Trusteeship System established under the Charter of the United Nations. The Trusteeship Agreement for the Territory, under which the Government of Australia is the sole administering authority, was approved by the General Assembly of the United Nations Organization on 13th December, 1946. The terms of the Agreement are shown in Official Year Book No. 39, pages 355–7.

5. Administration.—For particulars of the administration of the Territory of New Guinea prior to the setting-up of the Papua and New Guinea Administration see Official Year Book No. 36 and earlier issues.

For administrative purposes, the Territory is divided into the following nine districts:—New Britain, comprising New Britain and adjacent islands; Morobe, Madang, Eastern Highlands, Western Highlands, and Sepik on the mainland; New Ireland, comprising New Ireland, Lavongai and adjacent islands; Manus, comprising the Admiralty Group; and Bougainville in the Solomon Islands. Each district is administered by a District Commissioner.

### § 3. Population.

1. Non-indigenous Population.—At the Census of 30th June, 1961, the non-indigenous population of the Territory was 9,158 males, 6,378 females, 15,536 persons. The total non-indigenous population at the Censuses of 1921, 1933, 1947 and 1954 was, respectively, 3,173, 5,216, 6,200 and 11,442 persons.

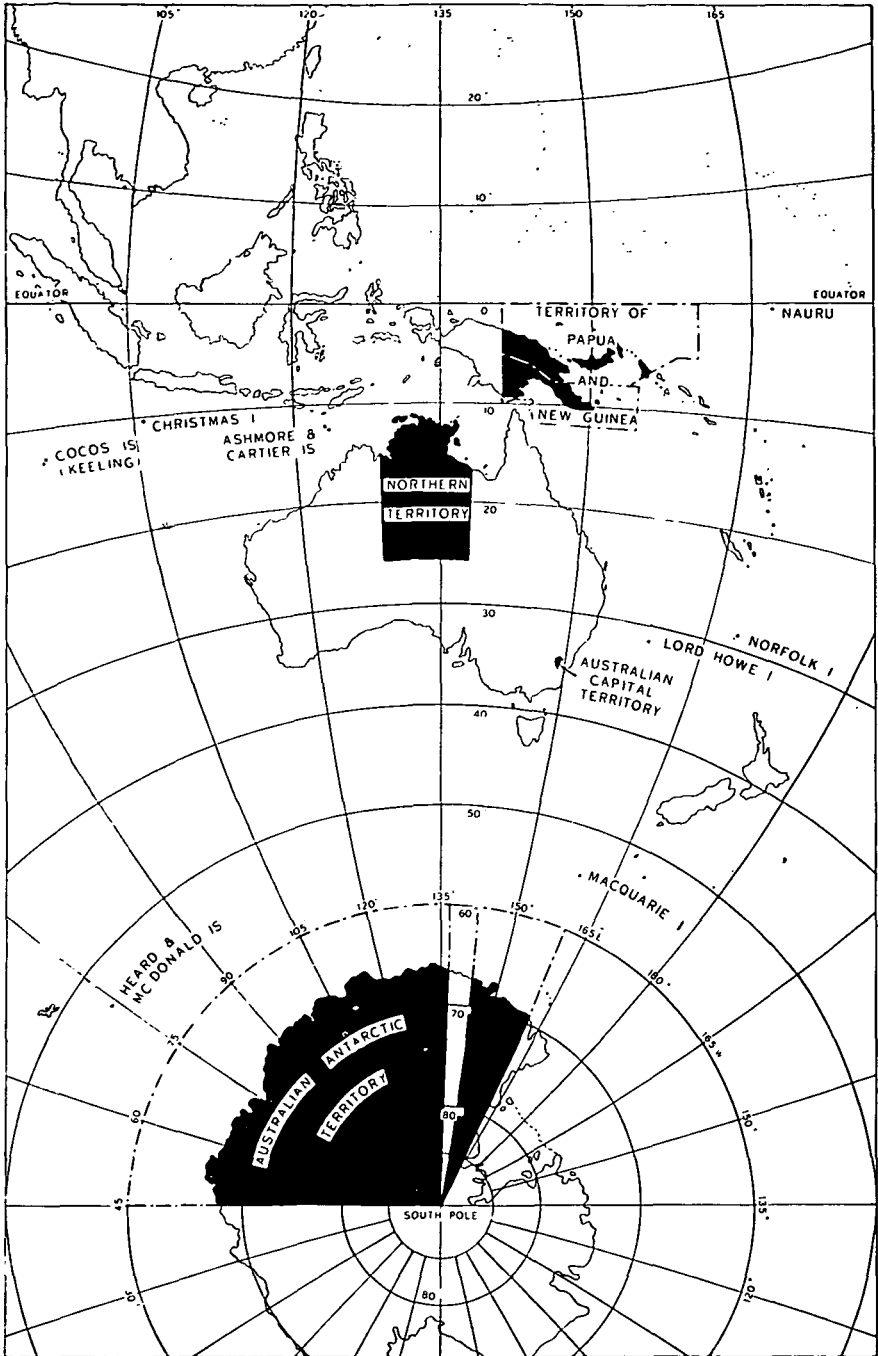
2. Native Population.—The enumerated and estimated native population of the Territory as at 30th June, 1960, numbered 1,386,808 persons, comprising enumerated, 1,306,308 (688,267 males and 618,041 females), and estimated, 80,500. The total population was distributed throughout the several districts as follows:—Eastern Highlands, 338,121 persons; Western Highlands, 256,114; Sepik, 247,453; Madang, 136,857; Morobe, 190,330; New Britain, 107,362; New Ireland, 38,813; Bougainville, 54,627; Manus, 17,131.

### § 4. The Natives.

1. General.—The natives are divided into two main groups—Melanesian and Papuan—the former, with a few exceptions, constituting the population of the Bismarck Archipelago, the Solomon Islands, and the coastal districts of the New Guinea mainland, the latter inhabiting the interior of the mainland. Some tribes of Negritos exist in the mountains of New Guinea. There is a strain of Papuan, and possibly, of Polynesian blood in the Admiralty Islanders, while the Western Islanders and the inhabitants of the small islands east and south-east of New Ireland are Micronesians. (See Official Year Book No. 16, p. 670, and *Official Handbook of the Territory of New Guinea*, Pt. V.)

2. Education.—Education in the Territory is provided by the Administration and various Mission organizations. Schools for natives have also been established by Native Village Councils. The Education Ordinance 1952–1957 enables the Administrator to establish an education advisory board, district education committees and European and native schools and to grant financial aid for educational purposes. European teachers are recruited from Australia, and native teachers are trained in the Territory by the Administration and the Missions. During the year ended 30th June, 1960, 198 schools were maintained by the Administration for 14,385 children, of whom 891 were Europeans, 270 Asians, 113 of mixed race and 13,111 natives. The total number of pupils in the various grades of mission schools was 115,884, of whom there were 375 Europeans, 32 Asians and 277 of mixed race. To assist the educational work of the Missions, the Administration provides expert advice, educational equipment, and text-books. In addition, the sum of £158,689 was distributed, among the Missions as grants-in-aid during the year ended 30th June, 1960.

# THE TERRITORIES OF AUSTRALIA





3. **Health of Natives.**—The cases treated in hospital are mainly malaria, pneumonia, tropical ulcers, bronchitis, tubercular infections and tuberculosis, skin infections and confinements. The Department of Public Health is engaged in combating diseases with a staff of fully-trained medical officers, medical assistants and orderlies in native hospitals. Its staff also supervises hospitals on plantations. It has facilities for research in tropical medicine, and schemes for training natives as medical orderlies and nurses. At 30th June, 1960, there were 73 Administration hospitals, including four Hansenié colonies and two tuberculosis hospitals. The Missions have established an additional 75 hospitals, including three Hansenié colonies. There are 1,319 village aid posts (321 conducted by Missions) and 406 maternity and child welfare centres (72 provided by Missions). The Missions staff their own medical establishments but receive financial assistance from the Administration, which also provides much of their medical stores and supplies.

4. **Missions.**—A number of Mission societies operate in the Territory. The Society of the Sacred Heart of Jesus works in the Bismarck Archipelago, the Society of the Holy Ghost, the Franciscan Order and the Society of the Divine Word in the five districts of mainland New Guinea, and the Marists in Buka and Bougainville. These are Roman Catholic Missions. Protestant Missions include the Methodist Overseas Mission in New Britain and New Ireland, the New Zealand Methodist Mission in Bougainville, the Lutheran Mission (supported and staffed by the Lutheran Churches in Australia and America) which works in Morobe, Madang, the Eastern and Western Highlands, the New Guinea Anglican Mission in the Eastern and Western Highlands, the Seventh-day Adventist Mission in Bougainville, Manus, New Ireland, New Britain and the Mainland of New Guinea, the East and West Indies Bible Mission and the Baptist Mission in the Central Highlands. The South Seas Evangelical Mission (Undenominational) and the Assemblies of God Mission are also working in the Sepik area. All these Missions include teaching with their missionary work. Other Missions operating in the Territory are the Apostolic Church Mission in the Western Highlands, Christian Missions in Many Lands in the Sepik area, Church of Christ Mission in Madang, Church of the Nazarene in the Western Highlands, Faith Mission in the Eastern Highlands, New Tribes Mission in Morobe and the Eastern Highlands, Swiss Evangelical Mission in the Eastern and Western Highlands, Sola Fide Mission in the Sepik area, and Salvation Army and World Missions, both in the Eastern Highlands.

## § 5. Land Tenure.

The principles governing the acquisition and ownership of land and types of tenure available in New Guinea are in general similar to those which obtain in Papua, and although, under the Land Ordinance 1922–1961, grants of freehold estates may be made, as a matter of policy all grants are now restricted to leaseholds. In New Guinea, however, the amount of freehold land of earlier origin held by private non-indigenous owners amounts to more than half a million acres. Freehold titles to this land, which includes a good deal of plantation land, may be transferred by purchase, subject only to the general provision that dealings in land require the approval of the Administrator.

The area of the Territory of New Guinea is estimated at 59,520,000 acres, of which at 30th June, 1960, only 1,435,829 acres were alienated. The following was the distribution of alienated land according to tenure at 30th June, 1960:—Held by private non-indigenous inhabitants—freehold, 541,253 acres, leasehold, 329,974 acres; held by Administration, 537,666 acres; native reserves, 26,936 acres.

Leases in force at 30th June, 1960, were as follows:—Agricultural, 828—223,351 acres; dairying, 6—1,300 acres; pastoral, 17—85,907 acres; residential and business, 2,345—1,649 acres; special, 327—9,367 acres; mission 741—3,885 acres; long period leases from German régime, 104—4,515 acres; total, 4,368—329,974 acres.

Under German law there was a system of registration of titles in a "Ground Book", but registration did not confer an indefeasible title. The German system has been replaced by one modelled on the Torrens plan, embodied in the Lands Registration Ordinance 1924–1955. The land registers were lost during the 1939–1945 War, but provision for restoration of the lost titles is made in the New Guinea Land Titles Restoration Ordinance 1951–1955. A start has been made on the recording of native land interests under the Native Land Registration Ordinance 1952.

## § 6. Production.

1. **General.**—The products of the Territory are obtained principally from its agricultural, mining, fishing and forestry industries. A copra crushing mill near Rabaul, established in 1952, commenced crushing at about 18,000 tons of copra per annum, and its capacity is now about 60,000 tons of copra per annum. Crushing of about 40,000 tons of copra is in view for 1961. At Bulolo, a company (Commonwealth-New Guinea Timbers Ltd.), in which the Commonwealth Government has a controlling interest, is producing high quality moisture-proof plywood and veneers in a factory whose capacity is over 40 million square feet, on a  $\frac{3}{8}$ -in basis, per annum. Native subsistence agriculture, fishing, and hunting produce most of the food requirements of the native population. The main native agricultural products are taro, yams, sweet potatoes, coconuts, bananas and papaw. Non-indigenous enterprise produces most of the commodities exported. Natives, however, produce copra for export, and in recent years have taken up the production of introduced crops such as peanuts, rice, cucurbits and maize for their own consumption and cocoa and coffee for export. The principal agricultural products of New Guinea for the export trade are copra and cocoa. While most of the timber milled during 1959–60 was absorbed by the local market, exports continued to increase (*see* para. 2 below). The main products of fisheries exported from New Guinea are trochus and green snail shell, including that collected by natives. Gold is the principal mineral mined. Natives are taking an increasing interest in mining for alluvial gold on their own account, and production from this source is continually rising, in contrast to falling European production.

For information on the agricultural and pastoral industries, which for the sake of convenience covers the Territory of Papua and New Guinea as a whole, *see* pages 128–31. The following paragraphs relate to the timber, fishing and mining industries in the Territory of New Guinea alone.

2. **Timber.**—Various species of timber are found in the Territory, but the only accessible pure stand is the valuable pine forests of the Bulolo Valley. This timber is used mainly for the production of plywood and veneer by Commonwealth-New Guinea Timbers Ltd., which has an annual cut of about 10 million super. feet of logs. About 30.5 million square feet of plywood, on a  $\frac{3}{8}$ -in. basis, was produced by the company in 1959–60 from these logs and from the bulk of 47.5 million square feet of  $\frac{1}{8}$ -in. veneer produced by South Pacific Timbers Limited at Lae. Exports of plywood in 1959–60 were 30.5 million square feet, valued at £1,255,000, and 7 million square feet of veneer, on a  $\frac{1}{8}$ -in. basis, valued at £41,000. During the year, 1.3 million super. feet of logs, valued at £40,000, and nearly 5 million super feet of sawn timber, valued at £320,000, were also exported from the Territory. The Territory forests also provided flitches, battery veneer and egg-case parts for export.

The Administration sawmill at Lae provides a considerable amount of sawn timber for local consumption, and serves as a training centre for operatives in the sawmilling industry. The Administration also operates a training centre for forestry workers, nurseries and a herbarium, and is establishing a research institute in Port Moresby.

The Forestry Ordinance 1936–1951 provides for the issue of permits and licences to cut timber. Present policy calls for the orderly development of the timber industry on sound forestry principles to ensure no waste of the resources and no over-exploitation; the grant of emergency timber permits for limited quantities to assist in providing timber for Territory requirements; the disposal by public tender of timber areas designated by forest officials of the Territory; and the development of the pine stand in the Bulolo Valley by Commonwealth-New Guinea Timbers Ltd. Timber growing on native lands cannot be acquired by private purchasers direct from the natives, but must be obtained through the Administration. Royalty is payable on all forest produce taken under permit or licence. Re-forestation of areas dedicated for forestry in perpetuity is carried out by the Administration.

At 30th June, 1960, 32 permits and four licences were current, the total area of forest involved being 300,232 acres and 3,703 acres respectively.

3. **Fisheries.**—The wealth of the waters of the Territory has been little exploited, but as the result of surveys and the development of the Administration fisheries service, action is being taken to promote increased use of the resources. Fish are caught at many places along the coast to supply the small local demand of the natives and of Europeans. Trochus shell to the value of £59,598 and green snail shell to the value of £11,961 were exported during 1959–60.

4. **Mining.**—The production of gold and associated silver is the most important mining activity in New Guinea. Gold has been discovered on the Waria, the Ramu, the Francisco, and the Markham Rivers, and in tributaries of the Sepik River. Rich gold deposits were first discovered in the Morobe District in 1926. The field is situated about 80 miles (40 by air) inland from Lae, the nearest coastal port. Communication is established with the coast by regular air service and by road transport. Silver is found usually associated with the gold in these deposits. Osmiridium is reported to have been found on the upper tributaries of the Ramu, and platinum on the Kabenau River. Copper has been discovered in the form of chalcopyrite and malachite in the Baining District. Iron ore occurs as magnetite and haematite in the Baining District. Sulphur occurs in several localities in the volcanic regions of the Territory. Brown coal has been found on the mainland in the vicinity of Astrolabe Bay, and in the southern portion of New Ireland. The commercial production of minerals other than gold and silver has not been undertaken.

The granting of rights, leases and claims for mining purposes is provided for in the Mining Ordinance 1928–1957 and regulations thereunder.

The production of gold in New Guinea since the 1939–45 War has been on a much smaller scale than before the war, averaging less than £900,000 in value per annum for the last five years. The 1960–61 production was valued at only £681,240.

The Petroleum Ordinance 1936 has been superseded by the Petroleum (Prospecting and Mining) Ordinance 1951–1961, which has facilitated the carrying out of geological surveys and prospecting activities generally. There are, however, no prospecting permits for oil current at the present time.

## § 7. Trade, Transport and Communication.

1. **Imports and Exports.**—(i) *Total Values.* The table below summarizes the values of imports and exports for the years 1955–56 to 1959–60.

### TERRITORY OF NEW GUINEA: IMPORTS AND EXPORTS.

(£.)

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
<i>Imports(a)</i> .. ..	10,371,231	11,020,742	11,545,880	11,938,628	12,622,354
<i>Exports</i> —					
Domestic Exports .. ..	9,220,446	9,548,624	8,815,592	11,903,187	14,117,463
Re-exports .. ..	665,177	763,868	812,456	788,690	844,893
<i>Total Exports</i> .. ..	9,885,623	10,312,492	9,628,048	12,691,877	14,962,356

(a) Includes outside packages previously excluded.

(ii) *Imports.* The following table summarizes the countries of origin of imports. During the past ten years by far the greatest proportion of imports has been supplied by Australia.



**TERRITORY OF NEW GUINEA: COUNTRY OF ORIGIN OF IMPORTS.**  
(£.)

Country of Origin.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Australia .. .. .	6,668,947	7,327,966	7,051,240	7,721,687	7,836,181
Germany (Federal Republic)	211,753	181,370	245,260	296,007	286,545
Hong Kong .. .. .	474,583	421,191	482,085	521,455	745,040
India .. .. .	149,805	116,006	145,865	170,687	139,720
Indonesia .. .. .	299,616	462,091	632,274	500,814	629,332
Japan .. .. .	468,185	478,364	790,436	703,058	945,853
United Kingdom .. .. .	743,718	701,746	766,091	775,654	857,968
United States of America .. .. .	797,869	785,611	790,151	651,024	688,035
Other Countries .. .. .	465,553	444,636	548,610	478,206	493,680
<b>Total Imports .. .. .</b>	<b>10,280,029</b>	<b>10,918,981</b>	<b>11,452,012</b>	<b>11,818,592</b>	<b>12,622,354</b> (a)

(a) Includes outside packages.

(iii) *Exports. (a) Countries of Destination.* The countries of destination of exports from New Guinea are shown below.

**TERRITORY OF NEW GUINEA: COUNTRY OF DESTINATION OF EXPORTS.**  
(£.)

Country of Destination.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Australia .. .. .	4,575,510	4,923,756	4,956,187	5,806,798	6,150,483
United Kingdom .. .. .	4,727,759	4,556,808	3,686,900	4,435,284	5,371,634
Other Countries .. .. .	582,354	831,928	984,961	2,449,795	3,440,239
<b>Total Exports .. .. .</b>	<b>9,885,623</b>	<b>10,312,492</b>	<b>9,628,048</b>	<b>12,691,877</b>	<b>14,962,356</b>

(b) *Principal Commodities.* The following table provides details of the value of the principal domestic exports for the same years.

**TERRITORY OF NEW GUINEA: PRINCIPAL DOMESTIC EXPORTS.**  
(£.)

Item.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Copra .. .. .	4,795,987	4,706,142	3,673,687	4,451,148	4,763,793
Other Coconut Products .. .. .	1,458,273	1,441,187	1,649,503	2,933,110	4,160,072
Cocoa Beans .. .. .	352,105	454,463	814,633	1,468,572	1,652,132
Coffee Beans .. .. .	91,698	179,510	222,794	448,869	709,445
Peanuts .. .. .	23,336	48,701	138,146	286,684	273,797
Gold .. .. .	1,064,279	1,225,447	851,506	736,354	632,729
Shell (Marine) .. .. .	303,215	220,361	68,460	68,174	71,609
Timber .. .. .	285,505	256,286	235,247	316,292	360,769
Plywood .. .. .	749,179	919,478	1,023,365	1,027,748	1,254,734
Veneer .. .. .	9,440	1,036	6,649	3,299	41,136
Other .. .. .	87,429	96,013	131,602	162,937	197,247
<b>Total Domestic Exports</b>	<b>9,220,446</b>	<b>9,548,624</b>	<b>8,815,592</b>	<b>11,903,187</b>	<b>14,117,463</b>

2. **Shipping.**—Regular passenger and freight services operate between Australia, Papua and the Territory of New Guinea. Vessels trading between Australia and the East and also some on voyages to the United Kingdom and to North America call at Territory ports. Coastal and inter-island shipping services are maintained by vessels operating from the principal ports of the Territory. Shipping within the Territory is regulated by the Shipping Ordinances 1951–1960, and the Coastal Shipping, Ports and Harbours Regulations.

Main ports of call for oversea vessels are Lae, Madang and Wewak (mainland), Rabaul (New Britain), Kavieng (New Ireland), Lorengau (Manus), and Kieta (Bougainville). Ports proclaimed under the Coastal Shipping, Ports and Harbours Regulations for the service of local vessels are, in addition to the main ports above-mentioned, Salamaua, Aitape and Vanimo (mainland), Gasmata and Talasea (New Britain), Namatanai (New Ireland), and Buka Passage (Bougainville).

There are no inland waterways and the natural river system is not generally suitable for vessels except those of small tonnage.

In 1959–60, 186 British vessels and 83 vessels of other nationalities called at Territory ports and discharged 154,933 tons of cargo and loaded 159,163 tons. Corresponding figures for 1958–59 were 180, 76, 141,180 and 139,420 respectively.

3. **Other Forms of Transport and Communication.**—There are no railways in New Guinea, but a road construction programme is being undertaken progressively to assist the economic development of the Territory. Road transport services operate in the main towns and on the trunk roads linking Rabaul and Kokopo; Lae, Bulolo and Wau; Kavieng and Namatanai; and on the network in the Eastern and Western Highland Districts centred on Goroka and Mt. Hagen. The total mileage of roads in the Territory of New Guinea at 30th June, 1960, was 4,564, of which 1,846 were suitable for heavy and medium traffic.

Air services link the Territory with Papua, Australia, Netherlands New Guinea and the British Solomon Islands. There are 151 aerodromes and seaplane alighting areas in New Guinea at 30th June, 1960, and of these 25 are controlled by the Department of Civil Aviation, 59 by the Administration, and 67 by private interests, and one by the Royal Australian Navy.

Telephone services operate in the main centres. Radio telephone trunk circuits link Port Moresby with Lae, Rabaul and Madang and service is available from subscribers, telephones in Port Moresby, Lae and Rabaul, and from the Post Office at Madang. Six zone or group centres for radio telephone communication with out-stations have been established at Lae, Madang, Rabaul, Kavieng, Wewak and Lorengau. From these centres, radio telegraph services are also available to 111 out-stations.

## § 8. Finance.

The principal items of revenue and expenditure for the Territory of New Guinea during the years 1956–57 to 1960–61 are shown in the following table.

### TRUST TERRITORY OF NEW GUINEA: REVENUE AND EXPENDITURE.

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>REVENUE.</b>					
Commonwealth Grant ..	5,498,179	6,188,821	6,706,373	7,859,921	9,281,595
Customs Duties(a) ..	1,702,884	1,894,125	2,415,514	1,699,039	1,599,298
Income Tax ..	..	..	..	930,405	1,211,584
All Other ..	949,633	1,031,901	1,139,859	1,195,667	1,318,559
<b>Total Revenue ..</b>	<b>8,150,696</b>	<b>9,114,847</b>	<b>10,261,746</b>	<b>11,685,032</b>	<b>13,411,036</b>

(a) Includes Harbour Dues and Wharfage.

## TRUST TERRITORY OF NEW GUINEA: REVENUE AND EXPENDITURE

—continued.

(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
EXPENDITURE.					
Public Health .. ..	1,504,191	1,225,650	1,256,924	1,449,560	1,644,306
Native Affairs .. ..	732,705	641,078	713,902	801,832	884,340
Education .. ..	540,181	637,238	775,429	873,159	1,286,235
Civil Affairs .. ..	62,110	432,243	460,999	507,754	669,379
Police .. ..	407,457	237,893	264,751	404,793	459,703
Agriculture, Stock and Fisheries	416,094	389,552	449,334	552,375	627,431
Posts and Telegraphs ..	331,257	361,444	395,679	446,519	516,499
Customs and Marine ..	127,401	125,579	141,369	144,569	168,722
Forestry .. ..	235,073	239,908	257,112	282,786	310,435
Public Works Department ..	252,091	362,116	248,561	253,472	315,503
Maintenance .. ..	776,962	885,944	955,891	1,204,329	1,319,104
Capital Works and Assets ..	1,843,763	2,063,908	2,566,358	2,825,600	3,122,576
Other .. ..	921,411	1,512,294	1,775,437	1,938,284	2,447,135
<b>Total Expenditure ..</b>	<b>8,150,696</b>	<b>9,114,847</b>	<b>10,261,746</b>	<b>11,685,032</b>	<b>13,771,368</b>

For information on the finances of the combined Territory administration see Papua and New Guinea, § 2, page 127.

## TRUST TERRITORY OF NAURU.

1. **General.**—Nauru is an oval-shaped atoll about 12 miles in circumference, having an area of about 5,263 acres, of which approximately two-thirds is phosphate-bearing. It is situated in latitude 0° 32' S. and longitude 166° 55' E. Portion of the island between the sandy beach and the coral cliffs is fertile, and it is there that most of the Nauruans reside. With the exception of a small fringe around an inland lagoon, the plateau which contains the phosphate deposits possesses few food plants and is uninhabited, but portion of the area has been planted with fruit trees. The system of land tenure is governed by an old custom, and, with the exception of small allotments held by the Government, the British Phosphate Commissioners, and the Missions, the whole of the island is owned by individual natives. The temperature range is from 76° F. at night to 94° F. during the day and the average humidity about 80 per cent. Normally the rainfall is comparatively low for islands of the Pacific, the annual average for twenty years from 1920 to 1940 being 80.5 inches. However, falls as high as 181.76 inches during 1940 and as low as 12.29 inches during 1950 have been recorded.

2. **History.**—The island, discovered by Captain Fearn in 1798, was annexed by Germany in 1899, and prior to 1914 was part of the protectorate of German New Guinea.

In November, 1914, Nauru was occupied by a detachment from the Australian Naval and Military Expedition at Rabaul, and it was included in the cession of colonies made by Germany in 1919 to the Allied and Associated Powers, whose representatives agreed that a mandate for its administration should be conferred upon His Britannic Majesty. The mandate was confirmed by the Council of the League of Nations on 17th December, 1920. On 2nd July, 1919, the British, Australian and New Zealand Governments agreed that the administration (which, since 1915, had been in charge of an official appointed by the British Colonial Office) should be vested in an Administrator, who took up duty in June, 1921. The agreement between the three Governments was approved by the Commonwealth Parliament in the Nauru Island Agreement Act 1919 and is shown in the Schedule to that Act. A supplementary agreement concerning Nauru was drafted in May, 1923, and ratified by the Commonwealth Parliament by the Nauru Island Agreement Act 1932.

On 25th August, 1942, nine months after the outbreak of the war in the Pacific, the island was occupied by Japanese forces and communications with Nauru ceased. It was re-occupied by a joint Australian Naval and Military Force on 14th September, 1945, and civil administration was re-established on 1st November, 1945.

3. **Trusteeship Agreement.**—On 1st November, 1947, the General Assembly of the United Nations approved a Trusteeship Agreement for the Territory of Nauru submitted by the Governments of Australia, New Zealand, and the United Kingdom in substitution for the terms of the mandate under which the Territory had been administered. This Agreement designates the Governments of Australia, New Zealand, and the United Kingdom as the Joint Administering Authority, with the Government of Australia continuing, on behalf of the Administering Authority, to exercise full powers of legislation, administration and jurisdiction in and over the Territory. The terms of the Agreement were given in Official Year Book No. 39, pages 370–1.

4. **Administration.**—The administration of the island is vested in an Administrator, who is obliged to conform to instructions issued by the Government which appointed him. The Administrator is advised on matters affecting the Nauruan community by the Nauru Local Council, consisting of nine Nauruan Councillors elected by adult suffrage. This Council also carries out works and supplies certain services for the Nauruan community, and acts as the Board of Directors of the Nauru Co-operative Society. Until the Government of Australia ceases to exercise full powers of legislation, administration, and jurisdiction in and over the Territory on behalf of the Administering Authority in pursuance of Article 4 of the Trusteeship Agreement, all ordinances made by the Administrator are subject to confirmation or disallowance by the Governor-General of Australia acting on the advice of the Federal Executive Council. All administration expenses are met from local revenue and phosphate royalties. Native industries such as canoe-building, fishing, mat-making, etc., are encouraged by the provision of prizes at annual competitions. An agency of the Commonwealth Savings Bank has been established. There is a co-operative store managed to a large extent by Nauruans. The store books, however, are audited by Government officers. Natives are not allowed to carry or be in possession of firearms, and the use by them of intoxicating liquors and deleterious drugs is prohibited.

5. **Population.**—The Nauruan component of the population numbered about 1,100 in 1921, but had grown to more than 1,800 before the Japanese invasion in August, 1942. In 1946, it numbered less than 1,400, but by 30th June, 1960, had risen to 2,328. Chinese have, for many years, formed a considerable part of the population of Nauru, but their numbers are not as great as formerly, and at 30th June, 1960, they amounted to 715. The number of other Pacific Islanders in the early 1920's was almost 300, but they subsequently decreased to rise again, and at 30th June, 1960, there were 1,052. The European population after 1921 fluctuated, but with a generally upward trend, between one and two hundred, and in recent years has gradually increased, reaching 373 in 1957. The total population of Nauru at 30th June, 1961, was 3,019 males, 1,594 females, 4,613 persons.

6. **Health.**—Cases of the usual diseases known in the Pacific occur but the health of all sections of the population is generally satisfactory. An area has been set apart for the segregation of sufferers from Hansen's disease, and the latest methods of treatment are applied. The total number of persons receiving treatment at 30th June, 1960, was 48, of whom, however, only four were in segregation at the Hansenside colony. Three hospitals are maintained on the island, one by the Administration for Nauruans, and two by the British Phosphate Commissioners, one for European and one for non-European employees. The Administration also conducts eleven maternity and child health centres. A regular anti-mosquito campaign is conducted. Steps have been taken by the authorities to improve the water supply and to provide efficient sanitation generally. Every Nauruan is required to undergo medical examination at intervals of three months.

7. **Education.**—The Administration assumed full responsibility for education on 1st October, 1923. Prior to that date, the education of native children was undertaken by the Missions, which were subsidized by the Administration. There are three primary schools, one each for European, Nauruan and Gilbertese students, one Nauruan secondary school and one mission school providing primary and secondary classes. Primary education only is provided for European children, allowances being provided to those who proceed to secondary schools in Australia. At 30th June, 1960, 658 Nauruans, 86 other Pacific Islanders, 19 Chinese and 62 Europeans were enrolled in the primary schools, and 137 at the two secondary schools.

The curriculum is based generally on that used in Australian schools, and the teaching is generally in English. Education is compulsory for Nauruan children from six to sixteen years of age. At 30th June, 1960, 32 Nauruans were studying in Australia. Of these, 17

were at secondary schools, and the remainder were receiving vocational training. Nineteen held Administration scholarships, four were Administration Cadets, and the remaining nine were privately sponsored. In addition to these, there were three students at the Central Medical School, Suva, and one private student in New Zealand.

8. **Judiciary.**—The District Court is a court of record and consists of such magistrates as the Administrator appoints. Additionally, there is the Central Court which, as a superior court of record, consists of such judges or magistrates as are appointed and which, *inter alia*, may hear and determine appeals from judgments of the District Court. A Court of Appeal comprising a judge appointed by the Administrator has also been constituted with jurisdiction to hear and determine appeals from judgments of the Central Court.

9. **Religion.**—The London Missionary Society (Protestant) and the Sacred Heart Jesus Mission (Roman Catholic) operate in Nauru.

10. **Phosphate Deposits.**—(i) *General.* From 1906 to 1919, the deposits were worked by the Pacific Phosphate Company, which also worked the deposits on Ocean Island (about 165 miles east of Nauru and part of the Gilbert and Ellice Islands Colony administered by the Colonial Office). The quantity remaining on Nauru has been estimated at about 64 million tons, and the exports average 85 per cent. to 88 per cent. of tricalcium phosphate.

The interests of the Pacific Phosphate Company in the two islands (though not in other islands in the Pacific in which it had workings) were bought by the British, Australian and New Zealand Governments on 25th June, 1920, for £3,500,000, the purchase money being contributed in the proportions of 42, 42 and 16 per cent. respectively. The Agreement of 2nd July, 1919, provides for the working of the deposits by three British Phosphate Commissioners, one appointed by each Government, and the three countries are entitled to receive the output in the same proportions of 42, 42 and 16 per cent.

(ii) *Royalty on Phosphate.* Under an agreement between the British Phosphate Commissioners and the Nauruan landowners, a royalty of 1s. 6d. for each ton of phosphate exported has been payable since 1st July, 1953. As from 1st July, 1959, this rate was increased to 2s. 1d. a ton as follows:—

- (a) 7d. to the Nauru Royalty Trust Fund to be used for the benefit of Nauruans;
- (b) 1s. 4d. to the landowner, being an immediate payment of 1s. 1d. a ton, and 3d. a ton to be invested on his account;
- (c) 1s. to the Nauruan Community Long Term Investment Fund.

From 1st July, 1957, the lump sums payable to landowners from whom phosphate-bearing lands are leased were also increased to £60 an acre.

(iii) *Nauru and Ocean Island Phosphate Industry.* Exports of phosphate from Nauru and Ocean Island in 1939–40 amounted to 1,243,428 tons, of which Australia received 54 per cent. and New Zealand 32 per cent. Following the interruption to production by the war in the Pacific, this figure was not exceeded until 1949–50 when 1,285,998 tons were exported (76 per cent. to Australia, 24 per cent. to New Zealand). Figures for 1959–60 were:—1,545,151 tons exported (including Ocean Island 317,351 tons), 60 per cent. to Australia, 28 per cent. to New Zealand and 12 per cent. to the United Kingdom.

Receipts from the sale of phosphate in 1939–40 amounted to £1,041,418, and the f.o.b. cost, including interest on capital, sinking fund, etc., amounted to £1,037,208. In 1946–47, sales and costs each amounted to about £500,000, but they have since increased to more than £3,000,000. In 1959–60, receipts from sales, etc., amounted to £3,835,535, and costs, etc., to £3,824,056.

During the period of the Japanese occupation from August, 1942, to September, 1945, while waiting to resume activities at Nauru and Ocean Island, the Commissioners were engaged in meeting the phosphate requirements of Australia and New Zealand from other available sources.

The amount due by the British Phosphate Commissioners to the partner Governments for purchase-money and other capital sums was £3,666,457 on 30th June, 1921, and at 30th June, 1942, this had been reduced to £3,024,373. The partner Governments agreed to a suspension of interest and sinking fund payments from 1st January, 1942, while operations at Nauru and Ocean Island were curtailed. Modified payments were resumed in 1946–47, pending a review of the position.

The review was carried out in 1950, and as a result the revised capital indebtedness of the Commissioners to the partner Governments at 30th June, 1950, was determined at £3,881,711. Interest and sinking fund payments were resumed with effect from 1st July, 1950, on the basis of repayment of the revised capital indebtedness in 35 years. At 30th June, 1960, this indebtedness had been reduced to £3,248,950.

(iv) *Employees.* Apart from a limited number of Europeans, the employees are Chinese and Pacific Islanders engaged under one year contracts. Increasing numbers of Nauruans are being employed, mainly in trade capacities.

(v) *Christmas Island Phosphates.* The Australian Government is also interested in phosphate deposits on Christmas Island (*see* p. 158).

11. *Transport.*—There is no regular air service to Nauru, but when the need arises charter flights are made to the island.

There is relatively frequent communication by sea with the island. Most of the vessels are run or chartered by the British Phosphate Commissioners for the carriage of phosphate. Many of them also provide for the carriage of passengers and other cargo as required. The total calls by vessels were 134 in 1959–60.

12. *Trade.*—The Customs Tariff of Nauru provides for the free admission of all goods other than cigars, cigarettes, tobacco, spirits, wines, beer, cider and perry. Articles imported by the Administration for its own use and spirits for scientific purposes are exempt. The tariff rates apply to all countries alike. In 1959–60, imports were valued at £1,342,201 and exports, 1,227,800 tons of phosphate, at £2,823,940. Of the total imports in 1959–60, Australia supplied 81 per cent. valued at £1,090,318; the balance came mainly from the United Kingdom, Hong Kong, New Zealand and the United States.

In 1959–60, 705,200 tons of phosphate were exported to Australia, 339,650 tons to New Zealand and 182,950 tons to the United Kingdom.

13. *Revenue and Expenditure.*—The revenue of the Administration has risen from £33,084 in 1939 to £438,246 in 1959–60, and expenditure from £29,391 to £408,906.

Of the revenue for the year ended 30th June, 1960, payments by the British Phosphate Commissioners amounted to £412,052, post office and radio receipts, £9,370, and import duties, £3,586. Main items of expenditure were administration, £101,470, miscellaneous services (health, education, etc.), £145,702 and capital works and services, £89,528.

#### TERRITORY OF HEARD ISLAND AND McDONALD ISLANDS.

These islands, about 2,500 miles south-west of Fremantle, were transferred from the United Kingdom to Australia as from 26th December, 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the Heard and McDonald Islands Act 1953.

In December, 1947, an Australian scientific station was established on Heard Island and meteorological investigations were conducted until the station was closed in March, 1955, following the establishment of Mawson station on the Antarctic mainland. Heard Island is about 27 miles long and 13 miles wide. The McDonald Islands are 26 miles to the west of Heard Island. They are small, rocky and precipitous.

#### AUSTRALIAN ANTARCTIC TERRITORY.

An Imperial Order in Council of 7th February, 1933, placed under Australian authority all the islands and territories other than Adelie Land situated south of 60° S. lat. and lying between 160° E. long. and 45° E. long. The Order came into force with a Proclamation issued by the Governor-General on 24th August, 1936, after the passage of the Australian Antarctic Territory Acceptance Act 1933. The boundaries of Adelie Land were definitively fixed by a French Decree of 1st April, 1938, as the islands and territories south of 60° S. lat. lying between 136° E. long. and 142° E. long. The Australian Antarctic Territory Act 1954 declared that the laws in force in the Australian Capital Territory are, so far as they are applicable and are not inconsistent with any ordinance made under the Act, in force in the Australian Antarctic Territory.

On 13th February, 1954, the Australian National Antarctic Research Expeditions (A.N.A.R.E.) established a base on MacRobertson Land at latitude  $67^{\circ} 36' S.$  and longitude  $62^{\circ} 53' E.$  The base was named Mawson in honour of the late Sir Douglas Mawson and was the first permanent Australian station to be set up on the Antarctic continent. Meteorological and other scientific research is conducted at Mawson, which is the centre for coastal and inland survey expeditions.

A second Australian scientific research station was established on the coast of Princess Elizabeth Land on 13th January, 1957, at latitude  $68^{\circ} 34' 36'' S.$  and longitude  $77^{\circ} 58' 36'' E.$  The station was named Davis in honour of Captain John King Davis of Melbourne, who commanded a number of famous Antarctic ships. In February, 1959, the Australian Government accepted from the United States Government custody of Wilkes Station, which was established by the United States on 16th January, 1957, on Vincennes Bay, at latitude  $66^{\circ} 15' S.$  and longitude  $110^{\circ} 33' E.$  The station was named in honour of Lieut. Charles Wilkes, who commanded the 1838–40 United States expedition to the area. Scientists from both countries participate in the programme of research at Wilkes. A.N.A.R.E. have also operated a station, since the 1947–48 Antarctic season, at Macquarie Island, approximately 850 miles south-east of Hobart. Macquarie Island is a dependency of the State of Tasmania.

On 1st December, 1959, Australia signed the Antarctic Treaty with Argentina, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, U.S.S.R., United Kingdom and the United States of America. The Treaty reserves the Antarctic area south of  $60^{\circ} S.$  latitude for peaceful purposes, provides for international co-operation in scientific investigation and research, and freezes, for the duration of the Treaty, the *status quo* with regard to territorial sovereignty, rights and claims. The Treaty entered into force on 23rd June, 1961.

#### TERRITORY OF COCOS (KEELING) ISLANDS.

1. **General.**—The Cocos (Keeling) Islands, two separate atolls comprising some 27 small coral islands with a total area of about five square miles, are situated in the Indian Ocean in latitude  $12^{\circ} 5' S.$  and longitude  $96^{\circ} 53' E.$  They lie some 1,720 miles north-west of Perth and 2,290 miles almost due west of Darwin, while Johannesburg is some 3,800 miles further distant to the south-west, and Colombo is 1,400 miles to the north-west of the group.

The main islands of the Territory are West Island, the largest, about 6 miles from north to south, on which is the aerodrome and most of the European community; Home Island, the head-quarters of the Clunies-Ross Estate; Direction Island, on which is situated the Cable and Wireless Station and the Department of Civil Aviation's Marine Base; and Horsburgh Island. North Keeling Island, which forms part of the Territory, lies about 15 miles to the north of the group and has no inhabitants.

Main settlements are on West Island, Home Island and Direction Island. The group of atolls is low-lying, flat and thickly covered by coconut palms, and surrounds a lagoon which has a harbour in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about three-quarters of the year. However, the winds vary at times and meteorological reports from the Territory are particularly valuable to those engaged in forecasting for the eastern Indian Ocean. The temperature varies between  $70^{\circ}$  and  $89^{\circ} F.,$  and its average rainfall is 80 inches. There are occasional violent storms. The worst cyclone in their recorded history struck the islands in 1909, when about 400,000 coconut palms were uprooted or decapitated and the accompanying tidal wave left only five buildings standing.

2. **History.**—The islands were discovered in 1609 by Captain William Keeling of the East India Company. They were uninhabited and remained so until 1826 when the first settlement was established on the main atoll by an Englishman, Alexander Hare, who quitted the islands in about 1831. In the meantime, a second settlement was formed on the main atoll by John Clunies-Ross, a Scottish seaman and adventurer, who landed with several boat-loads of Malay seamen. In 1857, the islands were annexed to the Crown and formally declared part of the British Dominions, and in 1878 responsibility for their supervision was transferred from the Colonial Office to the Government of Ceylon, and

subsequently, in 1882, to the Government of the Straits Settlements. By indenture in 1886, Queen Victoria granted the land comprised in the islands to John Clunies-Ross in perpetuity, and until 1946, the patriarchal rule of the head of the Clunies-Ross family was recognized. The head of the family had semi-official status as resident magistrate and representative of the Government. However, in 1946, when the islands became a dependency of the Colony of Singapore, a Resident Administrator, responsible to the Governor of Singapore, was appointed.

Other items of significance in the islands' history are:—1901—a small cable relay station was established at Direction Island; 1903—the islands were incorporated in the Settlement of Singapore; 1914—the German cruiser *Emden* raided Direction Island but was destroyed by H.M.A.S. *Sydney*; 1944—the Islands were under military administration with allied troops stationed there (a military Administrator was appointed during the minority of the Clunies-Ross heir, who came of age in 1949); 1945—a R.A.F. air-strip was constructed on West Island; 1946—civil administration was re-established.

3. **Transfer to the Commonwealth of Australia.**—On 23rd November, 1955, the Cocos Islands ceased to form part of the Colony of Singapore and were placed under the authority of the Commonwealth of Australia. The transfer was effected by an Order in Council made by Her Majesty Queen Elizabeth the Second under the Imperial Act entitled the Cocos Islands Act 1955 and by the Cocos (Keeling) Islands Act 1955 of the Commonwealth whereby the islands were declared to be accepted by the Commonwealth as a Territory under the authority of the Commonwealth to be known as the Territory of Cocos (Keeling) Islands.

4. **Administration.**—Responsibility for the administration of the Territory rests with the Minister for Territories. The first Official Representative was appointed on 23rd November, 1955, to take charge of the local administration of the Territory. Under the Official Representative Ordinance 1955 of the Territory, the Official Representative is given such powers and functions in relation to the Territory as are delegated to him by the Minister under the Cocos (Keeling) Islands Act 1955–1958 or are otherwise conferred on him under that Act or by or under any other law of the Territory. The laws of the Colony of Singapore which were in force in the islands immediately before the date of the transfer were, with certain exceptions, continued in force by the Cocos (Keeling) Islands Act 1955–1958. They may be amended or repealed by Ordinances made under the provisions of that Act which empower the Governor-General to make Ordinances for the peace, order and good government of the Territory.

5. **Population.**—The population of the Territory at 30th June, 1961, was 606, comprising 180 Europeans and 426 others, all except 4 being Malay race.

6. **Transport.**—There is an international airport at West Island under the control of the Department of Civil Aviation. This is a re-fuelling point for aircraft of Qantas Empire Airways Ltd., which operates a weekly service between Australia and South Africa, and South African Airways which operates a fortnightly service on the same route. Although there is no regular shipping service, vessels from Australia and Singapore call at intervals.

## TERRITORY OF CHRISTMAS ISLAND.

1. **General.**—Christmas Island is an isolated bank, situated in the Indian Ocean in latitude 10° 25' 19" S., longitude 105° 42' 57" E. It is approximately 220 miles south from Java Head, at the south entrance to Sunda Strait, 810 miles from Singapore and 1,625 miles from Fremantle. Christmas Island covers an area of about 55 square miles. It consists of a central plateau at about 600 to 800 feet, with several prominent rises up to 1,170 feet. The plateau descends to the sea in a series of steep slopes alternating with terraces, the last dropping in a cliff of 200 to 300 feet to a shore terrace, terminating in a sea cliff of 10 to 150 feet, which is continuous round the island except in a few places, the chief of which is Flying Fish Cove where the shore is formed of coral shingles.

The principal settlement is at Flying Fish Cove which is also the only known anchorage. Vessels are moored close inshore opposite two piers with extension conveyors by which means direct loading to ships is carried out. The main installations of the phosphate industry are located here together with the European married quarters and the Chinese and



Malay settlements. There is a secondary settlement with maintenance shops, etc., at South Point, and several other small settlements or camps across the central plateau and at the small pumping plants at springs and wells.

The climate is healthy and pleasant, the prevailing winds being from the south-east to east-south-east from May to December, but from then to April (the wet season) they occasionally shift round from north to north-east. The average yearly rainfall is about 80 inches with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which maintain an adequate supply of fresh water for the small population and the installations. The mean average temperature is about 80° and does not vary greatly throughout the year.

**2. History and Administration.**—The first mention of Christmas Island appears in a map published in Holland in 1666, in which it is called *Moni Island*, although it is believed that Captain William Mynors of the East India Company had sighted the island on Christmas Day in 1643 and had named it accordingly.

In June, 1888, it was annexed by Captain H. W. May of H.M.S. *Imperieuse* as part of the British Dominions and placed under the supervision of the Straits Settlements Government for administrative purposes. Following upon this, a small settlement was established at Flying Fish Cove by Mr. G. Clunies-Ross of Cocos (Keeling) Islands. In February, 1891, Sir John Murray and Mr. Clunies-Ross were granted a 99 year lease of the Island. This lease was transferred to the Christmas Island Phosphate Co. Ltd. in 1897, following the discovery of large deposits of phosphate of lime on the Island. In 1900, Christmas Island was incorporated for administrative purposes with the Settlement of Singapore and the laws of Singapore were generally applied to the Island.

The Straits Settlements (Repeal) Act 1946, passed by the United Kingdom, repealed the Act establishing the whole of the Straits Settlements as a single colony. Subsequently the Singapore Colony Order in Council, in 1946, decreed that the Island of Singapore and its dependencies, the Cocos or Keeling Islands and Christmas Island should be governed and administered as a separate Colony and called the Colony of Singapore. From 1st January, 1958, pending transfer to Australia, Christmas Island was administered by the United Kingdom as a separate Crown Colony. The Island was transferred to the Commonwealth of Australia on 1st October, 1958, by the Christmas Island Act 1958, and is now administered as a Territory under the authority of the Commonwealth. Responsibility for the administration and government of the Territory rests with the Minister for Territories, and day to day affairs on the Island are administered by an Official Representative under delegation from the Minister. The laws which were in force in the Island at 30th September, 1958, were continued as the laws of the Territory after its transfer to Australia on 1st October.

**3. Industry and Commerce.**—The only commercial activity carried out is the mining of phosphate. The British Phosphate Commissioners act as managing agents for the Christmas Island Phosphate Commission.

There are three principal phosphate deposits on the Island, the largest being that now being worked at South Point. This field is situated on the 600' to 800' level and is approximately 11 miles from the drying and shipping plant at Flying Fish Cove. The present output is about 400,000 tons annually. In addition, about 30,000 tons of phosphate dust are supplied annually to Malaya.

There is little prospect of any economic developments outside the phosphate industry.

**4. Population.**—The population of Christmas Island at 30th June, 1961, was 3,099 (1,963 males and 1,136 females); including 204 Europeans, 2,088 Chinese, 619 of Malay race, and 88 of Javanese.

**5. Communications.**—Transport to and from the island is maintained by vessels operated under charter by the Christmas Island Phosphate Commission. One vessel makes regular trips between Christmas Island and Singapore, and other vessels carry phosphate to Fremantle and other Australian ports.

## CHAPTER VI.

### MANUFACTURING INDUSTRY.

NOTE.—Further detail on the subjects dealt with in this chapter is contained in the annual printed bulletin, *Secondary Industries*. Information is also published, as soon as the data can be prepared, in a series of 34 annual mimeograph bulletins, *Manufacturing Industries*, each relating to a particular industry or group of industries. Details of the industries covered are contained in § 2., Statistical Publications of Australia, of Chapter XXXI.—Statistical Organization and Sources of Information. Advance annual information is published in mimeograph form in *A Summary of Principal Statistics of Factories* and in *Principal Factory Products*. Current information on factory products is available in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, and the *Monthly Bulletin of Production Statistics*. A preliminary annual statement (*Factory Statistics*) and a monthly statement (*Production Statistics*) are also issued.

In addition to the above-mentioned publications there is also a series of 45 monthly *Production Summaries*, each relating to the production of a particular commodity or group of commodities (see reference above).

#### § 1. General.

1. **Introduction.**—A complete statistical account of the growth of the manufacturing industry in Australia cannot be given, as the necessary statistics were not collected by the several States on a definite and uniform basis prior to 1906. A standard classification of manufacturing industries was formulated at a conference of Australian statisticians in 1902 and adopted by all States in 1906, and figures on this basis were prepared for 1907 and subsequent years.

Prior to the federation of the Australian States in 1901, the manufacturing industry in Australia was engaged primarily in the production of goods for local use, mainly food commodities, furniture, bricks, clothing made from imported materials, printing, the repair rather than the manufacture of machinery, and the preliminary treatment of primary products, such as wool-scouring and sawmilling.

After federation, steady expansion of the manufacturing industry resulted from the removal of interstate trade barriers and the operation of a uniform protective tariff. This expansion was quickened as a result of the demands created by the 1914–18 War, the curtailment of imports, and the rapid growth of spending power within the community. New and more advanced development took place, iron and steel works and many related and subsidiary industries were established, extensive manufacture of machinery was begun, and a wide range of high-grade products—textiles, metal manufactures, electrical goods, etc.—was added to the list of commodities made in Australia. A factor in the post-war growth of manufacturing industry in Australia was the creation in 1921 of the Tariff Board (see Chapter XIII.—Trade). Besides encouraging primary industries, the Tariff Board assisted, by means of protective tariffs, new manufacturing industries until they were soundly established, and local manufacturers who had been adversely affected by oversea competition.

This expansion was checked by the world-wide economic depression of 1929–33, but in 1933 returning general prosperity and the opportunities opened to local manufacturers by import restrictions, together with depreciation of Australian currency, gave renewed stimulus to manufacturing enterprise. As economic conditions improved, the tariff, revenue duties, and primeage were reduced, but without materially prejudicing the progress of local manufactures.

When war broke out in September, 1939, Australia became a major source of supply for British countries east of Suez, and in meeting their demands, as well as those arising locally because of interruption of oversea imports, existing manufacturing industries expanded, and new enterprises were developed rapidly for the production of all classes of munitions, aircraft, ships, many new kinds of machinery and metal manufactures, scientific equipment, textiles, chemicals, etc. The outbreak of war with Japan, the basing of Allied armed forces in Australia, and Australian responsibilities for supplies in the South-west Pacific Area, gave added impetus to these developments, and manufacturing in Australia outstripped all previous levels.

The cessation of war production and the transition of industry to a peace-time basis temporarily retarded progress, but from 1945-46 onward there was renewed expansion of the manufacturing industries to which an inflow of capital from overseas contributed.

**2. Decentralization of Manufacturing Industries.**—Following upon a report by the Secondary Industries Commission, the Commonwealth Government called a conference of Commonwealth and State Ministers in August, 1945, to formulate a national policy for the decentralization of secondary industries. It was agreed that the State Governments should seek to promote decentralization along the lines appropriate to each, providing necessary services, assistance and concessions to the full extent of State resources. The Commonwealth undertook to collaborate in all matters of Commonwealth industrial policy affecting the development and location of industry, to investigate, in association with the States, the prospects of developing secondary industries in selected areas, to advise the States of developments desirable for defence purposes, and to provide financial assistance for projects of national importance where the cost would be great relative to the State's resources.

The Commonwealth assisted decentralization by allocating to private industry munitions and other defence buildings in decentralized areas and accommodating migrants in provincial centres with prospects of development. Oversea firms contemplating establishment in Australia are encouraged to select locations in rural areas or the less industrialized States.

**3. Customs and Excise Tariffs and Bounties on Manufactures.**—Particulars of Australian customs and excise tariffs, and the constitution and functions of the Australian Tariff Board in relation to matters affecting the industrial development of Australia, are given in Chapter XIII.—Trade.

Bounties are paid by the Commonwealth Government to encourage local manufacture of certain products. The statutory provisions usually fix a term of operation of the bounty, provide for payment at a rate varying according to changes in the corresponding customs duty, specify the annual maximum amount of bounty payable and require the bounty to be withheld or reduced if a manufacturer's net profit in production of the commodity exceeds a certain rate, or if rates of wages and conditions of employment in production of the commodity do not conform to prescribed standards.

**4. Scientific Research and Standardization.**—(i) *The Commonwealth Scientific and Industrial Research Organization.* The function of this Organization is to initiate and conduct research in connexion with industries in Australia, to train research workers, to establish industrial research studentships and fellowships, to make grants in aid of pure scientific research, to establish industrial research associations in various industries, to provide for testing and standardization of scientific equipment, to conduct an information service relating to scientific and industrial matters, and to act for Australia in liaison with other countries in matters of scientific research. For further information concerning the work of the Organization, see Chapter XV. of this Year Book.

(ii) *The Standards Association of Australia.* The Standards Association of Australia is the national standardizing organization of Australia, and issues Australian standard specifications for materials and codes of practice.

The Association was established in July, 1929, by the amalgamation of the Australian Commonwealth Engineering Standards Association and the Australian Commonwealth Association of Simplified Practice. It is an independent body in close touch with modern industrial requirements and has the full recognition and support of the Commonwealth and State Governments and industry. It was incorporated by Royal Charter in 1950.

The sole executive authority of the Association is vested in the Council, on which industry is fully represented, together with official representatives of the Commonwealth and State Governments and their technical departments, and of scientific, professional and commercial organizations. Voluntary assistance is rendered in the drafting of specifications and codes by several thousand individuals who are experts in their particular fields, and are organized into some hundreds of committees. These committees are grouped under broad industry headings including civil engineering and building construction, mechanical engineering, electrical engineering, chemicals, timber, transportation, aircraft materials, ferrous and non-ferrous metallurgy, plastics, textiles, mining, ceramics, medical and dental materials, household and domestic economy, agricultural and dairying, safety, packaging, and water supply and sewerage.

These committees are composed of nominated representatives of manufacturing, distributing and purchasing organizations, and of scientific and other expert authorities in the particular field of the project being dealt with. The operations of these committees are co-ordinated and supervised by committees broadly representative of the whole industry within which the respective projects are included.

The specifications of the Association provide a suitable standard of performance, quality, and dimension, and an equitable basis for tendering. They help to eliminate redundant qualities and sizes. They enable purchasers to obtain their requirements with greater assurance of satisfaction, with more rapid delivery and without the necessity of drafting individual specifications.

The underlying principles covering the preparation of the specifications and codes are that they shall be in accordance with the needs of industry; that the common interests of producer and consumer be maintained; that periodical revision should keep the work abreast with progress; and that standardization be arrived at by general consent without coercion.

Organizations, companies, firms and individuals interested in the work of the Association are eligible for subscription membership. Members are entitled to free copies of the publications of the Association and to the use of the library and its Special Information Service. Bibliographical research is undertaken for committees, members of the Association, and industry in general. Many hundreds of inquiries are answered each year.

The Association has international affiliations, and the standards of all British and foreign countries are filed in the library and are accessible to members. It is a member, representing Australia, of the International Organization for Standardization (ISO). The Association also administers the Australian National Committee of the International Electrotechnical Commission.

The Association is also the representative of the British Standards Institution, and all British standards may be purchased from headquarters and branch offices in the various States.

The headquarters of the Association are at Science House, Gloucester Street, Sydney, and branches of the Association are situated at Temple Court, 422 Collins Street, Melbourne; School of Arts Building, 166 Ann Street, Brisbane; 11 Bagot Street, North Adelaide; 10 Hooper Street, West Perth; c/o Engineering School, University of Tasmania, Sandy Bay; and Howard Smith Chambers, Watt Street, Newcastle.

(iii) *The National Association of Testing Authorities.* The National Association of Testing Authorities organizes national testing facilities throughout Australia to serve private and governmental needs. Laboratories may register voluntarily in respect of tests within their competence and the Association ensures the maintenance of their standards of testing. It is expected that there will be general acceptance of certificates of tests issued in the name of the Association by the registered laboratories.

(iv) *Industrial Design Council of Australia.* The Industrial Design Council of Australia was established in June, 1958, for the purpose of encouraging better design in Australian-made goods and fostering an appreciation of good design throughout the community. The decision to set up the Council arose from a realization on the part of representatives of industry and government, designers and educationists, that there was a pressing need in Australia for an independent and authoritative body to promote better design in the interests of trade development.

The Council has a membership fully representative of industry, commerce and government, together with designers and educationists. Initial finance has been raised by donations from industry and commerce, and a grant of £10,000 has been made by the Commonwealth Government for establishment purposes.

As part of its programme of assisting industry, the Council has conducted several lecture series in Sydney and Melbourne, dealing with various aspects of product design. Design counselling is available to manufacturing companies on request, and manufacturers seeking the services of designers are put in touch with qualified people.

Other projects include the setting-up of a Design Index, providing a photographic catalogue of well-designed Australian goods, for reference by manufacturers, retailers, architects, designers and the public; a Register of Designers, providing a comprehensive reference to Australian designers to assist those seeking their services; Displays and exhibitions of well-designed goods, both local and overseas; Design Training—the council is aware of the urgent need to raise the standard of training in industrial design and will co-operate with education authorities to this end; Information Services—it is intended to establish information offices in both Sydney and Melbourne, and later in other States, to provide information on all matters concerned with design.

The offices of the Council are in ICI House, 1 Nicholson Street, Melbourne, C.2.

5. *Definitions in Factory Statistics.*—The statistics relating to factories have been compiled from tabulations made by the Deputy Commonwealth Statisticians in the several States, from returns supplied to them annually by manufacturers in accordance with the statistical acts of the States and the Commonwealth. A return must be supplied in respect

of every factory, which is defined for this purpose as an establishment where four or more persons are employed or where power (other than manual) is used in any manufacturing process. This definition includes factories in educational and charitable institutions, reformatories, and other public institutions (except penitentiaries), but does not cover smallgoods makers, laundries, photography studios, florists and seedsmen, or most abattoirs. It should be noted that details relating to small establishments not classified for statistical purposes as factories are not included in the figures contained in this chapter.

If a manufacturing business is conducted in conjunction with any other activity, particulars relating to the manufacturing section only are included in the statistics. Where two or more industries are conducted in the same establishment, a separate return is obtained for each industry if practicable.

Manufacturers are requested to state in their returns particulars as to the number, age, wages, etc., of their employees, the value of premises and equipment, the horse-power of machinery, the value, and in most cases the quantities, of raw materials and fuel used, and quantities and values of principal materials and articles produced. The returns obtained from manufacturers are not intended to show a complete record of the income and expenditure of factories nor to show the profits or losses of factories collectively or individually.

The *average number of persons* employed is quoted on two different bases, the average during the period of operation and the average over the whole year. Of these, the former is simply the aggregate of the average number of persons employed in each factory during its period of operation (whether the whole or only part of the year). This average is used only in respect of details relating to classification according to the number of persons employed. The latter, which is used in all other instances, is calculated by reducing the average number working in the factories (irrespective of period of operation) to the equivalent number working for a full year.

*Working proprietors* are included in all employment figures other than those relating to monthly employment and age dissections, but salaries and wages paid in all cases exclude drawings by working proprietors.

The *value of factory output* is the value of the goods manufactured or their value after passing through the particular process of manufacture, and includes the amount received for repair work, work done on commission and receipts for other factory work. The basis of valuation of the output is the selling value of the goods at the factory, exclusive of all delivery costs and charges and excise duties, but inclusive of bounty and subsidy payments to the manufacturer of the finished article.

The *value of production* is the value added to raw materials by the process of manufacture. It is calculated by deducting from the value of factory output the value (at the factory) of the materials used, containers and packing, power, fuel and light used, tools replaced, and materials used in repairs to plant (but not depreciation charges).

In the process of manufacture, many goods are treated in several industries, the output of one becoming the raw materials of another, so that such commodities are counted more than once in the aggregate value of output and of raw materials. Examples are raw sugar passing from the mills to the refinery, metals from the smelters which become raw materials in establishments concerned in the production of metal goods, and timber from the sawmills used in furniture factories and in joinery. On the other hand, the aggregate value of production is assessed without duplication, the value added by each industry being taken into account once only. For this reason, the value of production, and not the value of the output, is used as a measure of activity in the manufacturing industries as a whole.

In the special case of government factories and workshops, the value of output is, in most cases, estimated by adding 10 per cent. to the value of materials and fuel used and other factory costs, including salaries and wages paid.

Statistics relating to factory activity in the Australian Capital Territory and Northern Territory are not included in the figures contained in this chapter.

**6. Classification of Factories.**—In the compilation of statistical data relating to factories in Australia, a standard classification of manufacturing industries, formulated at a conference of Australian statisticians in 1902 and revised from time to time, was used until the year 1929–30. A new classification was introduced in 1930–31, and this in turn was revised and extended (principally in respect of the placement and composition of sub-classes) in accordance with decisions of the 1945 Conference of Statisticians.

Owing to limitations of space, details published in general tables in this chapter are confined either to the sixteen classes of industry or to total factory activity. Particulars of certain of the sub-classes shown below are published in the latter portion of this chapter, and full details for all sub-classes may be found in the bulletin *Secondary Industries*, published annually.

The classes and sub-classes in the current classification of factories are as follows:—

### CLASSIFICATION OF FACTORIES.

#### CLASS I.—TREATMENT OF NON-METALLIFEROUS MINE AND QUARRY PRODUCTS.

Coke Works.  
Briquetting and Pulverized Coal.  
Carbide.  
Lime, Plaster of Paris, Asphalt.  
Fibrous Plaster and Products.  
Marble, Slate, etc.  
Cement, Portland.  
Asbestos Cement Sheets and Mouldings.  
Other Cement Goods.  
Other.

#### CLASS II.—BRICKS, POTTERY, GLASS, ETC.

Bricks and Tiles.  
Earthenware, China, Porcelain and Terracotta.  
Glass (other than Bottles).  
Glass Bottles.  
Other.

#### CLASS III.—CHEMICALS, DYES, EXPLOSIVES, PAINTS, OILS, GREASE.

Industrial and Heavy Chemicals and Acids.  
Pharmaceutical and Toilet Preparations.  
Explosives (including Fireworks).  
White Lead, Paints and Varnish.  
Oils, Vegetable.  
Oils, Mineral.  
Oils, Animal.  
Boiling-down, Tallow-refining.  
Soap and Candles.  
Chemical Fertilizers.  
Inks, Polishes, etc.  
Matches.  
Other.

#### CLASS IV.—INDUSTRIAL METALS, MACHINES, CONVEYANCES.

Smelting, Converting, Refining, Rolling of  
Iron and Steel.  
Foundries (Ferrous).  
Plant, Equipment and Machinery, etc.  
Other Engineering.  
Extracting and Refining of other Metals; Alloys.  
Electrical Machinery, Cables and Apparatus.  
Construction and Repair of Vehicles (10 groups).  
Ship and Boat Building and Repairing, Marine  
Engineering (Government and Other).  
Cutlery and Small Hand Tools.  
Agricultural Machines and Implements.  
Non-Ferrous Metals—  
Rolling and Extrusion.  
Founding, Casting, etc.  
Iron and Steel Sheets.  
Sheet Metal Working, Pressing, and Stamping.  
Pipes, Tubes and Fittings—Ferrous.  
Wire and Wire Working (including Nails).  
Stoves, Ovens and Ranges.  
Gas Fittings and Meters.  
Lead Mills.  
Sewing Machines.

#### CLASS IV.—INDUSTRIAL METALS, MACHINES, CONVEYANCES—continued.

Arms, Ammunition (excluding Explosives).  
Wireless and Amplifying Apparatus.  
Other Metal Works.

#### CLASS V.—PRECIOUS METALS, JEWELLERY, PLATE.

Jewellery.  
Watches and Clocks (including Repairs).  
Electroplating (Gold, Silver, Chromium, etc.).

#### CLASS VI.—TEXTILES AND TEXTILE GOODS (NOT DRESS).

Cotton Ginning.  
Cotton Spinning and Weaving.  
Wool—Carding, Spinning, Weaving.  
Hosiery and Other Knitted Goods.  
Silk, Natural.  
Rayon, Nylon and Other Synthetic Fibres.  
Flax Mills.  
Rope and Cordage.  
Canvas Goods, Tents, Tarpaulins, etc.  
Bags and Sacks.  
Textile Dyeing, Printing and Finishing  
Other.

#### CLASS VII.—SKINS AND LEATHER (NOT CLOTHING OR FOOTWEAR).

Furriers and Fur-dressing.  
Woolscouring and Feltmongery.  
Tanning, Currying and Leather-dressing.  
Saddlery, Harness and Whips.  
Machine Belting (Leather or other).  
Bags, Trunks, etc.

#### CLASS VIII.—CLOTHING (EXCEPT KNITTED).

Tailoring and Ready-made Clothing.  
Waterproof and Oilskin Clothing.  
Dressmaking, Hemstitching.  
Millinery.  
Shirts, Collars, Underclothing.  
Foundation Garments.  
Handkerchiefs, Ties and Scarves.  
Hats and Caps.  
Gloves.  
Boots and Shoes (not Rubber).  
Boot and Shoe Repairing.  
Boot and Shoe Accessories.  
Umbrellas and Walking Sticks.  
Dyeworks and Cleaning, etc.  
Other.

#### CLASS IX.—FOOD, DRINK AND TOBACCO.

Flour-milling.  
Cereal Foods and Starch.  
Animal and Bird Foods.  
Chaffcutting and Corncrushing.  
Bakeries (including Cakes and Pastry).  
Biscuits.  
Sugar-mills.  
Sugar-refining.

**CLASS IX.—FOOD, DRINK AND TOBACCO—**  
*continued.*  
Confectionery (including Chocolate and Icing Sugar).  
Jam, Fruit and Vegetable Canning.  
Pickles, Sauces, Vinegar.  
Bacon Curing.  
Butter Factories.  
Cheese Factories.  
Condensed and Processed Milk Factories.  
Margarine.  
Meat and Fish Preserving.  
Condiments, Coffee, Spices.  
Ice and Refrigerating.  
Salt.  
Aerated Waters, Cordials, etc.  
Breweries.  
Distilleries.  
Wine-making.  
Cider and Perry.  
Malting.  
Bottling.  
Tobacco, Cigars, Cigarettes, Snuff.  
Dehydrated Fruit and Vegetables.  
Ice Cream.  
Sausage Casings.  
Arrowroot.  
Other.

**CLASS X.—SAWMILLS, JOINERY, BOXES, ETC.,**  
**WOOD TURNING AND CARVING.**

Sawmills.  
Plywood Mills (including Veneers).  
Bark Mills.  
Joinery.  
Cooperage.  
Boxes and Cases.  
Woodturning, Woodcarving, etc.  
Basketware and Wickerware (including Sea-grass and Bamboo Furniture).  
Perambulators (including Pushers and Strollers).  
Wall and Ceiling Boards (not Plaster or Cement).  
Other.

**CLASS XI.—FURNITURE OF WOOD, BEDDING, ETC.**  
Cabinet and Furniture Making (including Billiard Tables and Upholstery).  
Bedding and Mattresses (not Wire).  
Furnishing Drapery.

**CLASS XII.—FURNITURE OF WOOD, BEDDING, ETC.—**  
*continued.*

Picture Frames.  
Blinds.

**CLASS XIII.—PAPER, STATIONERY, PRINTING,**  
**BOOKBINDING, ETC.**

Newspapers and Periodicals.  
Printing—  
Government.  
General, including Bookbinding.  
Manufactured Stationery.  
Stereotyping, Electrotyping.  
Process and Photo Engraving.  
Cardboard Boxes, Cartons and Containers.  
Paper Bags.  
Paper-making.  
Pencils, Penholders, Chalks, Crayons.  
Other.

**CLASS XIII.—RUBBER.**

Rubber Goods (including Tyres Made).  
Tyre Retreading and Repairing.

**CLASS XIV.—MUSICAL INSTRUMENTS.**

Gramophones and Gramophone Records.  
Pianos, Piano-Players, Organs.  
Other.

**CLASS XV.—MISCELLANEOUS PRODUCTS.**

Linoleum, Leather-cloth, Oil-cloth, etc.  
Bone, Horn, Ivory and Shell.  
Plastic Moulding and Products.  
Brooms and Brushes.  
Optical Instruments and Appliances.  
Surgical and Other Scientific Instruments and Appliances.  
Photographic Material, (including Developing and Printing).  
Toys, Games and Sports Requisites.  
Artificial Flowers.  
Other.

**CLASS XVI.—HEAT, LIGHT, AND POWER.**

Electric Light and Power.  
Gas Works.

7. Factory Development since 1901—Australia.—The development of the manufacturing industries in Australia at intervals since 1901 is summarized in the following table.

**FACTORIES: AUSTRALIA.**

Year.	Factories.	Employment.(a)	Salaries and Wages Paid.(b)	Value of—				
				Materials and Fuel Used.	Output.	Pro-duction. (c)	Land and Build-ings.	Plant and Ma-chinery.
	No.	'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1901 .. ..	11,143	198	(d)	(d)	(d)	(d)	(d)	(d)
1911 .. ..	14,455	312	27,528	81,763	133,022	51,259	32,701	31,516
1920-21 ..	17,113	367	62,932	213,559	323,993	110,434	60,831	68,655
1930-31 ..	21,751	339	62,455	172,489	290,799	118,310	112,211	124,498
1940-41 ..	27,300	650	137,919	386,881	644,795	257,914	144,094	161,356
1950-51 ..	43,147	969	491,718	1,306,963	2,150,835	843,872	302,785	336,615
1955-56 ..	52,406	1,060	853,469	2,263,346	3,764,060	1,500,714	653,574	797,835
1956-57 ..	53,200	1,063	891,090	2,400,293	4,022,413	1,622,120	759,687	917,037
1957-58 ..	53,988	1,074	929,290	2,545,159	4,273,882	1,728,723	849,036	1,012,735
1958-59 ..	54,888	1,088	970,553	2,649,331	4,491,932	1,842,601	947,899	1,108,385
1959-60 ..	56,657	1,132	1,086,359	2,948,814	5,023,696	2,074,882	1,063,852	1,220,064

(a) 1901 and 1911—average employment during period of operation. Later years relate to average employment over whole year. Working proprietors are included in all years. (b) Excludes drawings by working proprietors. (c) Value added in process of manufacture (i.e., value of output less value of materials and fuel, etc., used). (d) Not available.

## § 2. Number of Factories.

1. Number of Factories in each State.—The following table shows the number of factories operating in each State in the years 1955–56 to 1959–60.

## FACTORIES: NUMBER.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 .. ..	21,602	16,053	5,378	3,908	3,871	1,594	52,406
1956-57 .. ..	21,838	16,232	5,537	4,063	3,935	1,595	53,200
1957-58 .. ..	22,270	16,426	5,528	4,168	3,941	1,655	53,988
1958-59 .. ..	22,684	16,527	5,651	4,235	4,125	1,666	54,888
1959-60 .. ..	23,274	16,979	5,758	4,684	4,279	1,683	56,657

2. Number of Factories in Industrial Classes.—(i) *Australia*. The next table shows the number of factories in Australia during 1955–56 to 1959–60 classified to the industrial classes agreed upon by the Conference of Statisticians in 1930. Details of some of the principal industries included in the table will be found in § 11.

## FACTORIES: NUMBER IN INDUSTRIAL CLASSES, AUSTRALIA.

Class of Industry.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
I. Treatment of Non-metalliferous Mine and Quarry Products .. ..	1,337	1,331	1,328	1,344	1,374
II. Bricks, Pottery, Glass, etc. .. ..	666	672	660	663	682
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. ..	1,139	1,162	1,184	1,218	1,248
IV. Industrial Metals, Machines, Conveyances .. ..	18,860	19,766	20,518	21,254	22,622
V. Precious Metals, Jewellery, Plate .. ..	782	824	808	818	823
VI. Textiles and Textile Goods (not Dress) .. ..	1,362	1,364	1,364	1,373	1,435
VII. Skins and Leather (not Clothing or Footwear) .. ..	789	785	761	729	727
VIII. Clothing (except Knitted) .. ..	7,390	7,312	7,266	7,195	7,267
IX. Food, Drink and Tobacco .. ..	7,468	7,315	7,455	7,580	7,449
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. ..	5,895	5,872	5,764	5,676	5,771
XI. Furniture of Wood, Bedding, etc. .. ..	2,203	2,199	2,200	2,184	2,211
XII. Paper, Stationery, Printing, Bookbinding, etc. .. ..	2,303	2,367	2,413	2,518	2,619
XIII. Rubber .. ..	513	536	565	606	620
XIV. Musical Instruments .. ..	84	88	88	86	87
XV. Miscellaneous Products .. ..	1,188	1,185	1,207	1,251	1,330
<i>Total, Classes I. to XV.</i> .. ..	<i>51,979</i>	<i>52,778</i>	<i>53,581</i>	<i>54,495</i>	<i>56,265</i>
XVI. Heat, Light and Power .. ..	427	422	407	393	392
<b>Grand Total</b> .. ..	<b>52,406</b>	<b>53,200</b>	<b>53,988</b>	<b>54,888</b>	<b>56,657</b>

Except for the two war years 1941–42 and 1942–43, when there were decreases, the number of factories increased each year from 1931–32 to 1959–60. In the latter year, the number of factories in Australia reached the record total of 56,657, or more than twice the number in 1938–39.



(ii) States, 1959-60. The following table shows the number of factories in each State classified according to the nature of the industry.

**FACTORIES: NUMBER IN INDUSTRIAL CLASSES, 1959-60.**

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products .. .. .	476	449	104	164	131	50	1,374
II. Bricks, Pottery, Glass, etc. ..	312	176	56	71	48	19	682
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. .. .	613	367	83	89	70	26	1,248
IV. Industrial Metals, Machines, Conveyances .. .. .	9,401	6,414	2,255	2,151	1,869	532	22,622
V. Precious Metals, Jewellery, Plate .. .. .	374	248	40	80	75	6	823
VI. Textiles and Textile Goods (not Dress) .. .. .	479	811	31	54	42	18	1,435
VII. Skins and Leather (not Clothing or Footwear) .. .. .	328	272	52	37	30	8	727
VIII. Clothing (except Knitted) ..	3,381	2,416	531	440	399	100	7,267
IX. Food, Drink and Tobacco ..	2,690	2,104	1,025	719	624	287	7,449
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. .. .	2,237	1,404	828	350	470	482	5,771
XI. Furniture of Wood, Bedding, etc. .. .. .	826	664	283	198	175	65	2,211
XII. Paper, Stationery, Printing, Bookbinding, etc. .. .. .	1,130	948	211	163	128	39	2,619
XIII. Rubber .. .. .	228	164	103	59	44	22	620
XIV. Musical Instruments .. .. .	36	25	7	11	8	..	87
XV. Miscellaneous Products .. .. .	664	446	72	61	72	15	1,330
Total Classes I. to XV. .. .. .	23,175	16,908	5,681	4,647	4,185	1,669	56,265
XVI. Heat, Light and Power .. .. .	99	71	77	37	94	14	392
Grand Total .. .. .	23,274	16,979	5,758	4,684	4,279	1,683	56,657

**§ 3. Classification of Factories according to Number of Persons Employed.**

1. General.—The size classification of factories is based on the average weekly number of persons employed during the period of operation (including working proprietors).

2. States, 1959-60.—The following table shows, for each State, the number of factories classified according to the average number of persons employed.

**FACTORIES: CLASSIFICATION ACCORDING TO SIZE OF FACTORY, 1959-60.**

Size of Factory (Persons employed).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
NUMBER OF FACTORIES.							
Under 4 .. .. .	9,751	6,030	2,001	1,837	2,136	758	22,513
4 .. .. .	1,966	1,403	569	408	376	125	4,847
5 to 10 .. .. .	5,368	4,003	1,569	1,140	913	413	13,406
11 to 20 .. .. .	2,741	2,401	729	592	384	178	7,025
21 to 50 .. .. .	2,042	1,816	522	415	309	123	5,227
51 to 100 .. .. .	725	659	177	154	89	47	1,851
101 to 200 .. .. .	362	370	108	72	48	21	981
201 to 300 .. .. .	113	126	44	30	11	4	328
301 to 400 .. .. .	60	42	14	9	7	5	137
401 to 500 .. .. .	31	36	11	5	2	1	86
501 to 750 .. .. .	53	58	8	8	1	1	129
751 to 1,000 .. .. .	21	15	3	2	2	3	46
Over 1,000 .. .. .	41	20	3	12	1	4	81
Total .. .. .	23,274	16,979	5,758	4,684	4,279	1,683	56,657

CLASSIFICATION OF FACTORIES ACCORDING TO NUMBER EMPLOYED. 163

The relative importance of large and small factories is illustrated by the following classification of the average number of persons employed according to the size of factory in which they worked.

FACTORIES: AVERAGE NUMBER OF PERSONS EMPLOYED ACCORDING TO SIZE OF FACTORY, 1959-60.

Size of Factory (Persons employed).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
AVERAGE NUMBER EMPLOYED DURING PERIOD WORKED.							
Under 4 .. ..	18,017	12,005	4,149	3,600	3,980	1,512	43,263
4 .. ..	7,864	5,612	2,276	1,632	1,504	500	19,388
5 to 10 .. ..	37,308	27,991	10,818	7,772	6,239	2,887	93,015
11 to 20 .. ..	39,960	35,216	10,518	8,610	5,565	2,627	102,496
21 to 50 .. ..	63,723	57,905	16,294	13,128	9,623	3,802	164,475
51 to 100 .. ..	50,552	45,866	12,357	10,926	6,069	3,155	128,925
101 to 200 .. ..	50,592	51,711	15,530	9,679	6,657	2,935	137,104
201 to 300 .. ..	27,638	30,735	10,596	7,479	2,548	1,039	80,035
301 to 400 .. ..	20,764	14,604	4,699	3,296	2,298	1,729	47,390
401 to 500 .. ..	13,833	16,470	5,076	2,167	843	407	38,796
501 to 750 .. ..	32,092	35,212	4,881	4,944	502	587	78,218
751 to 1,000 .. ..	18,267	12,798	2,703	1,777	1,589	2,270	39,404
Over 1,000 .. ..	90,174	37,134	5,626	24,523	2,858	6,570	166,885
<b>Total .. ..</b>	<b>470,784</b>	<b>383,259</b>	<b>105,523</b>	<b>99,533</b>	<b>50,275</b>	<b>30,020</b>	<b>1,139,394</b>
<b>Average per Factory ..</b>	<b>20.23</b>	<b>22.57</b>	<b>18.33</b>	<b>21.25</b>	<b>11.75</b>	<b>17.84</b>	<b>20.11</b>

3. Australia, 1955-56 to 1959-60.—In the following table, factories in Australia are classified in broad groups for a series of years according to the number of persons employed.

FACTORIES: CLASSIFICATION ACCORDING TO NUMBER OF PERSONS EMPLOYED, AUSTRALIA.

Year.	Establishments Employing on the Average—							
	20 and under:		21 to 100.		101 and upwards.		Total.	
	Es- tablish- ments.	Persons em- ployed.	Es- tablish- ments.	Persons em- ployed.	Es- tablish- ments.	Persons em- ployed.	Es- tablish- ments.	Persons em- ployed.
1955-56—								
Number .. ..	44,012	246,087	6,736	279,991	1,658	542,428	52,406	1,068,506
Average per establish- ment .. ..	..	5.59	..	41.57	..	327.16	..	20.39
1956-57—								
Number .. ..	44,790	249,069	6,730	279,974	1,680	541,872	53,200	1,070,915
Average per establish- ment .. ..	..	5.56	..	41.60	..	322.54	..	20.13
1957-58—								
Number .. ..	45,569	250,748	6,730	279,750	1,689	550,777	53,988	1,081,275
Average per establish- ment .. ..	..	5.50	..	41.57	..	326.10	..	20.03
1958-59—								
Number .. ..	46,345	253,375	6,825	282,735	1,718	560,553	54,888	1,096,663
Average per establish- ment .. ..	..	5.47	..	41.43	..	326.28	..	19.98
1959-60—								
Number .. ..	47,791	258,162	7,078	293,400	1,788	587,832	56,657	1,139,394
Average per establish- ment .. ..	..	5.40	..	41.45	..	328.77	..	20.11

## § 4. Power Equipment in Factories.

1. **General.**—Since 1936-37, statistics of power equipment in factories relate to the "rated horse-power" of engines ordinarily in use and engines in reserve or idle, omitting obsolete engines. In addition, particulars of the power equipment of Central Electric Stations are collected in greater detail. To avoid duplication, it is essential that some disjunction should be made between Central Electric Stations and other classes of industries. In the following tables, Central Electric Stations have been treated separately from other factories.

2. **Rated Horse-power of Engines in Factories other than Central Electric Stations.**—The following table shows the total number of factories and the total rated horse-power of engines and electric motors ordinarily in use and in reserve or idle during 1959-60.

**FACTORIES(a): TOTAL RATED HORSE-POWER OF ENGINES AND ELECTRIC MOTORS, 1959-60.**

State.	Factories.(a)	Rated Horse-power of Engines and Motors.	
		Ordinarily In Use.(b)	In Reserve or Idle (omitting obsolete).
New South Wales .. .. .	23,212	2,307,643	365,970
Victoria .. .. .	16,935	1,469,691	191,830
Queensland .. .. .	5,697	552,186	87,391
South Australia .. .. .	4,650	406,832	46,281
Western Australia .. .. .	4,188	261,660	41,811
Tasmania .. .. .	1,671	265,103	37,851
<b>Australia .. .. .</b>	<b>56,353</b>	<b>5,263,115</b>	<b>771,134</b>

(a) Includes Gas Works but excludes Central Electric Stations, details of which are shown on page 166.  
 (b) Excludes motors driven by electricity generated in factories not classified as Central Electric Stations.

3. **Rated Horse-power of Engines and Electric Motors Ordinarily in Use.**—(i) *According to Type, States.* Particulars of the types and the total rated horse-power of engines, etc., ordinarily in use in each State are given below.

**FACTORIES(a): TOTAL RATED HORSE-POWER OF ENGINES AND ELECTRIC MOTORS ORDINARILY IN USE, 1959-1960.**

State.	Steam.		Internal Combustion.			Water.	Motors driven by Electricity.(b)		Total. (c)
	Reciprocating.	Turbine.	Gas.	Petrol or Other Light Oils.	Heavy Oils.		Purchased.	Own Generation. (d)	
N.S.W. ..	69,356	146,481	823	41,503	23,491	..	2,025,989	91,492	2,307,643
Victoria ..	27,100	94,060	1,756	42,654	..	890	1,303,231	78,546	1,469,691
Queensland ..	74,942	66,339	2,423	16,200	11,176	..	381,106	107,277	552,186
S. Australia ..	6,236	9,550	976	8,040	8,898	10	373,122	19,199	406,832
W. Australia ..	10,070	11,665	3,505	17,832	7,605	..	210,983	5,558	261,660
Tasmania ..	1,188	21	1	11,606	135	192	251,960	19	265,103
<b>Australia ..</b>	<b>188,892</b>	<b>328,116</b>	<b>9,484</b>	<b>137,835</b>	<b>51,305</b>	<b>1,092</b>	<b>4,546,391</b>	<b>302,091</b>	<b>5,263,115</b>

(a) Includes Gas Works but excludes Central Electric Stations, details of which are shown on page 166.  
 (b) Excludes motors driven by electricity generated in factories not classified as Central Electric Stations.  
 (c) Excludes particulars in column (d).

(ii) *According to Type, Australia.* In the following table, details of the total rated horse-power of the various types of engines in use are given for Australia for the years 1955-56 to 1959-60.

**FACTORIES(a): TYPES AND TOTAL RATED HORSE-POWER OF ENGINES AND ELECTRIC MOTORS ORDINARILY IN USE, AUSTRALIA.**

Year.	Steam.		Internal Combustion.			Water.	Motors driven by Electricity.(b)		Total. (c)
	Reciprocating.	Turbine.	Gas.	Petrol or Other Light Oils.	Heavy Oils.		Purchased.	Own Generation. (d)	
1955-56 ..	223,147	254,497	8,746	112,944	90,314	1,641	3,674,373	243,800	4,365,662
1956-57 ..	214,875	262,559	7,973	120,533	74,060	1,431	3,860,595	260,708	4,542,026
1957-58 ..	204,854	266,659	9,487	118,106	64,498	1,770	4,062,006	274,287	4,727,380
1958-59 ..	190,905	302,594	10,821	122,916	56,503	1,271	4,310,456	270,981	4,995,466
1959-60 ..	188,892	328,116	9,484	137,835	51,305	1,092	4,546,391	302,091	5,263,115

(a) Includes Gas Works but excludes Central Electric Stations, details of which are shown on page 166.

(b) Excludes motors driven by electricity generated in factories not classified as Central Electric Stations.

(c) Excludes particulars in column (d).

(iii) *In Classes of Industry, 1959-60.* The next table shows the total rated horse-power of engines and electric motors ordinarily in use in the various classes of industry in each State.

**FACTORIES(a): TOTAL RATED HORSE-POWER OF ENGINES AND ELECTRIC MOTORS ORDINARILY IN USE(b), 1959-60.**

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-ferrous Metal Products ..	97,157	88,435	24,668	25,011	17,758	15,402	268,431
II. Bricks, Pottery, Glass, etc. ..	61,093	37,336	9,415	10,218	11,275	2,447	131,784
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	174,185	129,269	12,470	22,760	43,802	13,456	395,942
IV. Industrial Metals, Machines, Conveyances ..	1,271,530	480,931	112,676	193,897	73,456	64,362	2,196,852
V. Precious Metals, Jewellery, Plate ..	5,460	4,105	1,208	922	625	58	12,378
VI. Textiles and Textile Goods (not Dress) ..	54,621	104,543	7,397	7,932	3,020	8,721	186,234
VII. Skins and Leather (not Clothing or Footwear) ..	18,702	21,517	6,304	5,785	2,787	495	55,590
VIII. Clothing (except Knitted) ..	24,651	30,538	4,668	3,798	2,438	939	67,032
IX. Food, Drink and Tobacco ..	214,369	208,671	219,149	58,146	42,162	23,112	765,609
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	183,062	130,878	109,345	40,359	50,443	47,303	561,390
XI. Furniture of Wood, Bedding, etc. ..	18,810	14,999	7,849	7,376	4,286	1,510	54,830
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	74,650	106,250	22,615	15,861	6,076	86,222	311,674
XIII. Rubber ..	58,156	63,915	10,627	5,597	1,101	491	139,887
XIV. Musical Instruments ..	1,740	312	42	12	12	..	2,118
XV. Miscellaneous Products ..	31,475	31,275	829	2,205	1,063	459	67,306
<i>Total, Classes I. to XV. ..</i>	<i>2,289,661</i>	<i>1,452,974</i>	<i>549,262</i>	<i>399,879</i>	<i>260,304</i>	<i>264,977</i>	<i>5,217,057</i>
XVI. Gas Works ..	17,982	16,717	2,924	6,953	1,356	126	46,058
<b>Grand Total ..</b>	<b>2,307,643</b>	<b>1,469,691</b>	<b>552,186</b>	<b>406,832</b>	<b>261,660</b>	<b>265,103</b>	<b>5,263,115</b>

(a) Excludes Central Electric Stations, details of which are shown on page 166.

(b) Excludes motors driven by electricity generated in factories not classified as Central Electric Stations.

4. Capacity of Engines and Generators installed in Central Electric Stations.—(i) *According to Type, Australia.* Particulars of the type and the capacity of engines and generators installed in Central Electric Stations in Australia in 1959-60 are given in the following table.

**CENTRAL ELECTRIC STATIONS: POWER EQUIPMENT, AUSTRALIA, 1959-60.**

Particulars.	Capacity of Engines and Generators.						
	Steam.		Internal Combustion.			Water.	Total.
	Reciprocating.	Turbine.	Gas.	Petrol or Other Light Oils.	Heavy Oils.		
Engines installed .. Rated H.P.	3,766	5,828,177	6,530	40,307	289,290	1,967,690	8,135,760
Generators installed—							
Kilowatt capacity—							
Total installed .. kW	2,784	4,297,925	4,519	26,512	198,243	1,423,410	5,953,393
Effective capacity .. ..	2,724	4,033,358	2,916	23,784	180,450	1,384,501	5,627,733
Horse-power equivalent—							
Total installed .. H.P.	3,732	5,761,283	6,057	35,539	265,741	1,908,052	7,980,404
Effective capacity .. ..	3,651	5,406,636	3,909	31,882	241,890	1,855,896	7,543,864

NOTE.—There were 304 establishments classified as Central Electric Stations in 1959-60.

(ii) *States.* Details of the capacity of engines and generators installed in Central Electric Stations in each State in 1959-60 are given in the next table.

**CENTRAL ELECTRIC STATIONS: NUMBER AND POWER EQUIPMENT, 1959-60.**

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Central Electric Stations	No.	62	44	61	34	91	12	304
Engines installed ..	Rated H.P.	3,446,494	1,832,183	943,945	(a)	500,680	(a)	8,135,760
Generators installed—								
Kilowatt capacity—								
Total installed ..	kW	2,524,981	1,366,355	703,567	(a)	339,658	(a)	5,953,393
Effective capacity ..	..	2,402,397	1,320,441	564,232	(a)	333,998	(a)	5,627,733
Horse-power equivalent—								
Total installed ..	H.P.	3,384,687	1,831,571	943,117	(a)	455,305	(a)	7,980,404
Effective capacity ..	..	3,220,365	1,770,025	756,342	(a)	447,718	(a)	7,543,864

(a) Not available for publication; figures are included in total for Australia.

### § 5. Employment in Factories.

1. *Number Employed.*—(i) *General.* All persons employed in the manufacturing activities of a factory, including proprietors who work in their own business and "out-workers" (see para. 4 (ii) p. 170), are counted as factory employees, while those employed in selling and distributing, such as salesmen, travellers, collectors, carters employed solely on outward delivery of manufactured goods and retailing storemen, are excluded. Prior to 1945-46, the occupational grouping collected was (i) working proprietors; (ii) managers and overseers; (iii) accountants and clerks; (iv) engine-drivers and firemen; (v) workers in factory, skilled and unskilled; (vi) carters and messengers; and (vii) persons working regularly at home for the establishment. This grouping did not record separate details for technical staff (e.g., chemists, draftsmen, etc.) and supervisory staff and, in 1945-46, the collection form was amended to obtain the following groupings:—(i) Working proprietors; (ii) managerial and clerical staff including salaried managers and working directors; (iii) chemists, draftsmen and other laboratory and research staff; (iv) foremen and overseers; (v) skilled and unskilled workers; (vi) carters (excluding delivery only), messengers and persons working regularly at home.

Prior to the year 1928-29, average employment in factories was computed by dividing the sum of the number employed each week by the number of weeks worked. The figures, therefore, represented the average number employed over the period worked, which, for many factories, was less than a full year. Commencing with the year 1928-29, the figures represent the equivalent average number employed over a full year of fifty-two weeks. The classification of factories according to the number of persons employed (see § 3, p. 162), however, is still based on the old method, but for all other purposes the average number engaged over the full year is used.

(ii) *Australia.* Particulars of the numbers employed, the increase in employment and the rate per cent. of such increase are given for the years 1955-56 to 1959-60 in the following table.

## FACTORIES: EMPLOYMENT, AUSTRALIA.

Year.	Males.			Females.			Persons.		
	Number Employed.	Increase on Preceding Year.		Number Employed.	Increase on Preceding Year.		Number Employed.	Increase on Preceding Year.	
		Number.	Per Cent.		Number.	Per Cent.		Number.	Per Cent.
1955-56 ..	811,847	23,156	2.94	248,651	6,260	2.58	1,060,498	29,416	2.85
1956-57 ..	813,551	1,704	0.21	249,847	1,196	0.48	1,063,398	2,900	0.27
1957-58 ..	822,515	8,964	1.10	251,292	1,445	0.58	1,073,807	10,409	0.98
1958-59 ..	834,940	12,425	1.51	253,316	2,024	0.81	1,088,256	14,449	1.35
1959-60 ..	862,185	27,245	3.26	269,492	16,176	6.39	1,131,677	43,421	3.99

(iii) *States.* The following table shows, for the same years, (a) the average number of persons employed in manufacturing industries in each State; (b) for each State, the percentage of the total number employed in factories in Australia; and (c) the number so employed per thousand of mean population in each State and Australia.

## FACTORIES: EMPLOYMENT.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
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## AVERAGE NUMBER EMPLOYED DURING FULL YEAR (52 WEEKS).

1955-56 ..	433,081	355,185	102,473	92,589	50,108	27,062	1,060,498
1956-57 ..	436,369	355,204	103,426	91,981	48,748	27,670	1,063,398
1957-58 ..	445,802	357,143	101,844	92,472	48,462	28,084	1,073,807
1958-59 ..	449,518	362,979	104,753	94,165	48,417	28,424	1,088,256
1959-60 ..	467,139	381,514	104,693	99,018	49,651	29,662	1,131,677

## PERCENTAGE OF AUSTRALIAN TOTAL.

1955-56 ..	40.84	33.49	9.66	8.73	4.73	2.55	100
1956-57 ..	41.04	33.40	9.73	8.65	4.58	2.60	100
1957-58 ..	41.51	33.26	9.48	8.61	4.52	2.62	100
1958-59 ..	41.31	33.35	9.63	8.65	4.45	2.61	100
1959-60 ..	41.28	33.71	9.25	8.75	4.39	2.62	100

FACTORIES: EMPLOYMENT—*continued.*

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
PER 1,000 OF POPULATION.							
1955-56 ..	123	139	75	111	75	85	115
1956-57 ..	122	135	74	107	72	85	112
1957-58 ..	122	133	72	104	70	85	110
1958-59 ..	121	132	72	104	69	84	110
1959-60 ..	123	135	71	106	69	86	112

2. Rates of Increase, 1955-56 to 1959-60.—The percentage increase on the average number of persons employed in the preceding year is shown below for each State.

## FACTORIES: ANNUAL PERCENTAGE INCREASE OF PERSONS EMPLOYED.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 ..	3.16	2.46	2.17	3.38	1.61	6.33	2.85
1956-57 ..	0.75	0.00	0.93	-0.66	-2.71	2.25	0.27
1957-58 ..	2.18	0.55	-1.53	0.53	-0.59	1.50	0.98
1958-59 ..	0.83	1.63	2.86	1.83	-0.09	1.21	1.35
1959-60 ..	3.92	5.11	-0.06	5.15	2.55	4.36	3.99

NOTE.—Minus sign (-) indicates decrease.

3. Persons Employed in Industrial Classes.—(i) *Australia.* The following table shows the average number of persons employed in factories in each industrial class in Australia for the years 1955-56 to 1959-60.

## FACTORIES: PERSONS EMPLOYED IN INDUSTRIAL CLASSES, AUSTRALIA.

Class of Industry.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
I. Treatment of Non-metalliferous Mine and Quarry Products .. .. .	20,893	20,318	20,883	21,093	21,778
II. Bricks, Pottery, Glass, etc. .. .. .	22,914	22,162	22,448	23,093	24,308
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. .. .	44,718	45,753	46,986	47,876	47,617
IV. Industrial Metals, Machines, Conveyances .. .. .	444,274	447,405	459,345	469,446	498,192
V. Precious Metals, Jewellery, Plate .. .. .	5,894	6,053	5,905	5,483	5,308
VI. Textiles and Textile Goods (not Dress) .. .. .	68,356	70,176	68,875	67,467	72,263
VII. Skins and Leather (not Clothing or Footwear) .. .. .	13,810	13,454	13,171	12,935	12,952
VIII. Clothing (except Knitted) .. .. .	110,820	109,266	106,947	106,098	106,830
IX. Food, Drink and Tobacco .. .. .	126,493	124,723	123,471	125,408	126,154
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. .. .	61,914	60,008	59,238	60,101	61,651
XI. Furniture of Wood, Bedding, etc. .. .. .	21,508	21,258	22,099	22,110	22,902
XII. Paper, Stationery, Printing, Bookbinding, etc. .. .. .	62,713	64,719	66,285	68,327	71,672
XIII. Rubber .. .. .	17,287	17,844	18,105	18,467	18,663
XIV. Musical Instruments .. .. .	1,739	1,902	1,101	1,025	936
XV. Miscellaneous Products .. .. .	20,967	21,746	22,332	22,286	23,851
<i>Total, Classes I. to XV.</i> .. .. .	<i>1,044,300</i>	<i>1,046,787</i>	<i>1,057,191</i>	<i>1,071,215</i>	<i>1,115,077</i>
XVI. Heat, Light and Power .. .. .	16,198	16,611	16,616	17,041	16,600
<b>Grand Total</b> .. .. .	<b>1,060,498</b>	<b>1,063,398</b>	<b>1,073,807</b>	<b>1,088,256</b>	<b>1,131,677</b>

(ii) *States.* Particulars of the numbers employed in each industrial class are shown in the following table for each State:—

**FACTORIES: PERSONS EMPLOYED IN INDUSTRIAL CLASSES, 1959-60.**

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<b>I. Treatment of Non-metalliferous Mine and Quarry Products</b> ..	8,684	6,564	2,077	2,142	1,574	737	21,778
<b>II. Bricks, Pottery, Glass, etc.</b> ..	12,424	6,460	1,334	2,315	1,383	392	24,308
<b>III. Chemicals, Dyes, Explosives, Paints, Oils, Grease</b> ..	22,957	16,231	1,824	3,134	2,631	840	47,617
<b>IV. Industrial Metals, Machines, Conveyances</b> ..	223,498	150,843	37,804	55,802	20,494	9,751	498,192
<b>V. Precious Metals, Jewellery, Plate</b> ..	2,345	1,980	294	452	217	20	5,308
<b>VI. Textiles and Textile Goods (not Dress)</b> ..	22,272	41,073	2,274	2,510	968	3,166	72,263
<b>VII. Skins and Leather (not Clothing or Footwear)</b> ..	5,485	4,413	1,152	1,212	629	61	12,952
<b>VIII. Clothing (except Knitted)</b> ..	44,646	45,260	7,670	5,060	3,316	878	106,830
<b>IX. Food, Drink and Tobacco</b> ..	39,109	38,830	26,024	10,793	6,714	4,684	126,154
<b>X. Sawmills, Joinery, Boxes, etc. Wood Turning and Carving</b> ..	20,493	15,759	10,782	5,243	5,600	3,774	61,651
<b>XI. Furniture of Wood, Bedding, etc.</b> ..	9,362	6,531	2,908	2,253	1,378	470	22,902
<b>XII. Paper, Stationery, Printing, Bookbinding, etc.</b> ..	29,994	24,305	6,058	4,386	2,700	4,229	71,672
<b>XIII. Rubber</b> ..	7,885	7,282	1,796	1,288	270	142	18,663
<b>XIV. Musical Instruments</b> ..	588	233	48	33	34	..	936
<b>XV. Miscellaneous Products</b> ..	10,925	10,767	673	816	487	183	23,851
<b>Total Classes I. to XV.</b>	<b>460,667</b>	<b>376,531</b>	<b>102,718</b>	<b>97,439</b>	<b>48,395</b>	<b>29,327</b>	<b>1,115,077</b>
<b>XVI. Heat, Light and Power</b> ..	<b>6,472</b>	<b>4,983</b>	<b>1,975</b>	<b>1,579</b>	<b>1,256</b>	<b>335</b>	<b>16,600</b>
<b>Grand Total</b> ..	<b>467,139</b>	<b>381,514</b>	<b>104,693</b>	<b>99,018</b>	<b>49,651</b>	<b>29,662</b>	<b>1,131,677</b>

4. *Persons Employed According to Occupational Grouping.*—(i) *General.* In the following table, the average number of persons employed in each State during 1959-60 is classified according to occupational grouping. As mentioned previously, persons employed in factories are now classified on a basis different from that adopted prior to 1945-46. The nature of this change is indicated in para. 1 of this section (*see p. 166*).

**FACTORIES: PERSONS EMPLOYED—OCCUPATIONAL GROUPING, 1959-60.**

State.	Average Number of Persons Employed.						Total.
	Working Proprietors.	Managerial and Clerical Staff, etc.(a)	Chemists, Draftsmen, etc.	Foremen and Overseers.	Workers in Factory (Skilled and Unskilled).	Carters (excluding Delivery only) and Messengers, etc. (b)	
New South Wales ..	15,493	59,025	7,526	20,727	362,121	2,247	467,139
Victoria ..	13,401	45,913	6,677	18,060	295,423	2,040	381,514
Queensland ..	4,963	10,973	1,229	4,396	82,717	415	104,693
South Australia ..	3,394	11,943	1,928	4,708	76,705	340	99,018
Western Australia ..	2,884	4,559	502	2,241	39,377	88	49,651
Tasmania ..	998	3,143	605	1,446	23,350	120	29,662
<b>Total Males</b> ..	<b>35,270</b>	<b>83,342</b>	<b>16,753</b>	<b>47,880</b>	<b>674,573</b>	<b>4,367</b>	<b>862,185</b>
<b>Total Females</b> ..	<b>5,863</b>	<b>52,214</b>	<b>1,714</b>	<b>3,698</b>	<b>205,120</b>	<b>883</b>	<b>269,492</b>
<b>Total Persons</b> ..	<b>41,133</b>	<b>135,556</b>	<b>18,467</b>	<b>51,578</b>	<b>879,693</b>	<b>5,250</b>	<b>1,131,677</b>

(a) Includes salaried managers and working directors at home.

(b) Includes persons working regularly at home.



(ii) *Outworkers.* The term "outworker" or "homeworker" has acquired a special meaning in connexion with manufacturing industries, and embraces only persons to whom work is given out by factories to be done at home. Owing to the amended employment groupings adopted in 1945-46, persons working regularly at home for factories are now included with carters, messengers and others, and separate details are no longer available.

5. *Monthly Employment, 1955-56 to 1959-60.*—(i) *Australia.* The following table shows the number of persons (excluding working proprietors) employed in factories on the last pay-day of the month during the years specified.

**FACTORIES: MONTHLY EMPLOYMENT, AUSTRALIA.**  
(EXCLUDING WORKING PROPRIETORS.)

Month.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
<b>MALES.</b>					
July .. .. .	768,382	775,580	781,156	794,374	811,912
August .. .. .	770,312	774,506	780,630	794,537	814,297
September .. .. .	771,715	774,119	782,988	795,464	817,277
October .. .. .	774,071	774,455	785,289	796,964	820,178
November .. .. .	777,304	777,127	785,825	799,368	821,316
December .. .. .	772,509	772,479	781,054	792,351	817,217
January .. .. .	774,077	773,419	786,520	794,996	824,919
February .. .. .	778,552	779,646	790,835	800,208	831,022
March .. .. .	779,527	780,973	793,327	802,408	835,371
April .. .. .	780,418	777,262	791,617	804,259	835,236
May .. .. .	780,252	779,757	791,403	804,691	839,084
June .. .. .	777,968	780,156	791,098	805,641	840,832
<b>FEMALES.</b>					
July .. .. .	238,883	240,918	242,399	244,610	251,512
August .. .. .	240,857	241,429	243,489	245,349	253,864
September .. .. .	243,289	243,199	245,019	245,882	257,906
October .. .. .	244,840	245,130	246,360	246,199	260,105
November .. .. .	244,582	245,006	247,805	247,098	262,514
December .. .. .	242,366	242,175	244,653	244,235	259,753
January .. .. .	240,574	243,191	245,340	243,625	260,749
February .. .. .	247,841	248,336	250,891	249,847	267,234
March .. .. .	247,209	250,728	252,918	250,384	270,364
April .. .. .	244,588	245,873	247,439	249,209	267,916
May .. .. .	243,989	244,054	245,855	248,365	269,200
June .. .. .	242,548	242,966	244,052	248,915	270,402
<b>PERSONS.</b>					
July .. .. .	1,007,265	1,016,498	1,023,555	1,038,984	1,063,424
August .. .. .	1,011,169	1,015,935	1,024,119	1,039,886	1,068,161
September .. .. .	1,015,004	1,017,318	1,028,007	1,041,346	1,075,183
October .. .. .	1,018,911	1,019,585	1,031,649	1,043,163	1,080,283
November .. .. .	1,021,886	1,022,133	1,033,630	1,046,466	1,083,830
December .. .. .	1,014,875	1,014,654	1,025,707	1,036,586	1,076,970
January .. .. .	1,014,651	1,016,610	1,031,860	1,038,621	1,085,668
February .. .. .	1,026,393	1,027,982	1,041,726	1,050,055	1,098,256
March .. .. .	1,026,736	1,031,701	1,046,245	1,052,792	1,105,735
April .. .. .	1,025,006	1,023,135	1,039,056	1,053,468	1,103,152
May .. .. .	1,024,241	1,023,811	1,037,258	1,053,056	1,108,284
June .. .. .	1,020,516	1,023,122	1,035,150	1,054,556	1,111,234

(ii) *States.* Particulars of the numbers employed in each State on the last pay-day of each month in 1959-60 are shown in the following table.

## FACTORIES: MONTHLY EMPLOYMENT, 1959-60.

(EXCLUDING WORKING PROPRIETORS.)

Month.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
MALES.							
July .. ..	330,762	256,793	86,107	76,037	39,472	22,741	811,912
August .. ..	331,823	258,204	85,500	76,412	39,559	22,799	814,297
September .. ..	333,851	259,614	84,236	76,954	39,686	22,936	817,277
October .. ..	335,161	261,176	83,629	77,266	39,897	23,049	820,178
November .. ..	336,792	262,710	81,024	77,579	40,084	23,127	821,316
December .. ..	336,929	262,074	76,961	77,582	40,058	23,613	817,217
January .. ..	339,102	264,845	78,339	78,526	39,986	24,121	824,919
February .. ..	340,533	266,754	80,600	78,969	40,374	23,792	831,022
March .. ..	341,909	268,298	81,380	79,695	40,493	23,596	835,371
April .. ..	342,154	267,455	82,160	79,440	40,429	23,598	835,236
May .. ..	343,550	267,668	84,153	79,587	40,536	23,590	839,084
June .. ..	344,356	268,022	84,964	79,556	40,448	23,486	840,832
FEMALES.							
July .. ..	108,617	98,765	16,658	16,301	6,272	4,899	251,512
August .. ..	109,659	99,860	16,938	16,382	6,321	4,704	253,864
September .. ..	111,594	101,357	17,260	16,543	6,413	4,739	257,906
October .. ..	112,661	102,700	16,794	16,705	6,458	4,787	260,105
November .. ..	113,919	103,542	16,735	16,951	6,534	4,833	262,514
December .. ..	111,750	102,678	16,536	17,130	6,468	5,191	259,753
January .. ..	111,428	103,252	16,619	17,481	6,427	5,542	260,749
February .. ..	114,120	106,087	17,377	17,819	6,545	5,286	267,234
March .. ..	115,496	107,875	17,160	17,840	6,658	5,335	270,364
April .. ..	115,719	105,572	16,956	17,487	6,588	5,594	267,916
May .. ..	116,386	105,720	17,372	17,578	6,528	5,616	269,200
June .. ..	117,184	106,116	17,519	17,657	6,382	5,544	270,402
PERSONS.							
July .. ..	439,379	355,558	102,765	92,338	45,744	27,640	1,063,424
August .. ..	441,482	358,064	102,438	92,794	45,880	27,503	1,068,161
September .. ..	445,445	360,971	101,496	93,497	46,099	27,675	1,075,183
October .. ..	447,822	363,876	100,423	93,971	46,355	27,836	1,080,283
November .. ..	450,711	366,252	97,759	94,530	46,618	27,960	1,083,830
December .. ..	448,679	364,752	93,497	94,712	46,526	28,804	1,076,970
January .. ..	450,530	368,097	94,958	96,007	46,413	29,663	1,085,668
February .. ..	454,653	372,841	97,977	96,788	46,919	29,078	1,098,256
March .. ..	457,405	376,173	98,540	97,535	47,151	28,931	1,105,735
April .. ..	457,873	373,027	99,116	96,927	47,017	29,192	1,103,152
May .. ..	459,936	373,388	101,525	97,165	47,064	29,206	1,108,284
June .. ..	461,540	374,138	102,483	97,213	46,830	29,030	1,111,234

6. Distribution of Employees According to Age.—The extension of statistics of employment in factories, decided upon at the Conference of Australian Statisticians held in 1945, provides for a distribution of employees (excluding working proprietors) into seven age-groups from 1945-46 onwards, instead of three as in previous years. The particulars are collected as at June. The numbers employed in each age-group on the last pay-day in June, 1959 and 1960, are given below.

**FACTORIES: DISTRIBUTION OF EMPLOYEES ACCORDING TO AGE, JUNE, 1959 AND 1960.**

(EXCLUDING WORKING PROPRIETORS.)

Age Group.	June, 1959.			June, 1960.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
Under 16 years ..	8,411	7,234	15,645	8,627	7,457	16,084
16 years .. ..	13,556	8,957	22,513	14,475	9,800	24,275
17 " .. ..	16,532	9,878	26,410	16,846	10,411	27,257
18 " .. ..	17,085	9,639	26,724	17,963	10,370	28,333
19 " .. ..	16,099	9,069	25,168	16,993	9,446	26,439
20 " .. ..	15,189	8,468	23,657	15,739	8,818	24,557
21 " and over ..	718,769	195,670	914,439	750,189	214,100	964,289
<b>Total .. ..</b>	<b>805,641</b>	<b>248,915</b>	<b>1,054,556</b>	<b>840,832</b>	<b>270,402</b>	<b>1,111,234</b>

The following table shows the age distribution in sexes for Australia in June in the years 1956 to 1960.

**FACTORIES: DISTRIBUTION OF EMPLOYEES IN JUNE, ACCORDING TO AGE, AUSTRALIA.**

(EXCLUDING WORKING PROPRIETORS.)

In June.	Under 16 Years.	16 Years.	17 Years.	18 Years.	19 Years.	20 Years.	21 Years and Over.	Total.
<b>MALES.</b>								
1956 ..	9,061	13,025	14,985	15,348	14,884	13,635	697,030	777,968
1957 ..	9,158	13,310	15,289	16,104	15,219	14,162	696,914	780,156
1958 ..	8,710	13,817	16,347	16,802	16,337	15,315	703,770	791,098
1959 ..	8,411	13,556	16,532	17,085	16,099	15,189	718,769	805,641
1960 ..	8,627	14,475	16,846	17,963	16,993	15,739	750,189	840,832

**FEMALES.**

1956 ..	6,557	8,163	9,390	10,102	9,072	7,801	191,463	242,548
1957 ..	6,828	8,292	9,276	9,715	8,986	7,959	191,910	242,966
1958 ..	6,924	9,180	9,790	10,025	9,421	8,737	189,975	244,052
1959 ..	7,234	8,957	9,878	9,639	9,069	8,468	195,670	248,915
1960 ..	7,457	9,800	10,411	10,370	9,446	8,818	214,100	270,402

**PERSONS.**

1956 ..	15,618	21,188	24,375	25,450	23,956	21,436	888,493	1,020,516
1957 ..	15,986	21,602	24,565	25,819	24,205	22,121	888,824	1,023,122
1958 ..	15,634	22,997	26,137	26,827	25,758	24,052	893,745	1,035,150
1959 ..	15,645	22,513	26,410	26,724	25,168	23,657	914,439	1,054,556
1960 ..	16,084	24,275	27,257	28,333	26,439	24,557	964,289	1,111,234

## § 6. Sex Distribution in Factories.

1. Average Number of Males and Females Employed.—The following table shows the average number of males and females employed in factories in each State for 1955-56 to 1959-60.

## FACTORIES: MALES AND FEMALES EMPLOYED.

State.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
MALES.					
New South Wales .. ..	327,106	329,386	337,211	340,757	351,208
Victoria .. ..	258,006	258,119	259,404	263,847	275,315
Queensland .. ..	85,123	85,899	84,871	87,454	86,985
South Australia .. ..	76,144	75,543	75,909	77,427	81,312
Western Australia .. ..	43,340	42,122	42,039	41,951	42,957
Tasmania .. ..	22,128	22,482	23,081	23,504	24,408
<b>Australia .. ..</b>	<b>811,847</b>	<b>813,551</b>	<b>822,515</b>	<b>834,940</b>	<b>862,185</b>

FEMALES.					
New South Wales .. ..	105,975	106,983	108,591	108,761	115,931
Victoria .. ..	97,179	97,085	97,739	99,132	106,199
Queensland .. ..	17,350	17,527	16,973	17,299	17,708
South Australia .. ..	16,445	16,438	16,563	16,738	17,706
Western Australia .. ..	6,768	6,626	6,423	6,466	6,694
Tasmania .. ..	4,934	5,188	5,003	4,920	5,254
<b>Australia .. ..</b>	<b>248,651</b>	<b>249,847</b>	<b>251,292</b>	<b>253,316</b>	<b>269,492</b>

2. Rate of Variation for each Sex.—The percentages of increase or decrease on the average numbers of males and females employed in the preceding year are shown below for the years 1955-56 to 1959-60.

## FACTORIES: ANNUAL PERCENTAGE INCREASES OF MALES AND FEMALES EMPLOYED.

State.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
MALES.					
New South Wales .. ..	3.20	0.70	2.38	1.05	3.07
Victoria .. ..	2.52	0.04	0.50	1.71	4.35
Queensland .. ..	2.20	0.91	-1.20	3.04	-0.54
South Australia .. ..	3.30	-0.79	0.48	2.00	5.02
Western Australia .. ..	2.47	-2.81	-0.20	-0.21	2.40
Tasmania .. ..	5.15	1.60	2.66	1.83	3.85
<b>Australia .. ..</b>	<b>2.94</b>	<b>0.21</b>	<b>1.10</b>	<b>1.51</b>	<b>3.26</b>
FEMALES.					
New South Wales .. ..	2.75	0.95	1.50	0.16	6.59
Victoria .. ..	2.32	-0.10	0.88	1.43	7.13
Queensland .. ..	2.04	1.02	-3.16	1.92	2.36
South Australia .. ..	3.75	-0.04	0.76	1.06	5.78
Western Australia .. ..	-3.59	-2.10	-3.06	0.67	3.53
Tasmania .. ..	11.96	5.15	-3.57	-1.66	6.79
<b>Australia .. ..</b>	<b>2.58</b>	<b>0.48</b>	<b>0.58</b>	<b>0.81</b>	<b>6.39</b>

NOTE.—Minus sign (—) indicates decrease.

3. **Masculinity of Persons Employed in Factories.**—The extent to which females are employed in the factories of Australia may perhaps be more clearly shown by the proportion of males to females employed in each State. The following table shows particulars for the years 1955–56 to 1959–60.

**FACTORIES: MASCULINITY(a) OF PERSONS EMPLOYED.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955–56 .. ..	309	265	491	463	640	448	327
1956–57 .. ..	308	266	490	460	636	433	326
1957–58 .. ..	311	265	500	458	655	461	327
1958–59 .. ..	313	266	506	463	649	478	330
1959–60 .. ..	303	259	491	459	642	465	320

(a) Number of males per 100 females.

For a number of years prior to 1926–27, there were on the average 300 males employed in factories for every 100 females, but by 1932–33, as a result of the particularly severe effect of the depression on the heavier industries where males predominate in number, there were only 239 males employed to every 100 females. With the subsequent recovery of employment in the heavier industries, the proportion of males per 100 females increased to 271 in 1937–38 and 1938–39. The enlistment of men in the armed services, the expansion of industry and the consequential absorption of women brought about by the 1939–45 War caused a decrease in masculinity from 1938–39 to 1943–44. However, following the cessation of hostilities in 1945 and the return of servicemen to civilian life, the number of females employed in factories declined and masculinity increased. In 1959–60, there were 320 males to every 100 females employed in factories.

4. **Employment of Females in Particular Industries.**—(i) *General.* The majority of females in manufacturing industries are employed in four classes, namely:—IV., Industrial Metals, Machines, etc.; VI., Textiles; VIII., Clothing; and IX., Food, Drink and Tobacco. In 1959–60, these industries accounted for 78.51 per cent. of all females in factories. In two classes only did the number of females exceed the number of males, namely, in Class VI., Textiles, where there were 138 females to every 100 males and in Class VIII., Clothing, with 245 females to every 100 males. The following table shows the average number of males and females employed in each of the four classes in 1955–60.

**MALES AND FEMALES EMPLOYED IN PARTICULAR INDUSTRIES, 1959-60.**

Class.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<b>MALES.</b>							
IV. Industrial Metals, etc. ..	193,076	131,515	35,315	49,229	19,467	9,219	437,821
VI. Textiles and Textile Goods (not Dress) .. ..	9,194	17,104	838	1,238	543	1,433	30,350
VIII. Clothing (except Knitted) ..	12,148	13,504	2,120	1,733	1,107	382	30,994
IX. Food, Drink and Tobacco ..	26,952	27,587	21,830	7,821	5,311	3,186	92,687
All Other Classes .. ..	109,838	85,605	26,882	21,291	16,529	10,188	270,333
Total .. ..	351,208	275,315	86,985	81,312	42,957	24,408	862,185
<b>FEMALES.</b>							
IV. Industrial Metals, etc. ..	30,422	19,328	2,489	6,573	1,027	532	60,371
VI. Textiles and Textile Goods (not Dress) .. ..	13,078	23,969	1,436	1,272	425	1,733	41,913
VIII. Clothing (except Knitted) ..	32,498	31,756	5,550	3,327	2,209	496	75,836
IX. Food, Drink and Tobacco ..	12,157	11,243	4,194	2,972	1,403	1,498	33,467
All Other Classes .. ..	27,776	19,903	4,039	3,562	1,630	995	57,905
Total .. ..	115,931	106,199	17,708	17,706	6,694	5,254	269,492

(ii) *Females Employed in Clothing Manufacture.* The employment of females in the several industries of Class VIII., Clothing, the class in which the largest number of females is employed, and the relation of their number to that of the males so employed, are shown in the following table.

## EMPLOYMENT IN CLOTHING INDUSTRIES, FEMININITY(a), 1959-60.

Industry.	New South Wales.			Victoria.			Other States.		
	Males.	Fe- males.	Femi- ninity. (a)	Males.	Fe- males.	Femi- ninity. (a)	Males.	Fe- males.	Femi- ninity. (a)
Tailoring and Ready-made Clothing .. .. .	3,100	15,391	496	2,809	7,592	270	1,004	3,274	326
Waterproof and Oilskin Clothing .. .. .	122	579	475	174	449	258	6	12	200
Dressmaking, Hemstitching .. .. .	117	1,163	994	1,114	7,535	676	148	2,360	1,595
Millinery .. .. .	224	1,191	532	144	578	401	38	409	1,076
Shirts, Collars, Underclothing .. .. .	465	4,536	975	603	5,195	862	160	1,932	1,208
Foundation Garments .. .. .	117	1,451	1,240	253	1,595	630	25	148	592
Handkerchiefs, Ties and Scarves .. .. .	178	1,031	579	76	324	426	22	125	568
Hats and Caps .. .. .	468	547	117	147	164	112	25	105	420
Gloves .. .. .	122	403	330	49	189	386	43	132	307
Boots and Shoes (not Rubber) .. .. .	3,129	3,242	104	5,144	5,896	115	1,598	1,192	75
Boot and Shoe Repairing .. .. .	1,462	130	9	772	76	10	691	54	8
Boot and Shoe Accessories .. .. .	242	145	60	514	240	47	40	12	30
Umbrellas and Walking Sticks .. .. .	44	87	198	27	60	222	22	46	209
Dyeworks and Cleaning (including Renovating and Repairing) .. .. .	2,314	2,263	98	1,604	1,599	100	1,520	1,781	117
Other .. .. .	44	339	770	74	264	357	..	..	..
<b>Total .. .. .</b>	<b>12,148</b>	<b>32,498</b>	<b>268</b>	<b>13,504</b>	<b>31,756</b>	<b>235</b>	<b>5,342</b>	<b>11,582</b>	<b>217</b>

(a) Number of females per 100 males.

## § 7. Children Employed in Factories.

1. Number of Children Employed, 1958 to 1960.—In the returns for the various States, the term "child" denotes any person under sixteen years of age. The decline in the number of children employed from the peak of 33,553 reached in June, 1940, to 16,084 in June, 1960, was probably caused largely by the raising of the school leaving age.

The following table shows the number of children of each sex employed in manufacturing industries in June of the years mentioned.

## FACTORIES: CHILDREN(a) EMPLOYED, JUNE.

State.	1958.			1959.			1960.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
New South Wales .. .. .	2,575	1,929	4,504	2,453	2,175	4,628	2,625	2,219	4,844
Victoria .. .. .	2,805	2,608	5,413	2,595	2,535	5,130	2,573	2,664	5,237
Queensland .. .. .	1,588	1,151	2,739	1,571	1,226	2,797	1,592	1,271	2,863
South Australia .. .. .	873	796	1,669	860	829	1,689	883	883	1,766
Western Australia .. .. .	769	327	1,096	822	331	1,153	863	332	1,195
Tasmania .. .. .	100	113	213	110	138	248	91	88	179
<b>Australia .. .. .</b>	<b>8,710</b>	<b>6,924</b>	<b>15,634</b>	<b>8,411</b>	<b>7,234</b>	<b>15,645</b>	<b>8,627</b>	<b>7,457</b>	<b>16,084</b>

(a) Under sixteen years of age.

2. **Industries Employing Children.**—The distribution of children employed in factories in June, 1960, and the proportion of children employed to total employees are given in the following table according to the class of industry.

**FACTORIES: CHILDREN<sup>(a)</sup> EMPLOYED, BY CLASSES, AUSTRALIA, JUNE, 1960.**

Class of Industry.	Children Employed. (a)		Total Employees. (b)		Proportion (per cent.) of Children Employed to Total Employees. (b)	
	Males.	Females.	Males.	Females.	Males.	Females.
Industrial Metals, Machines, Conveyances .. .. .	3,939	912	433,862	63,688	0.91	1.43
Textiles and Textile Goods (not Dress)	489	1,449	30,135	42,797	1.62	3.39
Clothing (except Knitted) .. .. .	490	2,938	26,018	74,430	1.88	3.94
Food, Drink and Tobacco .. .. .	982	795	87,402	31,400	1.12	2.53
Sawmills, Joinery, Boxes, etc. .. .	740	69	54,833	3,384	1.35	2.04
Furniture of Wood, Bedding, etc. ..	442	88	17,104	4,347	2.58	2.02
Paper, Stationery, Printing, Bookbinding, etc. .. .. .	682	645	52,216	18,877	1.31	3.42
All other Industries .. .. .	863	561	139,262	31,479	0.62	1.78
<b>Total .. .. .</b>	<b>8,627</b>	<b>7,457</b>	<b>840,832</b>	<b>270,402</b>	<b>1.03</b>	<b>2.76</b>

(a) Under sixteen years of age.

(b) Excludes working proprietors.

3. **Apprenticeship.**—In all the States, Acts are in force for the regulation of the age at which children may be employed in gainful occupations. Legislative provision is also made for the regulation of apprenticeship under the various State Factories Acts or Arbitration Acts. These Acts, while laying down general principles, leave to the wages tribunals the actual determination of the conditions under which apprentices may be employed.

### § 8. Value of Production, Materials Used, Salaries and Wages.

**Note.**—In all tables relating to salaries and wages paid in factories, the amounts drawn by working proprietors are excluded.

1. **General.**—The gross value of factory output for 1959–60 was £5,023,696,000, of which £2,767,999,000 was the value of the materials used, including containers, etc., tools replaced and repairs to plant and buildings, and £180,815,000 the value of the power, fuel and light used. The difference between the sum of the last two amounts and the gross value of output, namely, £2,074,882,000, represents the net value of factory production, defined as “the value of consumable commodities produced during the year, deducting so far as possible the value of goods consumed in process of production.” Depreciation, however, is not deducted (*see* para. 6 of this section, p. 183). The gross value of factory output and the value of materials used each contain *inherent elements of duplication*, as the output of some factories becomes the materials used in other factories. They therefore have little statistical significance. The net value of factory production indicates the relative importance of manufacturing in the Australian economy in current money terms. The total amount of salaries and wages paid in factories in 1959–60 was £1,086,359,000, excluding amounts drawn by working proprietors.

2. **Salaries and Wages Paid.**—(i) *In Classes of Industry, 1959–60.* The amounts of salaries and wages paid in the various classes of industry in each State are shown in the following table.

## FACTORIES: SALARIES AND WAGES PAID, 1959-60.

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products ..	9,873	7,332	2,022	2,219	1,418	736	23,600
II. Bricks, Pottery, Glass, etc. ..	13,240	6,746	1,265	2,487	1,266	416	25,420
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	25,201	18,366	1,729	3,205	2,767	1,031	52,299
IV. Industrial Metals, Machines, Conveyances ..	236,341	157,826	33,091	56,635	17,205	10,027	511,125
V. Precious Metals, Jewellery, Plate ..	2,022	1,840	208	364	151	15	4,600
VI. Textiles and Textile Goods (not Dress) ..	18,624	34,836	1,467	2,108	787	2,512	60,334
VII. Skins and Leather (not Clothing or Footwear) ..	5,104	3,944	1,033	1,192	572	62	11,907
VIII. Clothing (except Knitted) ..	30,086	32,556	4,272	3,225	1,791	541	72,471
IX. Food, Drink and Tobacco ..	35,497	36,064	24,118	9,344	5,627	4,140	114,790
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	18,643	14,486	8,585	4,565	4,568	3,247	54,094
XI. Furniture of Wood, Bedding, etc. ..	8,480	5,655	2,091	1,720	976	355	19,277
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	31,558	26,088	5,429	4,209	2,533	4,998	74,815
XIII. Rubber ..	8,474	8,075	1,482	1,445	215	137	19,828
XIV. Musical Instruments ..	570	217	32	21	22	..	862
XV. Miscellaneous Products ..	10,256	10,143	489	652	326	140	22,006
<i>Total, Classes I. to XV.</i> ..	453,969	364,174	87,313	93,391	40,224	28,357	1,067,428
XVI. Heat, Light and Power ..	7,175	6,007	2,054	1,847	1,419	429	18,931
<b>Grand Total ..</b>	<b>461,144</b>	<b>370,181</b>	<b>89,367</b>	<b>95,238</b>	<b>41,643</b>	<b>28,786</b>	<b>1,086,359</b>

(ii) *Totals and Averages, 1955-56 to 1959-60.* The following table shows the total amount of salaries and wages paid, and the average amount paid per employee in each State, for each of the years indicated. The figures exclude working proprietors and the amounts drawn by them.

## FACTORIES: TOTAL AND AVERAGE SALARIES AND WAGES PAID.

Year	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
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## TOTAL AMOUNT PAID (£'000).

1955-56 .. ..	359,023	286,944	72,460	76,237	37,207	21,598	853,469
1956-57 .. ..	378,332	296,608	77,780	77,818	36,916	23,636	891,090
1957-58 .. ..	396,692	310,540	78,958	79,844	37,935	25,321	929,290
1958-59 .. ..	413,015	324,336	85,497	83,145	38,732	25,828	970,553
1959-60 .. ..	461,144	370,181	89,367	95,238	41,643	28,786	1,086,359

## AVERAGE PER EMPLOYEE (£.)

1955-56 .. ..	860.91	841.16	740.93	848.43	785.23	828.65	837.35
1956-57 .. ..	900.06	869.21	789.63	872.87	801.95	886.68	871.98
1957-58 .. ..	923.40	904.81	814.86	891.80	829.22	936.70	900.46
1958-59 .. ..	952.82	928.60	856.33	911.89	847.81	942.94	927.13
1959-60 .. ..	1021.03	1005.62	896.09	995.96	890.43	1004.27	996.16



In comparing the figures in the preceding table, regard should be paid to the nature of certain industries which are carried on to a greater extent in some States than in others. In Victoria, for instance, a large number of hands are employed in Class VIII., Clothing, comprising a relatively high percentage of women and children. The highest average wages per employee in 1959-60 were paid in New South Wales, Victoria and Tasmania in that order.

The average earnings per employee rose annually from 1938-39 to 1943-44, when a level of £291 was attained as a result of war-time conditions. In 1944-45, the average dropped to £285 and remained at this level in 1945-46. From 1945-46, average earnings rose each year and in 1959-60 had reached a level of slightly over £996.

(iii) *Total and Average Earnings of Males and Females, 1955-56 to 1959-60.* Particulars for these years are given in the following table.

**FACTORIES : TOTAL AND AVERAGE SALARIES AND WAGES—MALES AND FEMALES.**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
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**MALES.**

**TOTAL AMOUNT PAID (£'000).**

1955-56 .. ..	302,880	234,784	64,918	68,213	34,236	19,146	724,177
1956-57 .. ..	318,612	241,587	69,873	69,645	33,895	20,878	754,490
1957-58 .. ..	334,245	253,342	70,954	71,153	34,938	22,516	787,148
1958-59 .. ..	348,302	265,615	77,049	74,268	35,647	23,138	824,019
1959-60 .. ..	387,166	302,678	80,345	85,333	38,276	25,618	919,416

**AVERAGE PER MALE EMPLOYEE (£).**

1955-56 .. ..	967.45	955.00	802.89	925.47	839.62	904.78	933.92
1956-57 .. ..	1,010.17	981.79	857.48	953.42	856.63	970.11	970.91
1957-58 .. ..	1,034.19	1,023.48	881.32	970.33	884.66	1,018.45	1,001.28
1958-59 .. ..	1,065.21	1,052.69	926.77	992.28	905.12	1,026.66	1,031.05
1959-60 .. ..	1,145.65	1,145.80	971.95	1,088.21	950.85	1,091.42	1,111.86

**FEMALES.**

**TOTAL AMOUNT PAID (£'000).**

1955-56 .. ..	56,143	52,160	7,542	8,024	2,971	2,452	129,292
1956-57 .. ..	59,720	55,020	7,907	8,174	3,021	2,758	136,600
1957-58 .. ..	62,447	57,198	8,004	8,691	2,997	2,805	142,142
1958-59 .. ..	64,713	58,721	8,448	8,877	3,085	2,690	146,534
1959-60 .. ..	73,978	67,503	9,022	9,905	3,367	3,168	166,943

**AVERAGE PER FEMALE EMPLOYEE (£).**

1955-56 .. ..	540.06	547.42	445.22	496.84	449.61	500.06	530.23
1956-57 .. ..	569.11	578.14	464.68	507.53	467.32	537.11	557.95
1957-58 .. ..	586.89	597.81	487.69	536.42	479.14	569.66	578.10
1958-59 .. ..	607.71	605.66	505.75	543.49	489.60	554.24	591.74
1959-60 .. ..	650.82	649.38	528.65	575.58	516.95	610.25	633.25

(iv) *Managers, Clerical Staff and Other Employees.* A further analysis of salaries and wages paid is given in the following table for 1959-60, and shows the amounts paid to managerial and clerical staff, including salaried managers and working directors, chemists, draftsmen and other laboratory and research staff, and those paid to other employees. As previously mentioned, amounts drawn by working proprietors are excluded in all cases.

## FACTORIES: SALARIES AND WAGES PAID TO MANAGERS, CLERICAL STAFF, ETC., AND OTHER EMPLOYEES, AUSTRALIA, 1959-60.

Class of Industry.	Managers, Clerical Staff, Chemists, Draftsmen, etc.		All Other Employees.	
	Males.	Females.	Males.	Females.
	£'000.	£'000.	£'000.	£'000.
I. Treatment of Non-metalliferous Mine and Quarry Products .. .. .	3,213	547	19,719	121
II. Bricks, Pottery, Glass, etc. .. .. .	2,301	540	21,662	916
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. .. .	12,219	2,781	32,962	4,336
IV. Industrial Metals, Machines, Conveyances .. .. .	76,627	15,779	395,635	23,084
V. Precious Metals, Jewellery, Plate .. .. .	545	187	3,412	457
VI. Textiles and Textile Goods (not Dress) .. .. .	5,716	2,434	27,883	24,300
VII. Skins and Leather (not Clothing or Footwear) .. .. .	1,397	308	8,456	1,748
VIII. Clothing (except Knitted) .. .. .	5,151	2,791	22,080	42,449
IX. Food, Drink and Tobacco .. .. .	16,043	4,567	78,800	15,380
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. .. .	5,796	1,272	46,331	696
XI. Furniture of Wood, Bedding, etc. .. .. .	1,970	667	14,678	1,962
XII. Paper, Stationery, Printing, Bookbinding, etc. .. .. .	10,271	3,317	52,857	8,370
XIII. Rubber .. .. .	2,959	627	14,367	1,874
XIV. Musical Instruments .. .. .	107	23	642	91
XV. Miscellaneous Products .. .. .	3,350	1,110	13,445	4,100
<i>Total, Classes I. to XV.</i> .. .. .	<i>147,665</i>	<i>36,950</i>	<i>752,929</i>	<i>129,884</i>
XVI. Heat, Light and Power .. .. .	1,957	83	16,866	26
<b>Grand Total</b> .. .. .	<b>149,622</b>	<b>37,033</b>	<b>769,794</b>	<b>129,910</b>
Average paid per employee .. .. .	£ 1,494.80	£ 686.71	£ 1,059.13	£ 619.50

3. Power, Fuel and Light Used.—(i) *In Classes of Industry, 1959-60.* The expenditure by factories on power, fuel and light, including the value of lubricants and water, is shown in the following table for each State and Australia for 1959-60.

 FACTORIES: VALUE OF POWER, FUEL AND LIGHT USED(a), 1959-60.  
 (£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products .. .. .	4,753	2,710	858	990	478	341	10,130
II. Bricks, Pottery, Glass, etc. .. .. .	4,117	2,215	506	695	515	186	8,234
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. .. .	6,709	6,642	352	810	2,098	519	17,130
IV. Industrial Metals, Machines, Conveyances .. .. .	39,306	8,950	2,339	5,344	1,386	2,219	59,544
V. Precious Metals, Jewellery, Plate .. .. .	151	146	13	40	13	1	364
VI. Textiles and Textile Goods (not Dress) .. .. .	1,565	2,668	83	220	63	254	4,853
VII. Skins and Leather (not Clothing or Footwear) .. .. .	420	457	78	156	88	5	1,204
VIII. Clothing (except Knitted) .. .. .	954	937	178	120	86	42	2,317
IX. Food, Drink and Tobacco .. .. .	6,137	6,126	2,971	1,376	1,071	550	18,231
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. .. .	1,586	850	622	319	342	348	4,067
XI. Furniture of Wood, Bedding, etc. .. .. .	202	136	49	49	24	7	467
XII. Paper, Stationery, Printing, Bookbinding, etc. .. .. .	1,531	2,141	298	350	116	1,705	6,141
XIII. Rubber .. .. .	1,063	1,265	184	162	29	21	2,724
XIV. Musical Instruments .. .. .	39	9	1	1	(b)	..	50
XV. Miscellaneous Products .. .. .	669	913	15	41	18	5	1,661
<i>Total, Classes I. to XV.</i> .. .. .	<i>69,202</i>	<i>36,165</i>	<i>8,547</i>	<i>10,673</i>	<i>6,327</i>	<i>6,203</i>	<i>137,117</i>
XVI. Heat, Light and Power .. .. .	17,906	10,975	6,636	4,420	3,744	17	43,698
<b>Grand Total</b> .. .. .	<b>87,108</b>	<b>47,140</b>	<b>15,183</b>	<b>15,093</b>	<b>10,071</b>	<b>6,220</b>	<b>180,815</b>

(a) Includes value of lubricants and water.

(b) Less than £500.

(ii) *Values of Items, 1959-60.* The following table shows the values of the various items of power, fuel and light used in factories in each State during the year.

**FACTORIES: VALUE OF ITEMS OF POWER, FUEL AND LIGHT USED(a), 1959-60.**

(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Coal, Black .. ..	20,311	2,678	8,256	(b) 4,352	2,568	1,363	39,528
Brown .. ..	..	7,805	..	..	..	..	7,805
Brown Coal Briquettes .. ..	..	2,356	..	..	..	..	2,356
Coke .. ..	13,777	635	396	2,335	222	347	17,712
Wood .. ..	434	608	363	387	381	213	2,386
Fuel Oil .. ..	10,342	12,428	1,377	2,500	3,592	846	31,085
Tar (Fuel) .. ..	1,583	179	19	95	29	16	1,921
Electricity .. ..	24,012	15,827	3,661	4,061	2,244	2,862	52,667
Gas .. ..	9,820	1,307	201	263	92	44	11,727
Other (Charcoal, etc.) .. ..	2,467	648	120	371	430	322	4,358
Water .. ..	2,962	1,725	420	455	271	117	5,950
Lubricating Oils .. ..	1,400	944	370	274	242	90	3,320
<b>Total .. ..</b>	<b>87,108</b>	<b>47,140</b>	<b>15,183</b>	<b>15,093</b>	<b>10,071</b>	<b>6,220</b>	<b>180,815</b>

(a) Includes value of lubricants and water.  
of Leigh Creek coal. (See p. 241)

(b) Includes £1,441,116, the value of 676,719 tons

(iii) *Quantities of Fuel Used, 1959-60.* The following table shows the quantities of fuel used in factories in each State during the year.

**FACTORIES: QUANTITIES OF FUEL USED, 1959-60.**

Particulars.	Unit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Coal, Black .. ..	'000 tons	6,223	427	1,800	(a) 1,241	607	269	10,567
Brown .. ..	..	..	11,746	..	..	..	..	11,746
Brown Coal Briquettes .. ..	..	..	510	..	..	..	..	510
Coke .. ..	..	2,375	50	31	270	18	18	2,762
Wood .. ..	..	202	352	174	215	271	93	1,307
Fuel Oil .. ..	'000 gals.	190,590	241,433	16,274	47,451	70,738	12,014	578,500
Tar (Fuel) .. ..	..	30,996	3,412	418	2,331	854	274	38,285

(a) Includes 676,719 tons of Leigh Creek coal.

(iv) *Total Value, 1955-56 to 1959-60.* The next table shows the amounts expended on power, fuel and light during these years.

**FACTORIES: VALUE OF POWER, FUEL AND LIGHT USED.(a)**

(£'000.)

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
1955-56 .. ..	66,469	34,598	11,980	12,830	9,053	4,097	139,027
1956-57 .. ..	71,445	40,381	13,130	14,130	9,225	4,799	153,110
1957-58 .. ..	73,452	42,762	13,152	14,933	9,425	5,074	158,798
1958-59 .. ..	76,275	43,377	14,964	14,590	9,587	5,459	164,252
1959-60 .. ..	87,108	47,140	15,183	15,093	10,071	6,220	180,815

(a) Includes value of lubricants and water.

4. *Value of Materials Used.*—(i) *In Classes of Industry, 1959-60.* The value of materials used (which includes the value of containers, packing, etc., the cost of tools replaced and repairs to plant) in factories in Australia in 1959-60 reached £2,767,999,000, or 55.1 per

cent. of the value of the final output (*see* para. 5). The following table shows the value of the materials used in various classes of industry in each State.

**FACTORIES: VALUE OF MATERIALS USED, 1959-60.(a)**

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<b>I. Treatment of Non-metalliferous Mine and Quarry Products</b> ..	34,623	15,671	5,190	5,264	2,738	1,485	64,971
<b>II. Bricks, Pottery, Glass, etc.</b> ..	12,732	7,055	1,092	2,589	868	317	24,653
<b>III. Chemicals, Dyes, Explosives, Paints, Oils, Grease</b> ..	138,288	105,314	9,335	11,159	35,772	2,608	302,476
<b>IV. Industrial Metals, Machines, Conveyances</b> ..	553,615	249,955	57,097	107,629	27,427	20,239	1,015,962
<b>V. Precious Metals, Jewellery, Plate</b> ..	2,040	1,995	107	224	81	10	4,457
<b>VI. Textiles and Textile Goods (not Dress)</b> ..	44,261	83,004	5,040	4,233	4,274	6,082	146,894
<b>VII. Skins and Leather (not Clothing or Footwear)</b> ..	16,262	12,090	3,563	5,492	1,103	322	38,832
<b>VIII. Clothing (except Knitted)</b> ..	51,832	53,113	5,080	3,895	2,174	458	116,552
<b>IX. Food, Drink and Tobacco</b> ..	184,265	194,820	166,536	40,172	29,236	18,450	633,479
<b>X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving</b> ..	44,337	31,647	17,311	11,351	7,687	7,575	119,908
<b>XI. Furniture of Wood, Bedding, etc.</b> ..	18,080	11,632	4,580	3,312	2,216	608	40,428
<b>XII. Paper, Stationery, Printing, Bookbinding, etc.</b> ..	58,610	58,057	9,536	6,943	3,774	8,751	145,671
<b>XIII. Rubber</b> ..	20,665	22,128	3,891	2,005	419	208	49,316
<b>XIV. Musical Instruments</b> ..	890	199	24	8	16	..	1,137
<b>XV. Miscellaneous Products</b> ..	18,224	23,121	594	1,202	445	100	43,686
<i>Total, Classes I. to XV.</i>	<i>1,198,724</i>	<i>869,801</i>	<i>288,976</i>	<i>205,478</i>	<i>118,230</i>	<i>67,213</i>	<i>2,748,422</i>
<b>XVI. Heat, Light and Power</b> ..	7,531	6,172	2,412	2,158	908	396	19,577
<b>Grand Total</b> ..	<b>1,206,255</b>	<b>875,973</b>	<b>291,388</b>	<b>207,636</b>	<b>119,138</b>	<b>67,609</b>	<b>2,767,999</b>

(a) *See* para. 1 of this section, p. 176.

(ii) *Total Amount, 1955-56 to 1959-60.* The following table shows the value of materials used in factories for these years.

**FACTORIES: VALUE OF MATERIALS USED.(a)**

(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 ..	884,582	674,846	231,584	183,196	96,360	53,751	2,124,319
1956-57 ..	948,393	707,729	244,974	184,209	104,969	56,909	2,247,183
1957-58 ..	1,016,928	768,459	248,647	183,880	111,525	56,922	2,386,361
1958-59 ..	1,070,862	778,716	280,757	188,358	107,853	58,533	2,485,079
1959-60 ..	1,206,255	875,973	291,388	207,636	119,138	67,609	2,767,999

(a) *See* para. 1 of this section, p. 176.

5. *Value of Output.*—(i) *In Classes of Industry, 1959-60.* The value of the output of factories in the various classes in each State in 1959-60 is shown in the following table. It represents the selling value at the factory (excluding delivery costs and charges) of goods made or processed during the year, including by-products. In addition, it includes the amount received for other work done such as repair work, assembling and making up for customers. The difference between the sum of the values of the materials and of the power, fuel and light used, and the value of output is the net value of factory production (*see* paras. 1 and 6 of this section).

## FACTORIES: VALUE OF OUTPUT, 1959-60.(a)

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products	62,037	34,056	10,554	11,311	6,420	3,150	127,528
II. Bricks, Pottery, Glass, etc. ..	39,524	21,149	4,077	7,721	3,798	1,137	77,406
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	233,463	170,424	15,071	20,926	52,359	5,629	497,872
IV. Industrial Metals, Machines, Conveyances ..	1,001,865	511,662	112,182	200,918	56,518	41,453	1,924,598
V. Precious Metals, Jewellery, Plate ..	5,780	5,268	471	883	395	36	12,833
VI. Textiles and Textile Goods (not Dress) ..	81,449	146,274	7,546	8,209	6,005	10,608	260,091
VII. Skins and Leather (not Clothing or Footwear) ..	24,835	18,972	5,292	7,267	2,164	446	58,976
VIII. Clothing (except Knitted) ..	103,162	106,650	12,198	9,081	5,260	1,365	237,716
IX. Food, Drink and Tobacco ..	284,590	282,558	215,079	59,469	42,554	27,528	911,778
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving	80,587	57,492	33,094	19,647	16,379	14,465	221,664
XI. Furniture of Wood, Bedding, etc. ..	33,030	21,973	8,142	6,246	3,998	1,268	74,657
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	122,088	112,965	20,202	15,154	8,772	21,724	300,905
XIII. Rubber ..	33,187	38,010	6,841	4,713	894	533	84,178
XIV. Musical Instruments ..	2,402	533	75	47	56	..	3,113
XV. Miscellaneous Products ..	38,357	42,698	1,425	2,617	1,083	307	86,487
<i>Total, Classes I. to XV.</i>	<i>2,146,356</i>	<i>1,570,684</i>	<i>452,249</i>	<i>374,209</i>	<i>206,655</i>	<i>129,649</i>	<i>4,879,802</i>
XVI. Heat, Light and Power ..	63,453	38,930	16,714	11,493	8,928	4,376	143,894
<b>Grand Total ..</b>	<b>2,209,809</b>	<b>1,609,614</b>	<b>468,963</b>	<b>385,702</b>	<b>215,583</b>	<b>134,025</b>	<b>5,023,696</b>

(a) See para. 1 of this section, p. 176.

(ii) *Total, 1955-56 to 1959-60.* The following table shows the value of output in each State during these years.

## FACTORIES: VALUE OF OUTPUT.(a)

(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 ..	1,595,137	1,201,392	371,644	316,962	175,146	103,779	3,764,060
1956-57 ..	1,726,637	1,276,141	396,504	325,105	187,636	110,390	4,022,413
1957-58 ..	1,848,242	1,377,697	405,757	332,098	196,262	113,826	4,273,882
1958-59 ..	1,952,452	1,431,041	451,186	342,758	196,202	118,293	4,491,932
1959-60 ..	2,209,809	1,609,614	468,963	385,702	215,583	134,025	5,023,696

(a) See para. 1 of this section p. 176.

6. *Value of Production.*—(i) *In Classes of Industry, 1959-60.* The value of production for any industry was defined at the Conference of Statisticians at Sydney in 1925 as “the value of consumable commodities produced during the year, deducting, so far as possible, the value of goods consumed in process of production.”

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In accordance with this definition, it was agreed that a deduction consisting of the costs of raw material, containers, power, fuel, light, lubricants, water, tools replaced, repairs to plant and depreciation should be made from the "value of output". On account of the difficulty experienced in securing accurate figures for depreciation, however, it was subsequently decided that no deduction should be made on this account. All the deductions mentioned above, with the exception of depreciation, are included in the items "value of materials used" and "value of fuel used" as defined above. The net value of production as given in the following tables is obtained, therefore, by deducting only "value of materials used" and "value of fuel used" from the "value of output".

Only certain selected items of costs are recorded in the annual census of production. It must not, therefore, be inferred that, when wages and salaries are deducted from the value of production, the whole of the "surplus" is available for interest and profit, as many miscellaneous expenses such as taxation, insurance, advertising and other overhead charges, as well as depreciation, also have to be taken into account.

The value of factory production, therefore, approximates "net value added" in the manufacturing process. In 1959-60, it amounted to £2,075 million, to which Class IV., Industrial Metals, etc., with £849 million made the greatest contribution.

The following table shows the value of production in 1959-60 in each State for the various classes of industry.

FACTORIES: VALUE OF PRODUCTION, 1959-60.(a)

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products ..	22,661	15,675	4,506	5,057	3,204	1,324	52,427
II. Bricks, Pottery, Glass, etc. ..	22,675	11,879	2,479	4,437	2,415	634	44,519
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	88,466	58,468	5,384	8,957	14,489	2,502	178,266
IV. Industrial Metals, Machines, Conveyances ..	408,941	252,757	52,746	87,945	27,705	18,995	849,092
V. Precious Metals, Jewellery, Plate ..	3,589	3,127	351	619	301	25	8,012
VI. Textiles and Textile Goods (not Dress) ..	35,623	60,602	2,423	3,756	1,668	4,272	108,344
VII. Skins and Leather (not Clothing or Footwear) ..	8,153	6,425	1,651	1,619	973	119	18,940
VIII. Clothing (except Knitted) ..	50,376	52,600	6,940	5,066	3,000	865	118,847
IX. Food, Drink and Tobacco ..	94,188	81,612	45,572	17,921	12,247	8,528	260,068
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	34,664	24,995	15,161	7,977	8,350	6,542	97,689
XI. Furniture of Wood, Bedding, etc. ..	14,748	10,205	3,513	2,885	1,758	653	33,762
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	61,947	52,767	10,368	7,861	4,882	11,268	149,093
XIII. Rubber ..	11,459	14,617	2,766	2,546	446	304	32,138
XIV. Musical Instruments ..	1,473	325	50	38	40	..	1,926
XV. Miscellaneous Products ..	19,464	18,664	816	1,374	620	202	41,140
Total, Classes I. to XV.	878,430	664,718	154,726	158,058	82,098	56,233	1,994,263
XVI. Heat, Light and Power ..	38,016	21,783	7,666	4,915	4,276	3,963	80,619
Grand Total ..	916,446	686,501	162,392	162,973	86,374	60,196	2,074,882

(a) See para. I of this section, p. 176.

(ii) Total and Averages, 1955-56 to 1959-60. The value of production and the amount per person employed and per head of population are shown in the following table.

## FACTORIES: VALUE OF PRODUCTION.(a)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
VALUE. (£'000.)							
1955-56 .. ..	644,086	491,948	128,080	120,936	69,733	45,931	1,500,714
1956-57 .. ..	706,799	528,031	138,400	126,766	73,442	48,682	1,622,120
1957-58 .. ..	757,862	566,476	143,958	133,285	75,312	51,830	1,728,723
1958-59 .. ..	805,315	608,948	155,465	139,810	78,762	54,301	1,842,601
1959-60 .. ..	916,446	686,501	162,392	162,973	86,374	60,196	2,074,882

## PER PERSON EMPLOYED. (£.)

1955-56 .. ..	1,487	1,385	1,250	1,306	1,392	1,697	1,415
1956-57 .. ..	1,620	1,487	1,343	1,378	1,507	1,759	1,525
1957-58 .. ..	1,700	1,586	1,414	1,441	1,554	1,846	1,610
1958-59 .. ..	1,792	1,678	1,484	1,485	1,627	1,910	1,693
1959-60 .. ..	1,962	1,799	1,551	1,646	1,740	2,029	1,833

## PER HEAD OF POPULATION. (£.)

1955-56 .. ..	182.72	192.46	94.12	144.92	104.56	144.30	162.04
1956-57 .. ..	196.93	201.11	99.28	147.16	107.85	149.94	171.18
1957-58 .. ..	207.02	210.81	101.21	150.43	108.59	156.09	178.55
1958-59 .. ..	215.96	221.44	107.18	153.92	111.58	160.36	186.45
1959-60 .. ..	241.40	243.47	109.86	174.56	120.41	174.93	205.65

(a) See para. 1 of this section, p. 176.

## § 9. Value of Land, Buildings, Plant and Machinery.

1. General.—The following statement shows the value of land and buildings and of plant and machinery used in connexion with manufacturing industries during the year 1959-60.

FACTORIES: VALUE OF LAND, BUILDINGS, PLANT AND MACHINERY(a), 1959-60.  
(£'000.)

Value of—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Land and buildings	440,548	353,735	76,352	77,632	43,573	72,012	1,063,852
Plant and machinery	506,638	377,092	120,211	98,240	64,225	53,658	1,220,064
Total ..	947,186	730,827	196,563	175,872	107,798	125,670	2,283,916

(a) Includes estimated value of rented premises and plant.

The values recorded in this section are generally the values apportioned in the books of the individual firms after allowance has been made for depreciation, but they include estimates of the capital value of premises and plant rented. Consequently, the totals shown in the table do not represent the actual amount of capital invested in the items specified.

2. Value of Land and Buildings.—(i) *Total for Australia.* The following table shows, for Australia as a whole, the approximate value of land and buildings occupied in connexion with manufacturing industries for 1955–56 to 1959–60.

**FACTORIES: VALUE OF LAND AND BUILDINGS(a), AUSTRALIA.**  
(£'000.)

Class of Industry.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
I. Treatment of Non-metalliferous Mine and Quarry Products ..	11,228	12,686	13,714	15,175	22,325
II. Bricks, Pottery, Glass, etc. ..	11,301	14,498	14,986	16,580	19,616
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	61,863	67,719	70,090	76,645	80,477
IV. Industrial Metals, Machines, Conveyances ..	218,667	252,837	300,343	336,282	387,934
V. Precious Metals, Jewellery, Plate ..	3,233	3,525	3,777	3,845	3,955
VI. Textiles and Textile Goods (not Dress)	31,931	37,010	40,199	46,671	48,379
VII. Skins and Leather (not Clothing or Footwear) ..	6,288	7,074	7,221	7,702	9,166
VIII. Clothing (except Knitted) ..	33,920	37,203	39,855	43,203	47,762
IX. Food, Drink and Tobacco ..	108,335	118,413	129,073	138,625	149,341
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	23,141	25,347	28,464	30,656	34,903
XI. Furniture of Wood, Bedding, etc. ..	9,915	11,223	12,992	14,677	16,251
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	40,256	44,912	52,854	61,059	68,997
XIII. Rubber ..	8,581	9,563	11,688	12,821	13,439
XIV. Musical Instruments ..	621	987	636	730	930
XV. Miscellaneous Products ..	9,946	11,491	12,922	14,688	18,345
<i>Total, Classes I. to XV.</i> ..	<i>579,226</i>	<i>654,488</i>	<i>738,814</i>	<i>819,359</i>	<i>921,820</i>
XVI. Heat, Light and Power ..	74,348	105,199	110,222	128,540	142,032
<b>Grand Total ..</b>	<b>653,574</b>	<b>759,687</b>	<b>849,036</b>	<b>947,899</b>	<b>1,063,852</b>

(a) Includes estimated value of rented premises.

(ii) *In Classes of Industry in States, 1959–60.* The following table gives particulars of the various classes of industry in each State.

**FACTORIES: VALUE OF LAND AND BUILDINGS(a), 1959-60.**  
(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products ..	6,494	9,744	1,460	2,148	1,781	698	22,325
II. Bricks, Pottery, Glass, etc. ..	10,551	5,018	1,072	1,368	1,307	300	19,616
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease ..	41,295	28,094	1,577	3,576	4,752	1,183	80,477
IV. Industrial Metals, Machines, Conveyances ..	182,147	126,411	22,030	33,219	13,741	10,386	387,934
V. Precious Metals, Jewellery, Plate ..	1,711	1,551	121	358	189	25	3,955
VI. Textiles and Textile Goods (not Dress)	15,053	28,657	907	1,732	620	1,410	48,379
VII. Skins and Leather (not Clothing or Footwear) ..	3,950	3,821	358	669	333	35	9,166
VIII. Clothing (except Knitted) ..	19,914	20,391	2,613	2,356	1,704	784	47,762
IX. Food, Drink and Tobacco ..	47,067	52,057	23,891	11,669	8,627	6,030	149,341
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving ..	13,073	10,482	3,286	4,150	2,185	1,727	34,903
XI. Furniture of Wood, Bedding, etc. ..	6,595	5,306	1,608	1,546	851	345	16,251
XII. Paper, Stationery, Printing, Bookbinding, etc. ..	28,700	23,801	4,535	3,999	1,937	6,025	68,997
XIII. Rubber ..	4,870	5,171	1,620	1,092	433	253	13,439
XIV. Musical Instruments ..	513	283	28	73	33	..	930
XV. Miscellaneous Products ..	8,075	8,733	403	587	392	155	18,345
<i>Total, Classes I. to XV.</i> ..	<i>390,008</i>	<i>329,520</i>	<i>65,509</i>	<i>68,542</i>	<i>38,885</i>	<i>29,356</i>	<i>921,820</i>
XVI. Heat, Light and Power ..	50,540	24,215	10,843	9,090	4,688	42,656	142,032
<b>Grand Total ..</b>	<b>440,548</b>	<b>353,735</b>	<b>76,352</b>	<b>77,632</b>	<b>43,573</b>	<b>72,012</b>	<b>1,063,852</b>

(a) Includes estimated value of rented premises.



(iii) *Totals in each State.* The following table shows the value of land and buildings in each State for the years 1955-56 to 1959-60.

**FACTORIES: VALUE OF LAND AND BUILDINGS.(a)**

(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 .. ..	260,268	212,913	52,602	48,353	32,859	46,579	653,574
1956-57 .. ..	303,981	249,716	58,654	55,343	35,520	56,473	757,687
1957-58 .. ..	350,169	277,557	63,927	61,084	36,846	59,453	849,036
1958-59 .. ..	400,273	309,833	68,995	66,278	40,690	61,830	947,899
1959-60 .. ..	440,548	353,735	76,352	77,632	43,573	72,012	1,063,852

(a) Includes estimated value of rented premises.

Prior to 1929-30, the increase in the value of land and buildings was uninterrupted, rising from £23 million in 1903 to £118 million in 1929-30, an increase of £95 million in 27 years. During the three years ended 1932-33, there was a decline of £12 million to £105.8 million, but since that year the value has risen annually, and it stood at £1,063.9 million in 1959-60.

3. *Value of Plant and Machinery.*—(i) *Total for Australia, 1955-56 to 1959-60.* The following table shows for Australia the approximate value of plant and machinery used in factories.

**FACTORIES: VALUE OF PLANT AND MACHINERY(a), AUSTRALIA.**

(£'000.)

Class of Industry.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
I. Treatment of Non-metalliferous Mine and Quarry Products .. ..	23,512	27,351	30,623	35,099	49,658
II. Bricks, Pottery, Glass, etc. .. ..	12,319	13,138	13,443	14,564	16,286
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. ..	125,016	127,732	137,520	153,820	157,731
IV. Industrial Metals, Machines, Conveyances .. ..	202,286	251,161	289,969	319,665	358,039
V. Precious Metals, Jewellery, Plate .. ..	1,219	1,374	1,388	1,348	1,541
VI. Textiles and Textile Goods (not Dress)	31,155	32,570	36,040	41,380	42,775
VII. Skins and Leather (not Clothing or Footwear) .. ..	4,225	4,332	4,240	4,348	4,216
VIII. Clothing (except Knitted) .. ..	14,340	15,699	15,621	16,407	17,244
IX. Food, Drink and Tobacco .. ..	115,904	124,406	131,708	138,940	147,262
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. ..	23,626	25,045	27,043	29,121	30,841
XI. Furniture of Wood, Bedding, etc. .. ..	3,388	3,632	3,802	4,130	4,369
XII. Paper, Stationery, Printing, Book-binding, etc. .. ..	51,405	53,755	59,509	63,757	74,776
XIII. Rubber .. ..	8,971	8,626	10,234	10,333	12,240
XIV. Musical Instruments .. ..	509	682	429	426	386
XV. Miscellaneous Products .. ..	7,459	8,515	10,417	11,077	13,455
<i>Total, Classes I. to XV.</i> .. ..	<i>625,334</i>	<i>698,018</i>	<i>771,986</i>	<i>844,415</i>	<i>930,819</i>
XVI. Heat, Light and Power .. ..	172,501	219,019	240,749	263,970	289,245
<b>Grand Total</b> .. ..	<b>797,835</b>	<b>917,037</b>	<b>1,012,735</b>	<b>1,108,385</b>	<b>1,220,064</b>

(a) Includes estimated value of rented plant and machinery.

Except for the years 1930-31 to 1933-34, when decreases were recorded, there has been a continuous increase in the value of plant and machinery in factories in Australia. The increase in 1959-60 of £111.7 million over 1958-59 extended over practically all industrial classes.

(ii) *Totals in each State.* The following table shows the value of plant and machinery in each State during the years 1955-56 to 1959-60. During 1959-60, increases occurred in all States, except Western Australia which declined by 2.8 per cent. South Australia showed the greatest relative increase with 15.9 per cent.

**FACTORIES: VALUE OF PLANT AND MACHINERY.(a)**

(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 .. ..	298,913	252,590	85,777	63,596	56,534	40,425	797,835
1956-57 .. ..	363,310	283,868	89,904	71,847	63,272	44,836	917,037
1957-58 .. ..	415,838	302,263	104,598	79,336	63,840	46,860	1,012,735
1958-59 .. ..	459,678	337,107	112,528	84,749	66,097	48,226	1,108,385
1959-60 .. ..	506,638	377,092	120,211	98,240	64,225	53,658	1,220,064

(a) Includes estimated value of rented plant and machinery.

(iii) *Value according to Class of Industry, 1959-60.* The following table shows the value of plant and machinery used in factories in each State during 1959-60 according to class of industry.

**FACTORIES: VALUE OF PLANT AND MACHINERY(a), 1959-60.**

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products .. ..	21,107	16,976	4,070	4,450	2,067	988	49,658
II. Bricks, Pottery, Glass, etc. .. ..	8,904	3,888	1,191	1,063	985	255	16,286
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. ..	69,092	54,094	2,900	7,949	21,464	2,232	157,731
IV. Industrial Metals, Machines, Conveyances .. ..	199,697	89,797	15,232	32,871	9,196	11,246	358,039
V. Precious Metals, Jewellery, Plate .. ..	821	490	42	134	47	7	1,541
VI. Textiles and Textile Goods (not Dress) .. ..	13,706	23,278	1,084	2,021	423	2,263	42,775
VII. Skins and Leather (not Clothing or Footwear) .. ..	1,706	1,477	381	435	203	14	4,216
VIII. Clothing (except Knitted) .. ..	6,207	7,840	1,172	1,025	636	364	17,244
IX. Food, Drink and Tobacco .. ..	40,552	43,938	40,796	10,257	6,462	5,257	147,262
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. ..	10,000	7,000	5,067	3,631	2,412	2,731	30,841
XI. Furniture of Wood, Bedding, etc. .. ..	1,774	1,276	496	476	270	77	4,369
XII. Paper, Stationery, Printing, Bookbinding, etc. .. ..	26,759	25,145	6,810	4,033	1,832	10,197	74,776
XIII. Rubber .. ..	3,820	6,598	866	586	244	126	12,240
XIV. Musical Instruments .. ..	299	73	4	7	3	..	386
XV. Miscellaneous Products .. ..	5,725	6,973	202	362	152	41	13,455
<i>Total, Classes I. to XV.</i>	<i>410,169</i>	<i>288,843</i>	<i>80,313</i>	<i>69,300</i>	<i>46,396</i>	<i>35,798</i>	<i>930,819</i>
XVI. Heat, Light and Power .. ..	96,469	88,249	39,898	28,940	17,829	17,860	289,245
<b>Grand Total .. ..</b>	<b>506,638</b>	<b>377,092</b>	<b>120,211</b>	<b>98,240</b>	<b>64,225</b>	<b>53,658</b>	<b>1,220,064</b>

(a) Includes estimated value of rented plant and machinery.

4. *Depreciation of Land and Buildings and Plant and Machinery, 1959-60.*—The following table shows the allowance made for the depreciation of land and buildings and plant and machinery used in connexion with the manufacturing industries in each State as recorded by factory proprietors at the annual census of factory production.

**FACTORIES: ALLOWANCE FOR DEPRECIATION OF LAND AND BUILDINGS  
AND PLANT AND MACHINERY, 1959-60.**

(£'000.)

Class of Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
I. Treatment of Non-metalliferous Mine and Quarry Products .. .. .	2,041	1,300	390	501	227	91	4,550
II. Bricks, Pottery, Glass, etc. .. .. .	1,170	570	149	147	125	28	2,189
III. Chemicals, Dyes, Explosives, Paints, Oils, Grease .. .. .	7,153	6,500	308	754	2,556	618	17,889
IV. Industrial Metals, Machines, Conveyances .. .. .	19,734	9,764	1,542	4,038	985	1,061	37,124
V. Precious Metals, Jewellery, Plate .. .. .	60	42	4	11	4	1	122
VI. Textiles and Textile Goods (not Dress) .. .. .	1,559	3,111	160	326	71	331	5,558
VII. Skins and Leather (not Clothing or Footwear) .. .. .	154	157	36	53	29	1	430
VIII. Clothing (except Knitted) .. .. .	691	703	109	78	64	51	1,696
IX. Food, Drink and Tobacco .. .. .	4,372	5,208	4,027	1,132	770	531	16,040
X. Sawmills, Joinery, Boxes, etc., Wood Turning and Carving .. .. .	1,074	724	585	359	276	339	3,357
XI. Furniture of Wood, Bedding, etc. .. .. .	205	129	66	54	28	7	489
XII. Paper, Stationery, Printing, Bookbinding, etc. .. .. .	2,635	3,475	827	417	232	982	8,568
XIII. Rubber .. .. .	923	1,015	167	160	42	23	2,330
XIV. Musical Instruments .. .. .	44	7	..	1	..	..	52
XV. Miscellaneous Products .. .. .	822	990	21	43	18	5	1,899
<i>Total, Classes I. to XV.</i>	<i>42,637</i>	<i>33,695</i>	<i>8,391</i>	<i>8,074</i>	<i>5,427</i>	<i>4,069</i>	<i>102,293</i>
XVI. Heat, Light and Power .. .. .	10,421	3,796	2,432	1,009	1,173	665	19,496
<b>Grand Total .. .. .</b>	<b>53,058</b>	<b>37,491</b>	<b>10,823</b>	<b>9,083</b>	<b>6,600</b>	<b>4,734</b>	<b>121,789</b>

5. Land and Buildings, Plant and Machinery—Values, Additions and Replacements, Depreciation, 1955-56 to 1959-60.—The following table summarizes the recorded totals for Australia in this section and also includes particulars of additions and replacements.

**FACTORIES: VALUE OF LAND AND BUILDINGS, PLANT AND MACHINERY,  
AUSTRALIA.**

(£'000.)

Year.	Book Values as at 30th June.(a)		Additions and Replacements during year.(a)		Depreciation allowed during year.	
	Land and Buildings.	Plant and Machinery.	Land and Buildings.	Plant and Machinery.	Land and Buildings.	Plant and Machinery.
1955-56.. .. .	653,574	797,835	82,808	156,535	8,209	60,508
1956-57.. .. .	759,687	917,037	87,441	195,670	9,514	71,119
1957-58.. .. .	849,036	1,012,735	75,762	176,903	10,899	85,818
1958-59.. .. .	947,899	1,108,385	94,823	197,566	13,000	96,752
1959-60.. .. .	1,063,852	1,220,064	101,971	231,162	13,303	108,486

(a) Includes estimated value of rented premises, plant and machinery.

§ 10. Principal Factory Products.

The factory production of certain commodities is shown in the monthly and quarterly publications of this Bureau and in the bulletin *Secondary Industries* (see NOTE at beginning of this chapter).

The following table shows the total recorded production of some of the principal articles manufactured in Australia during the years ended 30th June, 1959 to 1961. A more complete list, together with values, where available, is published in the *Secondary Industries* bulletin.

QUANTITY OF PRINCIPAL ARTICLES PRODUCED IN FACTORIES: AUSTRALIA.

Article.	Unit of Quantity.	1958-59.	1959-60.	1960-61.(a)
Acid—				
Nitric .. .. .	Ton	15,331	16,807	16,986
Sulphuric .. .. .	"	986,193	1,071,128	1,122,193
Aerated and Carbonated Waters .. .. .	'000 gals.	69,285	75,834	76,493
Asbestos Cement Building Sheets .. .. .	'000 sq. yds.	26,846	30,707	28,388
Bacon and Ham (cured weight) .. .. .	'000 lb.	74,815	71,572	(b)
Bags, Leather, Fibre, etc.—				
Handbags—				
Leather .. .. .	No.	792,973	792,854	(b)
Plastic .. .. .	"	1,401,958	1,750,264	(b)
Other .. .. .	"	94,964	102,612	(b)
School Bags .. .. .	"	128,633	135,332	(b)
Suitcases (c) .. .. .	"	1,322,930	1,410,563	(b)
All other (d) .. .. .	"	1,068,481	1,839,705	(b)
Baking Powder .. .. .	lb.	585,156	819,937	(b)
Bath Heaters—				
Electric .. .. .	No.	12,533	12,313	13,923
Gas .. .. .	"	23,190	21,301	17,190
Solid Fuel .. .. .	"	30,185	28,625	23,713
Bathing Suits .. .. .	Doz.	155,882	194,114	220,408
Baths, C.I.P.E. .. .. .	No.	87,954	91,591	84,189
Batteries, Wet Cell Type—				
Auto (S.L.I.) 6 Volts .. .. .	No.	648,246	694,062	623,966
" 12 Volts .. .. .	"	664,172	823,832	842,165
Radio, Homelighter, Fencer .. .. .	No. of 2 Volt Cells	233,560	216,405	209,310
Traction .. .. .	"	31,068	36,094	35,990
Other .. .. .	(e)	39,519	39,519	22,458
Beer (excluding Waste Beer) .. .. .	'000 gals.	223,597	231,675	(f) 241,758
Biscuits .. .. .	'000 lb.	172,540	177,579	180,691
Blankets .. .. .	'000	1,705	1,934	1,899
Boots and Shoes (see Footwear).				
Bran (Wheaten) .. .. .	Ton (2,000 lb.)	228,461	248,137	255,109
Brassieres .. .. .	Doz.	494,541	521,146	512,328
Bricks, Clay .. .. .	'000	940,198	1,030,444	1,061,134
Brooms .. .. .	Gross	21,227	20,503	(b)
Brushes (g) .. .. .	"	106,777	105,948	(b)
Butter .. .. .	Ton	190,923	195,007	179,424
Candles .. .. .	Cwt.	8,588	9,472	9,116
Cardigans, Sweaters, etc. .. .. .	Doz.	1,175,782	1,436,549	1,239,509
Cement, Portland .. .. .	Ton	2,481,036	2,631,599	2,859,680
Cheese (green weight) .. .. .	"	43,430	44,758	46,590
Cigarettes .. .. .	'000 lb.	35,255	39,391	40,806
Cleansing and Scouring Powders—				
Soap based (including Sand Soap) .. .. .	Cwt.	64,982	65,927	61,285
Other .. .. .	"	136,241	136,054	144,625
Cloth (h)—				
Cotton (excludes Towelling) .. .. .	'000 sq. yds.	42,285	43,125	44,572
Woolfen and Worsted .. .. .	"	27,265	30,235	26,552
Coke—				
Metallurgical .. .. .	Ton	2,210,621	2,376,097	2,761,668
Other .. .. .	"	815,464	758,668	(b)
Confectionery—				
Chocolate .. .. .	'000 lb.	66,305	73,275	78,548
Other .. .. .	"	92,457	95,536	94,856
Coppers—				
Electric .. .. .	No.	20,717	19,461	15,327
Gas .. .. .	"	21,834	20,110	15,447
Inserts (all types) .. .. .	"	43,393	37,343	(b)
Cordials and Syrups .. .. .	'000 gals.	4,556	4,962	5,274
Corsets and Corselets .. .. .	Doz.	174,619	200,165	215,381

(a) Subject to revision. (b) Not yet available. (c) Includes kitbags and trunks.  
 (d) Excludes canvas waterbags. (e) Not available for publication. (f) As reported by Department of Customs and Excise; includes waste. (g) Excludes tooth and industrial metal and bristle brushes. (h) Includes mixtures.

QUANTITY OF PRINCIPAL ARTICLES PRODUCED IN FACTORIES:  
AUSTRALIA—continued.

Article.	Unit of Quantity.	1958-59.	1959-60.	1960-61.(a)
Custard Powder .. .. .	'000 lb.	5,472	5,577	(b)
Cycles, Assembled .. .. .	No.	69,608	69,835	64,608
Dynamos—				
Alternators .. .. .	No.	330	611	(b)
Generators .. .. .	"	4,663	4,841	(b)
Electricity .. .. .	Mill. kWh	21,199	23,199	25,072
Engines—				
Diesel, other than Marine .. .. .	No.	1,670	3,216	3,079
Petrol—				
Marine .. .. .	"	4,419	5,174	9,053
Other (c) .. .. .	"	290,229	291,909	183,695
Essences, Flavouring—				
Culinary .. .. .	Gal.	120,686	111,173	(b)
Industrial .. .. .	"	347,452	379,774	(b)
Face Powder .. .. .	Cwt.	2,112	2,973	(b)
Fans, Electric (including Industrial) .. .. .	No.	(d)	(d)	266,565
Fats, Edible—				
Dripping .. .. .	Cwt.	517,313	(e)	(b)
Other .. .. .	"	529,919	555,595	(b)
Fibrous Plaster Sheets .. .. .	'000 sq. yds.	18,341	18,598	16,982
Fish, Canned (including Fish Loaf) .. .. .	'000 lb.	7,782	8,118	8,212
Floorboards—				
Australian Timber .. .. .	'000 super. ft.	139,163	150,208	(b)
Imported Timber .. .. .	"	2,691	2,094	(b)
Flour, Self-raising .. .. .	Cwt.	1,031,463	983,622	(b)
Flour, Wheaten (f) .. .. .	Ton (2,000 lb.)	1,367,244	1,507,213	1,571,033
Footwear (Not Rubber)—				
Boots, Shoes and Sandals .. .. .	'000 pairs	24,062	25,629	24,035
Slippers .. .. .	"	8,535	9,751	10,300
Fruit Juices, Natural .. .. .	'000 gals.	5,073	5,041	(b)
Gas (Town) .. .. .	Mill. cubic ft.	48,567	49,593	50,648
Gloves—				
Dress—				
Leather .. .. .	Doz. pairs.	1,692	930	328
Other .. .. .	"	52,816	58,304	42,761
Work, all types .. .. .	"	310,007	358,952	380,480
Golf Clubs .. .. .	Doz.	14,832	16,007	26,830
Handkerchiefs—				
Men's .. .. .	"	1,363,165	1,276,622	(b)
Women's .. .. .	"	1,634,059	1,617,728	(b)
Hats and Caps (excluding Berets) (g) .. .. .	"	522,086	513,701	(b)
Hose, Rubber, Garden .. .. .	'000 lin. ft.	2,514	2,494	(b)
Other .. .. .	"	10,680	11,706	(b)
Plastic, Garden .. .. .	"	23,854	33,743	(b)
Ice .. .. .	Ton	381,691	326,098	(b)
Ice Cream .. .. .	'000 gals.	16,095	16,524	17,806
Infants' and Invalid's Foods (h) .. .. .	Ton	14,134	15,985	16,464
Iron and Steel—				
Pig Iron .. .. .	'000 tons.	2,294	2,655	3,011
Steel Ingots .. .. .	"	3,204	3,520	3,737
Blooms and Billets .. .. .	"	2,814	3,022	3,214
Irons, Electric (Hand, Domestic) .. .. .	No.	305,899	334,247	285,889
Jams .. .. .	'000 lb.	78,234	84,702	81,311
Jelly Crystals .. .. .	"	12,756	12,551	(b)
Lacquer, Clear and Colours .. .. .	Gal.	1,597,532	1,794,192	1,333,576
Lard .. .. .	Cwt.	39,122	43,137	(b)
Lawn Mowers—				
Electric .. .. .	No.	1,038	(i)	(i)
Petrol .. .. .	"	248,967	246,721	198,801
Hand .. .. .	"	22,015	11,642	8,684
Leather—				
Dressed from Hides, Sold by Measurement .. .. .	'000 sq. ft.	64,008	59,597	(b)
Sold by Weight .. .. .	'000 lb.	218	199	(b)
Dressed from Skins .. .. .	'000 sq. ft.	20,166	20,348	(b)
Harness, Skirt, Belting, etc. .. .. .	'000 lb.	1,979	1,121	(b)
Sole .. .. .	"	26,601	22,432	(b)
Upholstery .. .. .	'000 sq. ft.	960	1,276	(b)
Lime, Crushed .. .. .	Ton	134,398	149,137	(b)
Hydrated .. .. .	"	55,419	56,846	(b)
Quick .. .. .	"	106,980	98,262	(b)

(a) Subject to revision. (b) Not yet available. (c) Excludes motor car, motor cycle, tractor and aero engines. (d) Not available. (e) Now included with Tallow—Edible. (f) Includes wheatmeal for baking and sharps. (g) Includes hoods and capelines. (h) Includes malted milk and milk sugar (lactose). (i) Not available for publication.

QUANTITY OF PRINCIPAL ARTICLES PRODUCED IN FACTORIES:  
AUSTRALIA—continued.

Article.	Unit of Quantity.	1958-59.	1959-60.	1960-61.(a)
Linseed Oil, extracted from Local Crushing	'000 gals.	859	1,235	(b)
from treatment of Unrefined	"	2,471	2,317	(b)
Lubricating Oil .. .. .	"	18,429	19,275	(b)
Malt, Barley .. .. .	'000 bus.	8,108	8,435	9,121
Margarine—				
Table .. .. .	'000 lb.	36,000	35,810	35,911
Other .. .. .	"	53,034	58,784	61,668
Mattresses, Wire .. .. .	No.	350,900	389,208	407,114
Inner Spring .. .. .	"	581,002	619,165	589,950
Soft Filled, etc. .. .. .	"	290,615	294,224	284,109
Meat, Canned .. .. .	'000 lb.	165,648	156,594	111,363
Milk—Condensed, Concentrated and				
Evaporated—				
Full Cream—Sweetened .. .. .	'000 lb.	70,843	75,862	66,558
Unsweetened .. .. .	"	66,856	72,715	72,554
Skim and/or Buttermilk .. .. .	"	11,072	9,992	9,636
Milk Powder—				
Full Cream .. .. .	Ton	19,183	19,591	19,331
Skim .. .. .	"	34,128	41,204	37,129
Buttermilk and Whey .. .. .	"	6,024	7,215	7,617
Mops, Floor .. .. .	Gross	12,580	15,426	(b)
Motor Bodies Made .. .. .	No.	169,486	204,007	213,828
Assembled .. .. .	"	77,827	99,013	85,389
Motor Spirit (including Benzol) .. .. .	'000 gals.	959,662	1,079,380	(b)
Motors, Electric .. .. .	No.	1,314,089	1,643,617	1,849,849
Nails .. .. .	Ton	23,815	25,858	(b)
Neckties .. .. .	Doz.	468,738	497,457	(b)
Newsprint .. .. .	Ton	83,071	88,510	88,039
Oatmeal (including Rolled Oats) .. .. .	Cwt.	289,026	313,441	310,381
Paint—				
Ready-mixed—Liquid and Enamels .. .. .	'000 gals.	11,415	12,028	11,681
Other than Water, in paste form (Heavy-bodied Whites, etc.) .. .. .	'000 lb.	4,177	3,957	3,331
Water—				
Emulsion Type .. .. .	'000 gals.	2,032	2,549	2,471
Powder (including Kalsomine) .. .. .	'000 lb.	3,295	2,793	2,740
Peanut Butter and Paste .. .. .	"	5,461	6,406	(b)
Perambulators .. .. .	No.	149,923	153,332	144,720
Pickles .. .. .	'000 pints	5,247	8,310	(b)
Pigments, Tinting Colours ground in oil .. .. .	Gal.	30,188	37,842	(b)
Zinc Oxide .. .. .	Cwt.	128,714	115,242	(b)
Other, including Dry Colours .. .. .	"	895,589	1,116,166	(b)
Plywood, ½ inch basis .. .. .	'000 sq. ft.	236,204	242,099	(b)
Pollard .. .. .	Ton (2,000 lb.)	291,500	317,690	328,602
Preserves—				
Fruit Preserved(c) .. .. .	'000 lb.	312,563	344,294	310,476
Vegetables Preserved .. .. .	"	73,349	83,159	90,008
Pyjamas—				
Men's and Boys' (Suits only) .. .. .	Doz.	365,118	340,754	341,805
Women's and Girls' (inc. Nightdresses) .. .. .	"	492,293	541,804	535,739
Racquet Frames (all types) .. .. .	"	16,063	17,463	12,670
Refrigerators, Domestic .. .. .	No.	219,790	237,150	217,283
Rice (Cleaned) .. .. .	Cwt.	1,437,217	1,583,301	(b)
Ropes and Cables (excluding Wire) .. .. .	"	133,352	145,658	141,014
Rugs .. .. .	'000	133	179	182
Sauce .. .. .	'000 pints	30,695	34,281	(b)
Semolina .. .. .	Ton (2,000 lb.)	7,353	8,492	11,181
Shirts (Men's and Boys') .. .. .	Doz.	1,614,502	1,836,098	1,827,798
Sink Heaters .. .. .	No.	19,821	17,094	15,856
Soap and Detergents—				
Soap, Personal Toilet .. .. .	Cwt.	397,756	375,806	403,619
Household .. .. .	"	695,445	734,644	717,022
Industrial (incl. Wool Scouring)(d) .. .. .	"	155,408	153,960	124,142
Extracts and Powders, Household .. .. .	"	710,463	731,054	593,708
Industrial .. .. .	"	90,636	95,095	91,716
Detergents, Personal Toilet .. .. .	"	10,743	12,108	13,810
Household .. .. .	"	164,214	220,082	252,881
Industrial .. .. .	"	47,017	36,057	34,208
Extracts and Powders—				
Household .. .. .	"	273,977	338,580	425,165
Industrial .. .. .	"	50,898	64,523	73,727

(a) Subject to revision. (b) Not yet available. (c) Includes canned apple, all types. (d) Includes industrial flakes and chips.

QUANTITY OF PRINCIPAL ARTICLES PRODUCED IN FACTORIES:  
AUSTRALIA—*continued.*

Article.	Unit of Quantity.	1958-59.	1959-60.	1960-61.(a)
<b>Socks and Stockings—</b>				
Men's and Youths' .. .. .	'000 doz. pairs	1,311	1,557	1,365
Women's and Maids' .. .. .	"	2,458	2,550	2,606
Infants' and Babywear (including Anklets)	"	1,068	1,188	1,046
<b>Soup, Canned .. .. .</b>	'000 pints	31,480	41,138	(b)
Dry-Mix .. .. .	'000 lb.	4,329	5,363	(b)
Spades and Shovels .. .. .	Doz.	39,787	36,156	(b)
Starch, Edible .. .. .	Cwt.	407,245	500,084	489,417
Inedible .. .. .	"	165,939	209,242	(b)
Steel, Structural, Fabricated	Ton	256,904	325,129	(b)
<b>Stoves, Ovens and Ranges—</b>				
Domestic Cooking—				
Electric(c) .. .. .	No.	100,224	116,594	104,960
Gas .. .. .	"	67,919	98,745	92,098
Solid Fuel .. .. .	"	39,453	36,855	31,354
<b>Sugar, Raw (94 net titre)</b>	Ton	1,412,286	1,287,546	1,382,611
Refined .. .. .	"	518,921	540,087	526,266
Sulphate of Ammonia .. .. .	"	117,489	104,861	100,030
Superphosphate .. .. .	"	2,124,087	2,379,975	2,530,884
Talcum Powder .. .. .	Cwt.	37,593	47,097	(b)
<b>Tallow—</b>				
Edible (including Dripping) .. .. .	"	1,020,061	1,040,059	(b)
Inedible .. .. .	"	2,256,272	2,349,131	(b)
Television Sets .. .. .	No.	316,412	438,458	311,815
<b>Tiles, Roofing—</b>				
Cement .. .. .	'000	52,260	56,896	53,343
Terracotta .. .. .	"	59,232	56,873	55,349
<b>Timber—</b>				
From Native Logs—				
Hardwood .. .. .	'000 super. ft.	1,158,799	1,208,595	} 1,396,917
Softwood .. .. .	"	301,175	312,451	
From Imported Logs—				
Hardwood .. .. .	"	} 36,037	43,380	38,328
Softwood .. .. .	"			
Toasters, Electric (Domestic) .. .. .	No.	188,033	211,152	235,920
Tobacco .. .. .	'000 lb.	17,087	15,262	14,612
Tomato Juice .. .. .	Gal.	1,468,223	1,298,088	2,114,477
Towels .. .. .	Doz.	759,161	862,814	695,341
<b>Transformers, Chokes and Ballasts—</b>				
For distribution of Power and Light, etc.	No.	72,541	65,363	(b)
For Fluorescent Lights and Neon Signs ..	"	1,458,976	1,732,313	(b)
For Radio Receivers, Record Players, etc.	"	240,610	334,818	(b)
For Television Receivers .. .. .	"	298,742	325,097	(b)
For Welders .. .. .	"	6,030	7,589	(b)
For other purposes .. .. .	"	30,525	97,218	(b)
Twine (all types) .. .. .	Cwt.	186,771	156,963	215,525
<b>Tyres, Pneumatic—</b>				
Motor Car and Motor Cycle .. .. .	No.	3,205,931	3,453,485	3,649,576
Truck and Omnibus .. .. .	"	567,286	569,165	469,551
Aero and Tractor .. .. .	"	166,946	204,953	201,287
Umbrellas .. .. .	"	510,580	605,857	(b)
Underwear (Men's, Women's, Children's) ..	'000 doz.	4,914	5,170	5,361
Vacuum Cleaners (Domestic) .. .. .	No.	86,287	95,766	92,238
Washing Machines, Household, Electric ..	No.	180,188	201,873	195,460
<b>Weatherboards—</b>				
Australian Timber .. .. .	'000 super. ft.	26,279	27,581	(b)
Imported Timber .. .. .	"	2,649	2,981	(b)
Wheatmeal(d) .. .. .	Ton (2,000 lb.)	82,908	83,943	92,904
Wheelbarrows (Metal) .. .. .	No.	77,378	93,316	(b)
Wireless and Television Cabinets .. .. .	No.	546,461	652,958	539,887
Wireless Receiving Sets (incl. Radiograms)	"	378,316	402,588	451,167
<b>Wool Scoured—</b>				
For sale .. .. .	'000 lb.	40,285	40,703	} 156,019
For use in own works .. .. .	"	47,463	53,290	
On commission .. .. .	"	69,808	80,928	
Wool Tops .. .. .	"	40,991	48,021	40,811
<b>Yarn(e)—</b>				
Cotton .. .. .	"	42,523	46,411	43,875
Woollen .. .. .	"	21,593	26,673	25,247
Worsted .. .. .	"	18,894	23,885	23,063
<b>Zinc Oxide (see Pigments)</b>				

(a) Subject to revision.

(b) Not yet available.

(d) Excludes wheatmeal for baking included with flour.  
the fibre mentioned.

(c) Includes stoves, cookers, etc.

(e) Includes mixtures predominantly of

## § 11. Individual Industries.

1. General.—Particulars on pages 161–88, §§ 2–9 afford a general view of the magnitude of industries in the sixteen groups adopted by the Conference of Statisticians in 1930. While it is not possible, within the limits of this publication, to give a detailed account of each industry, particular industries dealt with hereunder are of special importance because of the employment which they provide for labour and capital or for other features of special interest. Where there are only one or two establishments in a particular industry in the State or the Commonwealth, details of activities are not published, but are combined with some other factory group so that operations of individual concerns will not be disclosed.

The statistics in the following tables should be read in the light of the following definitions.

*Factory.* A factory is taken to be a manufacturing establishment in which four or more persons are employed or in which power, other than manual, is used.

*Average Number of Persons Employed.* All persons employed in the manufacturing activities of a factory are counted as factory employees, including working proprietors and “out-workers”. The average number of persons employed means, in general, the average number over the whole year and not the average over the period worked.

*Value of Materials Used.* This item includes the value, in the usual sense, of the materials used, stores used, containers, tools replaced, and materials used in repairs to plant.

*Value of Fuel, etc., Used.* This item includes also the cost of power and light used, of lubricants and of water.

*Value of Output.* The amounts given under this heading represent the selling value at the factory of goods made or processed during the year, including by-products, also the value of other work done.

*Value of Production.* The value of production is the value added to raw materials by the process of manufacture. It is calculated by deducting “Value of materials used” and “Value of fuel used”, as defined above, from the “Value of output”.

*Rated Horse-power of Engines Used.* Statistics of power used in factories other than Central Electric Stations relate to the “rated horse-power” of engines ordinarily in use.

For more detailed definitions, see § 1, para. 5 of this chapter, page 158.

Details of some of the principal articles produced in factories in Australia during the years 1958–59 to 1960–61 are shown in the table on the preceding pages (§ 10).

2. Portland Cement and Cement Goods.—The manufacture of portland cement and cement goods is an important industry included in Class I. Particulars for the three industries under this general heading are shown for 1959–60 and for a series of years in the following table.

## PORTLAND CEMENT, ASBESTOS CEMENT SHEETS, ETC., AND OTHER CEMENT GOODS.

AUSTRALIA, 1959–60.

Items.	Portland Cement.	Asbestos Cement Sheets and Mouldings.	Other Cement Goods.	Total.
Number of factories .. .. .	14	15	494	523
Number of persons employed .. .. .	3,168	2,727	6,159	12,054
Salaries and wages paid .. .. . £'000	3,541	3,193	6,697	13,431
Value of power, fuel, etc., used .. .. . £'000	4,853	391	372	5,616
Value of materials used .. .. . £'000	7,039	6,645	19,710	33,394
Value of production .. .. . £'000	10,815	5,941	14,029	30,785
Total value of output .. .. . £'000	22,707	12,977	34,111	69,795
Value of land and buildings .. .. . £'000	3,591	2,566	4,457	10,614
Value of plant and machinery .. .. . £'000	14,604	2,837	6,833	24,274
Horse-power of engines ordinarily in use h.p.	94,220	15,919	22,571	132,710



PORTLAND CEMENT, ASBESTOS CEMENT SHEETS, ETC., AND OTHER CEMENT  
GOODS—*continued.*

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	489	479	481	499	523
Number of persons employed .. ..	11,167	10,688	10,994	11,392	12,054
Salaries and wages paid .. ..	£'000 10,044	10,312	10,864	11,648	13,431
Value of power, fuel, etc., used .. ..	£'000 4,792	5,119	5,124	5,265	5,616
Value of materials used .. ..	£'000 21,999	23,226	25,579	28,739	33,394
Value of production .. ..	£'000 19,460	21,228	23,121	26,179	30,785
Total value of output .. ..	£'000 46,251	49,573	53,824	60,183	69,795
Value of land and buildings .. ..	£'000 6,128	6,994	7,407	8,308	10,614
Value of plant and machinery .. ..	£'000 15,542	18,454	19,823	21,754	24,274
Horse-power of engines ordinarily in use .. ..	h.p. 108,715	105,805	106,905	125,082	132,710

3. **Industrial and Heavy Chemicals.**—The following tables show particulars of the Industrial and Heavy Chemical industry for each State during 1959-60 and for Australia for a series of years. In order to avoid the publication of confidential information, particulars relating to Industrial and Heavy Chemicals include details for the Explosives industry.

## INDUSTRIAL AND HEAVY CHEMICALS AND ACIDS (INCLUDING EXPLOSIVES).

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	140	93	24	15	13	2	287
Number of persons employed .. ..	7,469	5,392	384	942	(a)	(a)	14,423
Salaries and wages paid .. ..	£'000 9,092	6,417	359	1,020	(a)	(a)	17,146
Value of power, fuel, etc., used .. ..	£'000 2,896	1,207	88	573	(a)	(a)	4,874
Value of materials used .. ..	£'000 28,359	14,738	1,113	1,279	(a)	(a)	46,212
Value of production .. ..	£'000 23,738	14,895	943	3,242	(a)	(a)	43,497
Total value of output .. ..	£'000 54,993	30,840	2,144	5,094	(a)	(a)	94,583
Value of land and buildings .. ..	£'000 11,848	10,485	485	1,504	(a)	(a)	24,657
Value of plant and machinery .. ..	£'000 22,403	12,909	1,070	4,044	(a)	(a)	41,326
Horse-power of engines ordinarily in use .. ..	h.p. 65,432	39,580	2,857	6,077	(a)	(a)	117,311

(a) Not available for publication; figures are included in the total for Australia.

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	258	270	281	302	287
Number of persons employed .. ..	14,107	14,509	15,085	15,813	14,423
Salaries and wages paid .. ..	£'000 13,574	14,684	15,875	17,240	17,146
Value of power, fuel, etc., used .. ..	£'000 3,462	3,845	4,208	4,616	4,874
Value of materials used .. ..	£'000 33,506	38,335	43,497	46,605	46,212
Value of production .. ..	£'000 29,895	34,513	35,930	42,512	43,497
Total value of output .. ..	£'000 66,863	76,693	83,635	93,733	94,583
Value of land and buildings .. ..	£'000 15,987	17,831	21,055	22,948	24,657
Value of plant and machinery .. ..	£'000 27,125	29,190	36,157	38,137	41,326
Horse-power of engines ordinarily in use .. ..	h.p. 101,527	107,787	121,393	130,928	117,311

4. **Pharmaceutical and Toilet Preparations.**—The following tables show particulars of the Pharmaceutical and Toilet Preparations industry for each State during 1959–60 and for Australia for a series of years.

**PHARMACEUTICAL AND TOILET PREPARATIONS.**  
1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. .. .	133	58	7	13	4	1	216
Number of persons employed .. .. .	4,052	3,026	113	532	(a)	(a)	7,791
Salaries and wages paid .. .. . £'000	3,473	3,058	76	426	(a)	(a)	7,074
Value of power, fuel, etc., used .. .. . £'000	160	606	2	38	(a)	(a)	810
Value of materials used .. .. . £'000	13,817	7,912	166	1,316	(a)	(a)	23,311
Value of production .. .. . £'000	20,029	7,722	181	947	(a)	(a)	28,985
Total value of output .. .. . £'000	34,006	16,240	349	2,301	(a)	(a)	53,106
Value of land and buildings .. .. . £'000	6,476	4,557	50	329	(a)	(a)	11,528
Value of plant and machinery .. .. . £'000	2,129	2,999	50	145	(a)	(a)	5,347
Horse-power of engines ordinarily in use .. .. . h.p.	6,407	9,863	66	1,612	(a)	(a)	18,084

(a) Not available for publication; figures are included in the total for Australia.

**AUSTRALIA.**

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. .. .	206	206	212	210	216
Number of persons employed .. .. .	6,400	6,446	6,834	6,976	7,791
Salaries and wages paid .. .. . £'000	4,635	5,020	5,531	5,886	7,074
Value of power, fuel, etc., used .. .. . £'000	259	312	386	754	810
Value of materials used .. .. . £'000	13,565	15,292	18,226	19,575	23,311
Value of production .. .. . £'000	15,279	17,312	21,856	23,130	28,985
Total value of output .. .. . £'000	29,103	32,916	40,468	43,459	53,106
Value of land and buildings .. .. . £'000	6,830	7,828	9,677	10,750	11,528
Value of plant and machinery .. .. . £'000	2,686	2,746	3,262	4,519	5,347
Horse-power of engines ordinarily in use .. .. . h.p.	14,301	16,666	14,962	16,702	18,084

5. **White Lead, Paints and Varnish.**—The following table shows particulars of this industry for each State during 1959–60 and for Australia for a series of years.

**WHITE LEAD, PAINTS AND VARNISH.**  
1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. .. .	83	49	16	15	14	4	181
Number of persons employed .. .. .	2,946	1,568	313	482	(a)	(a)	5,475
Salaries and wages paid .. .. . £'000	3,208	1,616	259	478	(a)	(a)	5,710
Value of power, fuel, etc., used .. .. . £'000	269	94	19	27	(a)	(a)	416
Value of materials used .. .. . £'000	14,785	7,506	1,800	1,961	(a)	(a)	26,892
Value of production .. .. . £'000	8,595	3,513	1,291	1,573	(a)	(a)	15,446
Total value of output .. .. . £'000	23,649	11,113	3,110	3,561	(a)	(a)	42,754
Value of land and buildings .. .. . £'000	3,108	2,531	304	619	(a)	(a)	6,942
Value of plant and machinery .. .. . £'000	1,874	1,718	134	367	(a)	(a)	4,219
Horse-power of engines ordinarily in use .. .. . h.p.	13,857	7,630	1,435	1,929	(a)	(a)	25,879

(a) Not available for publication; figures are included in the total for Australia.

**AUSTRALIA.**

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. .. .	178	186	184	188	181
Number of persons employed .. .. .	5,804	5,815	5,749	5,532	5,475
Salaries and wages paid .. .. . £'000	5,300	5,508	5,608	5,448	5,710
Value of power, fuel, etc., used .. .. . £'000	384	400	445	419	416
Value of materials used .. .. . £'000	23,504	23,916	24,619	25,448	26,892
Value of production .. .. . £'000	12,874	13,567	13,853	13,184	15,446
Total value of output .. .. . £'000	36,762	37,883	38,917	39,051	42,754
Value of land and buildings .. .. . £'000	5,563	6,680	6,397	6,327	6,942
Value of plant and machinery .. .. . £'000	3,261	3,408	3,986	3,696	4,219
Horse-power of engines ordinarily in use .. .. . h.p.	25,050	26,969	25,443	25,093	25,879

6. Soap and Candle Factories.—The following table shows particulars of factories in the Soap and Candle industry in each State for 1959–60 and for Australia for a series of years.

## SOAP AND CANDLES.

1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	66	32	9	6	4	3	120
Number of persons employed .. ..	1,962	868	239	50	(a)	(a)	3,210
Salaries and wages paid .. .. £'000	1,961	938	207	39	(a)	(a)	3,220
Value of power, fuel, etc., used .. £'000	168	185	21	5	(a)	(a)	383
Value of materials used .. .. £'000	8,233	6,390	701	141	(a)	(a)	15,835
Value of production .. .. £'000	8,853	4,565	481	67	(a)	(a)	14,131
Total value of output .. .. £'000	17,254	11,140	1,203	213	(a)	(a)	30,349
Value of land and buildings .. £'000	1,373	997	158	36	(a)	(a)	2,652
Value of plant and machinery .. £'000	1,928	833	182	36	(a)	(a)	3,054
Horse-power of engines ordinarily in use .. .. h.p.	7,103	4,843	1,085	311	(a)	(a)	13,689

(a) Not available for publication; figures are included in the total for Australia.

## AUSTRALIA.

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. ..	92	87	90	89	(a) 120
Number of persons employed .. ..	3,167	2,932	2,983	2,929	3,210
Salaries and wages paid .. .. £'000	2,858	2,704	2,830	2,822	3,220
Value of power, fuel, etc., used .. £'000	406	393	441	387	383
Value of materials used .. .. £'000	12,057	12,437	14,446	15,253	15,835
Value of production .. .. £'000	8,147	9,150	10,525	11,941	14,131
Total value of output .. .. £'000	20,610	21,980	25,412	27,581	30,349
Value of land and buildings .. .. £'000	1,743	1,784	1,871	2,039	2,652
Value of plant and machinery .. £'000	3,001	3,150	2,973	3,118	3,054
Horse-power of engines ordinarily in use .. .. h.p.	10,711	10,922	11,296	12,632	13,689
Materials used—					
Tallow .. .. cwt.	1,162,578	1,152,865	1,219,538	1,161,856	1,031,906
Alkali for Soap(b) .. ..	390,757	366,796	386,712	384,680	403,950
Coconut oil—refined and unrefined ..	83,346	80,395	94,952	92,719	96,470
Articles produced—					
Soap (excluding Sand Soap) .. ..	1,269,648	1,231,890	1,311,796	1,248,609	1,264,410
Cleansers and Scourers (including Sand Soap) .. .. cwt.	105,046	78,186	72,586	64,466	65,927
Soap Extracts and Powders .. ..	910,443	866,961	875,959	801,099	826,149
Candles made .. ..	10,011	10,354	7,444	8,588	9,472

(a) The increase in the number of factories is due mainly to the reclassification of a number of factories in New South Wales. (b) Includes Soda Ash.

7. Chemical Fertilizers.—The following table shows particulars of the factories engaged in the manufacture of chemical fertilizers in each State during 1959–60 and for Australia for a series of years. Details of the consumption, imports and exports of fertilizers will be found in Chapter XXII.—Agricultural Production.

## CHEMICAL FERTILIZERS.

1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	14	5	8	9	6	7	49
Number of persons employed .. ..	836	1,443	(a)	826	927	(a)	4,763
Salaries and wages paid .. .. £'000	999	1,707	(a)	886	948	(a)	5,369
Value of power, fuel, etc., used .. £'000	256	215	(a)	77	169	(a)	994
Value of materials used .. .. £'000	3,817	8,033	(a)	4,605	5,993	(a)	26,348
Value of production .. .. £'000	2,220	3,639	(a)	1,744	2,482	(a)	11,520
Total value of output .. .. £'000	6,293	11,887	(a)	6,426	8,644	(a)	38,862
Value of land and buildings .. £'000	3,143	777	(a)	758	1,847	(a)	7,508
Value of plant and machinery .. £'000	2,972	1,418	(a)	2,851	1,803	(a)	10,257
Horse-power of engines ordinarily in use .. .. h.p.	14,614	13,151	(a)	10,155	9,334	(a)	58,519

(a) Not available for publication; figures are included in the total for Australia.

CHEMICAL FERTILIZERS—*continued.*

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	54	52	49	48	49
Number of persons employed .. ..	4,911	5,074	5,050	4,959	4,763
Salaries and wages paid .. .. £'000	4,809	5,069	5,309	5,207	5,369
Value of power, fuel, etc., used .. .. £'000	939	1,160	950	995	994
Value of materials used .. ..	24,098	25,479	28,862	25,756	26,348
Value of production .. ..	£'000 10,267	10,158	12,175	11,440	11,520
Total value of output .. ..	£'000 35,304	36,797	41,987	38,191	38,862
Value of land and buildings .. ..	£'000 7,033	7,341	7,583	7,633	7,508
Value of plant and machinery .. ..	£'000 11,645	11,404	10,835	10,808	10,257
Horse-power of engines ordinarily in use .. .. h.p.	58,044	59,457	58,212	57,587	58,519

8. Iron and Steel Works and Engineering.—(i) *General.* The first group included under this heading (Smelting, Converting, Refining and Rolling of Iron and Steel) covers blast furnaces, steel works and rolling mills. The second group, Foundries (Ferrous), covers those engaged in the founding of iron and steel. The third group (Plant, Equipment and Machinery including Machine Tools) covers those industries engaged in the production of boilers, engines, machines and machinery, machine tools, structural steel fabrications, steel furniture, etc. The fourth group (Other Engineering) includes jobbing and general engineers, not elsewhere included. Detailed statistics for the four groups mentioned are shown in the following tables.

(ii) *Smelting, Converting, Refining and Rolling of Iron and Steel.* In the following table, particulars are shown for each State for 1959-60 and for Australia for a series of years for the group Smelting, Converting, Refining and Rolling of Iron and Steel.

## SMELTING, CONVERTING, REFINING AND ROLLING OF IRON AND STEEL.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
Number of factories .. ..	17	11	..	5	2	..	35
Number of persons employed .. ..	29,683	1,315	..	(a)	(a)	..	31,825
Salaries and wages paid .. .. £'000	36,288	1,610	..	(a)	(a)	..	38,793
Value of power, fuel, etc., used .. .. £'000	27,851	341	..	(a)	(a)	..	30,202
Value of materials used .. ..	£'000 156,219	2,333	..	(a)	(a)	..	162,677
Value of production .. ..	£'000 79,711	2,478	..	(a)	(a)	..	86,256
Total value of output .. ..	£'000 263,781	5,152	..	(a)	(a)	..	279,135
Value of land and buildings .. ..	£'000 13,469	476	..	(a)	(a)	..	14,417
Value of plant and machinery .. ..	£'000 91,154	758	..	(a)	(a)	..	95,110
Horse-power of engines ordinarily in use .. .. h.p.	661,068	11,925	..	(a)	(a)	..	690,291

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	28	34	35	34	35
Number of persons employed .. ..	20,805	26,078	28,526	29,982	31,825
Salaries and wages paid .. .. £'000	22,037	28,636	31,469	34,220	38,793
Value of power, fuel, etc., used .. ..	£'000 17,864	20,538	22,150	23,539	30,202
Value of materials used .. ..	£'000 101,416	136,483	137,674	153,563	162,677
Value of production .. ..	£'000 44,269	66,385	70,379	78,154	86,256
Total value of output .. ..	£'000 163,549	223,406	230,203	255,256	279,135
Value of land and buildings .. ..	£'000 6,457	9,054	9,953	11,400	14,417
Value of plant and machinery .. ..	£'000 29,154	61,608	71,048	82,451	95,110
Horse-power of engines ordinarily in use .. .. h.p.	363,751	448,541	536,530	633,180	690,291

(a) Not available for publication; figures are included in the total for Australia.

Particulars of the production of pig-iron and steel will be found on page 190 and in Chapter XXVII.—Mineral Industry.

(iii) *Foundries (Ferrous)*. Particulars covering those industries classified as founding of iron and steel are shown for each State for 1959-60 and for Australia for a series of years in the following table.

## FOUNDRIES—FERROUS.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	80	165	24	26	17	..	312
Number of persons employed .. ..	2,876	2,951	1,002	565	459	..	7,853
Salaries and wages paid .. .. £'000	3,198	3,337	962	584	423	..	8,504
Value of power, fuel, etc., used .. .. £'000	373	472	78	87	111	..	1,121
Value of materials used .. .. £'000	2,555	3,370	965	615	400	..	7,905
Value of production .. .. £'000	4,285	5,005	1,510	911	614	..	12,325
Total value of output .. .. £'000	7,213	8,847	2,553	1,613	1,125	..	21,351
Value of land and buildings .. .. £'000	1,550	2,344	437	238	297	..	4,866
Value of plant and machinery .. .. £'000	1,096	1,802	416	235	242	..	3,791
Horse-power of engines ordinarily in use .. .. h.p.	10,726	12,153	3,596	2,835	3,145	..	32,455

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	373	368	373	346	312
Number of persons employed .. ..	7,434	7,633	7,801	7,376	7,853
Salaries and wages paid .. .. £'000	6,706	7,060	7,548	7,293	8,504
Value of power, fuel, etc., used .. .. £'000	918	975	997	955	1,121
Value of materials used .. .. £'000	5,396	6,221	6,664	6,687	7,905
Value of production .. .. £'000	9,652	10,235	11,237	10,615	12,325
Total value of output .. .. £'000	15,966	17,431	18,898	18,257	21,351
Value of land and buildings .. .. £'000	3,564	3,899	4,244	3,912	4,866
Value of plant and machinery .. .. £'000	3,234	3,545	3,615	2,963	3,791
Horse-power of engines ordinarily in use .. .. h.p.	30,738	32,835	33,042	31,612	32,455

(iv) *Plant, Equipment and Machinery (including Machine Tools)*. The next table shows particulars for this group for each State during 1959-60 and for Australia for a series of years.

## PLANT, EQUIPMENT AND MACHINERY (INCLUDING MACHINE TOOLS).

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	1,195	758	193	223	137	12	2,518
Number of persons employed .. ..	29,376	27,645	6,213	9,469	3,104	289	76,096
Salaries and wages paid .. .. £'000	33,025	30,597	5,652	9,450	2,872	289	81,885
Value of power, fuel, etc., used .. .. £'000	1,246	1,342	262	580	136	8	3,574
Value of materials used .. .. £'000	62,967	51,530	8,798	16,243	4,515	352	144,405
Value of production .. .. £'000	57,379	51,908	8,884	15,587	4,212	432	138,402
Total value of output .. .. £'000	121,592	104,780	17,944	32,410	8,863	792	286,381
Value of land and buildings .. .. £'000	23,575	22,265	2,850	4,645	2,369	412	56,116
Value of plant and machinery .. .. £'000	14,990	16,003	2,478	4,032	1,629	275	39,407
Horse-power of engines ordinarily in use .. .. h.p.	101,890	97,473	20,713	33,616	13,099	706	267,497

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	2,062	2,212	2,240	2,345	2,518
Number of persons employed .. ..	68,699	69,476	69,540	70,905	76,096
Salaries and wages paid .. .. £'000	61,872	65,272	67,000	70,371	81,885
Value of power, fuel, etc., used .. .. £'000	2,570	2,775	2,964	3,161	3,574
Value of materials used .. .. £'000	93,510	99,172	114,716	122,408	144,405
Value of production .. .. £'000	98,574	106,922	110,365	115,472	138,402
Total value of output .. .. £'000	194,654	208,869	228,045	241,041	286,381
Value of land and buildings .. .. £'000	34,019	39,692	45,592	49,927	56,116
Value of plant and machinery .. .. £'000	26,261	29,112	32,805	36,400	39,407
Horse-power of engines ordinarily in use .. .. h.p.	217,880	222,937	236,230	250,580	267,497

(v) *Other Engineering.* Details covering jobbing and general engineering works not elsewhere included are shown for each State for 1959-60 and for Australia for a series of years in the following table.

## OTHER ENGINEERING.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	827	902	151	190	155	93	2,318
Number of persons employed ..	7,492	10,370	1,534	3,662	881	1,841	25,780
Salaries and wages paid .. £'000	7,765	10,711	1,318	3,607	688	1,769	25,858
Value of power, fuel, etc., used £'000	311	467	40	100	37	63	1,018
Value of materials used .. £'000	8,927	13,355	1,349	4,211	940	2,328	31,110
Value of production .. £'000	12,440	18,086	2,045	5,824	1,181	2,688	42,264
Total value of output .. £'000	21,678	31,908	3,434	10,135	2,158	5,079	74,392
Value of land and buildings £'000	6,008	8,014	761	2,421	619	1,410	19,233
Value of plant and machinery £'000	3,941	6,359	557	1,942	298	685	13,782
Horse-power of engines ordinarily in use .. .. h.p.	25,927	34,279	4,690	14,288	3,921	6,269	89,374

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	2,220	2,166	2,223	2,220	2,318
Number of persons employed ..	24,445	23,148	23,370	23,467	25,780
Salaries and wages paid .. £'000	20,477	20,037	20,768	21,682	25,858
Value of power, fuel, etc., used .. £'000	698	674	699	806	1,018
Value of materials used .. £'000	24,534	22,320	23,780	26,059	31,110
Value of production .. £'000	32,949	31,568	34,274	34,829	42,264
Total value of output .. £'000	58,181	54,562	58,753	61,694	74,392
Value of land and buildings .. £'000	13,205	13,801	15,485	16,655	19,233
Value of plant and machinery .. £'000	9,363	9,440	10,746	12,201	13,782
Horse-power of engines ordinarily in use h.p.	78,246	72,254	76,500	76,109	89,374

9. *Extracting and Refining of Non-ferrous Metals; Alloys.*—The following table shows particulars of establishments engaged in metal extraction and ore reduction including secondary recovery of metals, but excluding blast furnaces engaged in production of pig iron from iron ore, for each State during 1959-60 and for Australia for a series of years.

## EXTRACTING AND REFINING OF NON-FERROUS METALS: ALLOYS.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	33	24	5	2	4	3	71
Number of persons employed ..	1,370	300	907	(b)	13	(b)	7,438
Salaries and wages paid .. £'000	1,788	351	1,104	(b)	12	(b)	9,535
Value of power, fuel, etc., used £'000	563	54	1,151	(b)	4	(b)	4,833
Value of materials used .. £'000	15,191	3,317	16,992	(b)	50	(b)	64,376
Value of production .. £'000	3,269	862	2,775	(b)	37	(b)	20,502
Total value of output .. £'000	19,023	4,233	20,918	(b)	91	(b)	89,711
Value of land and buildings £'000	1,094	436	2,938	(b)	11	(b)	10,105
Value of plant and machinery £'000	2,694	223	4,013	(b)	22	(b)	21,495
Horse-power of engines ordinarily in use .. .. h.p.	8,931	1,034	16,923	(b)	264	(b)	86,776

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	56	58	63	68	71
Number of persons employed ..	7,029	7,212	7,254	7,269	7,438
Salaries and wages paid .. £'000	7,434	8,720	8,667	8,880	9,535
Value of power, fuel, etc., used .. £'000	3,753	4,282	4,413	4,724	4,833
Value of materials used .. £'000	70,000	68,426	58,120	61,060	64,376
Value of production .. £'000	17,787	19,773	18,138	18,129	20,502
Total value of output .. £'000	91,540	92,481	80,671	83,913	89,711
Value of land and buildings .. £'000	6,155	6,566	6,907	7,326	10,105
Value of plant and machinery .. £'000	13,367	14,485	15,262	15,764	21,495
Horse-power of engines ordinarily in use h.p.	79,696	76,212	76,070	76,680	86,776

(a) In Western Australia the majority of the plants are worked at the mines and are therefore not included. (b) Not available for publication; figures are included in the total for Australia.

10. Electrical Machinery, Cables and Apparatus.—The following table shows particulars of this industry for each State during 1959–60 and for Australia for a series of years.

**ELECTRICAL MACHINERY, CABLES AND APPARATUS.**  
1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	636	430	72	115	91	16	1,360
Number of persons employed ..	32,729	15,027	1,996	2,046	1,036	255	53,089
Salaries and wages paid .. £'000	34,019	15,303	1,817	1,795	861	216	54,011
Value of power, fuel, etc., used £'000	1,676	862	55	52	26	14	2,685
Value of materials used .. £'000	70,060	31,113	3,396	2,686	1,043	414	108,712
Value of production .. £'000	59,205	23,761	2,621	2,854	1,327	431	90,199
Total value of output .. £'000	130,941	55,736	6,072	5,592	2,396	859	201,596
Value of land and buildings £'000	21,616	13,232	1,394	1,484	755	198	38,679
Value of plant and machinery £'000	14,904	10,892	952	591	172	91	27,602
Horse-power of engines ordinarily in use .. .. h.p.	69,386	37,456	7,025	2,446	1,655	331	118,299

**AUSTRALIA.**

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. ..	1,099	1,153	1,152	1,213	1,360
Number of persons employed ..	43,841	44,594	46,394	50,069	53,089
Salaries and wages paid .. £'000	36,663	38,780	41,892	46,979	54,011
Value of power, fuel, etc., used .. £'000	1,808	1,964	2,155	2,493	2,685
Value of materials used .. £'000	75,129	76,256	84,212	94,964	108,712
Value of production .. £'000	57,036	63,198	69,589	76,808	90,199
Total value of output .. £'000	133,973	141,418	155,956	174,265	201,596
Value of land and buildings .. £'000	19,992	25,306	28,316	32,958	38,679
Value of plant and machinery .. £'000	13,854	16,409	20,046	23,627	27,602
Horse-power of engines ordinarily in use h.p.	83,279	91,991	98,679	111,980	118,299

11. Railway and Tramway Workshops (Government and Local Authority).—The railway and tramway workshops, which form an important part of Class IV., are owned chiefly by State Governments and Local Authorities. *Workshops (fourteen in 1959–60) controlled by non-public bodies are not included in the figures below.*

**TRAMCARS AND RAILWAY ROLLING STOCK.(a)**  
1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	38	22	30	13	19	7	129
Number of persons employed ..	13,510	7,214	7,776	3,955	3,511	780	36,746
Salaries and wages paid .. £'000	12,802	6,862	7,100	3,709	3,020	715	34,208
Value of power, fuel, etc., used £'000	454	221	162	136	111	28	1,112
Value of materials used .. £'000	5,049	6,136	3,279	3,048	1,645	257	19,414
Value of production .. £'000	15,548	8,707	8,150	4,570	3,598	900	41,473
Total value of output .. £'000	21,051	15,064	11,591	7,754	5,354	1,185	61,999
Value of land and buildings £'000	6,291	2,215	1,203	1,741	605	706	12,761
Value of plant and machinery £'000	10,540	1,426	1,520	2,365	985	338	17,174
Horse-power of engines ordinarily in use .. .. h.p.	42,241	24,104	20,591	14,686	11,554	3,267	116,443

**AUSTRALIA.**

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. ..	125	125	124	139	129
Number of persons employed ..	38,357	38,780	38,079	37,993	36,746
Salaries and wages paid .. £'000	33,159	33,670	32,946	33,599	34,208
Value of power, fuel, etc., used .. £'000	1,061	1,090	1,083	1,080	1,112
Value of materials used .. £'000	20,555	21,565	20,050	19,563	19,414
Value of production .. £'000	40,404	41,172	40,685	41,557	41,473
Total value of output .. £'000	62,020	63,827	61,818	62,200	61,999
Value of land and buildings .. £'000	11,076	11,494	11,775	12,374	12,761
Value of plant and machinery .. £'000	14,072	14,673	15,234	16,547	17,174
Horse-power of engines ordinarily in use h.p.	116,775	122,852	114,805	115,162	116,443

(a) Government and Local Authority only.

Two railway workshops in the Northern Territory are engaged in repairing rolling stock, etc., no new goods being manufactured. Particulars of these establishments are not included in any of the tables in this chapter.

12. Motor Vehicles.—The industries catering for the motor trade are included in Class IV., Industrial Metals, Machines and Conveyances. In the following table, a summary is given of the principal statistics for 1959–60 for each branch of industry associated with the motor trade of Australia.

**MOTOR VEHICLES: CONSTRUCTION, ASSEMBLY, REPAIRS, ETC., AUSTRALIA.**  
 1959-60.

Items.	Construction and Assembly.	Repairs.	Motor Bodies. (a)	Motor Accessories.	Total.
Number of factories .. ..	57	9,898	1,859	275	12,089
Number of persons employed .. ..	21,758	60,297	27,899	10,277	120,231
Salaries and wages paid .. .. £'000	25,266	48,203	29,670	10,710	113,849
Value of power, fuel, etc., used .. .. £'000	1,718	1,547	1,169	689	5,123
Value of materials used .. .. £'000	52,387	51,454	57,018	15,068	175,927
Value of production .. .. £'000	43,887	75,501	43,216	19,656	182,260
Total value of output .. .. £'000	97,992	128,502	101,403	35,413	363,310
Value of land and buildings .. .. £'000	20,500	66,572	19,121	7,569	113,762
Value of plant and machinery .. .. £'000	16,972	13,688	12,588	7,060	50,308
Horse-power of engines ordinarily in use h.p.	58,662	69,368	63,614	36,766	228,410

(a) Includes motor body repairing, panel beating, duco spraying, etc.

In the next table, similar details are shown on a State basis for 1959-60 and for Australia for a series of years for these industries combined.

**MOTOR VEHICLES: CONSTRUCTION, ASSEMBLY, REPAIRS, ETC.**  
 1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	5,069	2,899	1,436	1,203	1,135	347	12,089
Number of persons employed .. ..	40,493	40,548	10,525	19,090	7,177	2,398	120,231
Salaries and wages paid .. .. £'000	36,826	41,245	8,004	20,201	5,597	1,976	113,849
Value of power, fuel, etc., used .. .. £'000	1,604	2,094	253	868	243	61	5,123
Value of materials used .. .. £'000	73,217	44,693	9,259	37,775	8,729	2,254	175,927
Value of production .. .. £'000	59,532	67,070	15,565	27,328	9,294	3,471	182,260
Total value of output .. .. £'000	134,353	113,857	25,077	65,971	18,266	5,786	363,310
Value of land and buildings .. .. £'000	42,556	42,146	7,502	13,131	5,991	2,436	113,762
Value of plant and machinery .. .. £'000	17,255	18,794	2,082	9,891	1,715	571	50,308
Horse-power of engines ordinarily in use .. .. h.p.	64,550	81,923	13,736	50,600	14,552	3,049	228,410

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	9,707	10,334	10,909	11,354	12,089
Number of persons employed .. ..	105,959	107,480	110,380	113,200	120,231
Salaries and wages paid .. .. £'000	84,082	86,282	91,886	97,078	113,849
Value of power, fuel, etc., used .. .. £'000	3,189	3,747	4,250	4,603	5,123
Value of materials used .. .. £'000	126,933	120,297	143,724	149,577	175,927
Value of production .. .. £'000	126,459	132,018	148,383	161,569	182,260
Total value of output .. .. £'000	256,581	256,062	296,357	315,749	363,310
Value of land and buildings .. .. £'000	66,235	78,817	89,561	99,734	113,762
Value of plant and machinery .. .. £'000	32,390	40,890	46,630	47,742	50,308
Horse-power of engines ordinarily in use h.p.	202,963	206,792	211,264	223,901	228,410

The table below shows the production and imports of motor bodies for 1955-56 to 1960-61.

**PRODUCTION AND IMPORTS OF MOTOR BODIES(a): AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61. (b)
Motor Bodies(a)—						
Made .. .. No.	129,700	120,781	160,675	169,486	204,007	213,828
Assembled from Panels imported or made elsewhere .. .. No.	94,676	77,548	81,630	77,835	99,013	85,461
Imported (c) .. .. No.	19,041	7,062	(d) 5,890	(d) 6,104	(d) 6,178	(d) 8,352

(a) Excludes sidescars.  
 on complete vehicles imported.

(b) Preliminary—subject to revision.  
 (d) Since 20th March, 1958, includes only those bodies imported as complete vehicles.

(c) Includes bodies

13. **Agricultural Machines and Implements.**—Owing to the extensive agricultural activities conducted in Australia and the demand for modern mechanized farm equipment, the manufacture of agricultural implements constitutes an important branch of Australian industry. The articles manufactured include a wide range of implements for tillage, seeding and planting, and the harvesting of crops. Other farm machinery made includes windmills, chaff-cutters and machinery used in the dairying industry.



The following table shows details of establishments classified as agricultural implement works in each State for 1959-60 and for Australia for a series of years.

### AGRICULTURAL MACHINES AND IMPLEMENTS.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	154	108	63	40	39	..	404
Number of persons employed ..	1,821	5,910	1,616	1,645	367	..	11,359
Salaries and wages paid .. £'000	1,831	6,246	1,365	1,546	328	..	11,316
Value of power, fuel, etc., used £'000	72	437	83	119	11	..	722
Value of materials used .. £'000	2,442	10,595	1,770	2,305	495	..	17,607
Value of production .. £'000	2,706	8,852	2,145	2,650	494	..	16,847
Total value of output .. £'000	5,220	19,884	3,998	5,074	1,000	..	35,176
Value of land and buildings £'000	1,801	2,869	977	811	379	..	6,857
Value of plant and machinery £'000	536	2,797	671	609	112	..	4,725
Horse-power of engines ordinarily in use .. .. h.p.	8,418	20,537	6,629	5,839	1,499	..	42,922

### AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	..	324	348	370	358
Number of persons employed ..	..	11,938	10,387	10,449	10,727
Salaries and wages paid .. £'000	..	10,364	9,107	9,534	10,178
Value of power, fuel, etc., used .. £'000	..	670	581	638	674
Value of materials used .. £'000	..	13,082	11,084	13,438	14,162
Value of production .. £'000	..	14,650	14,038	15,599	15,426
Total value of output .. £'000	..	28,402	25,703	29,675	30,262
Value of land and buildings .. £'000	..	5,774	6,153	6,620	6,666
Value of plant and machinery .. £'000	..	4,673	4,800	4,537	4,418
Horse-power of engines ordinarily in use h.p.	..	39,878	40,254	39,652	39,201
					42,922

14. **Wireless and Amplifying Apparatus.**—This industry is confined mainly to New South Wales, Victoria and South Australia. Technical advances and the requirements of the fighting forces led to considerable expansion in the industry during the 1939-45 War and this development has continued, with one or two exceptions, in each subsequent year. The introduction of television services in 1956 gave a further stimulus to the industry. The number of broadcast listeners' licences increased from a third of a million in 1930-31 to 2,256,000 at 30th June, 1961, and this increase reflects the advancement of the industry during that period. At 30th June, 1961, 1,217,000 television viewers' licences were in force.

### WIRELESS AND AMPLIFYING APPARATUS: AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	..	181	205	211	257
Number of persons employed ..	..	9,171	12,074	16,002	16,482
Salaries and wages paid .. £'000	..	7,051	9,145	13,264	14,264
Value of power, fuel, etc., used .. £'000	..	231	312	479	550
Value of materials used .. £'000	..	10,363	16,801	36,756	39,255
Value of production .. £'000	..	8,907	11,767	20,725	23,431
Total value of output .. £'000	..	19,501	28,880	57,960	63,236
Value of land and buildings .. £'000	..	3,428	4,752	6,374	7,897
Value of plant and machinery .. £'000	..	1,761	3,101	4,250	5,018
Horse-power of engines ordinarily in use h.p.	..	9,624	11,658	13,506	12,952
Articles Produced—					
Wireless receiving sets made (a) No.	..	458,012	366,282	380,753	378,316
Television receiving sets made .. No.	..	2,636	121,232	282,430	316,412
					402,588
					438,101

(a) Including radiograms and car radios.

15. Cotton.—(i) *General.* Cotton has been grown in Australia since 1860, but never on a very large scale. Production shows marked fluctuations over the long term, varying during the last forty years from 27 million lb. in 1934–35 to 719,000 lb. in 1949–50. During 1959–60, 9.5 million lb. were produced and in 1960–61, 15.5 million lb. The growing of cotton, which is confined mainly to Queensland, is referred to in some detail in Chapter XXII.—Agricultural Production.

(ii) *Ginning.* The ginning and marketing of cotton is controlled by the Queensland Cotton Board which operates ginneries and processes by-products. The production of raw cotton is insufficient for local factory requirements and is supplemented by imports from overseas, chiefly (in 1960–61) from the United States of America, Mexico, China (Mainland), Pakistan and Peru.

(iii) *Spinning and Weaving.* The post war expansion in the spinning and weaving section of the cotton industry marks an important stage in its development. New factories have been established and Australia is now producing an extensive range of cotton goods, including duck and canvas from cotton or flax, denims, drill, etc., tyre cord and tyre cord fabric. The number of establishments engaged in cotton spinning and weaving in Australia and other particulars of the industry are shown in the following table for the years 1955–56 to 1959–60.

## COTTON SPINNING AND WEAVING: AUSTRALIA.

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. ..	97	91	97	97	92
Number of persons employed .. ..	9,598	9,754	9,879	9,770	9,780
Salaries and wages paid .. .. £'000	7,297	7,799	8,268	8,116	8,853
Value of power, fuel, etc., used .. .. £'000	703	890	958	988	997
Value of materials used .. .. £'000	18,571	19,485	24,025	19,403	20,631
Value of production .. .. £'000	12,227	14,202	15,622	14,751	16,224
Total value of output .. .. £'000	31,501	34,577	40,605	35,142	37,852
Value of land and buildings .. .. £'000	5,719	6,478	7,179	10,625	9,706
Value of plant and machinery .. .. £'000	4,637	5,312	6,702	9,949	9,414
Horse-power of engines ordinarily in use h.p.	34,657	34,568	35,880	38,779	37,240

16. Wool Carding, Spinning and Weaving.—The importance of this industry is emphasised by the fact that Australia is the world's chief source of wool and the development of the woollen industry since its establishment at an early period in Australian history is of singular interest. The production consists chiefly of woollen cloth and tweed, worsted cloth, rugs, blankets and yarn, all of which have acquired a reputation for purity and durability.

## WOOL CARDING, SPINNING AND WEAVING.

1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	39	81	4	3	3	4	134
Number of persons employed .. ..	6,351	11,691	1,012	639	(a)	(a)	22,433
Salaries and wages paid .. .. £'000	5,194	9,604	623	502	(a)	(a)	18,052
Value of power, fuel, etc., used £'000	424	858	50	48	(a)	(a)	1,563
Value of materials used .. .. £'000	11,821	25,506	1,880	1,090	(a)	(a)	47,440
Value of production .. .. £'000	9,089	14,508	864	827	(a)	(a)	29,131
Total value of output .. .. £'000	21,334	40,872	2,794	1,965	(a)	(a)	78,134
Value of land and buildings .. .. £'000	2,816	6,509	256	235	(a)	(a)	10,625
Value of plant and machinery .. .. £'000	3,821	6,679	330	329	(a)	(a)	12,599
Horse-power of engines ordinarily in use .. .. h.p.	15,842	42,117	3,745	1,623	(a)	(a)	70,811

(a) Not available for publication; figures are included in the total for Australia.

WOOL CARDING, SPINNING AND WEAVING—*continued.*

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. .. .	145	143	146	141	134
Number of persons employed .. .. .	21,899	23,217	22,386	20,809	22,433
Salaries and wages paid .. .. . £'000	14,409	16,340	16,380	15,714	18,052
Value of power, fuel, etc., used .. .. . £'000	1,345	1,479	1,463	1,445	1,563
Value of materials used .. .. . £'000	39,532	49,303	46,012	37,252	47,440
Value of production .. .. . £'000	24,082	27,649	25,737	26,458	29,131
Total value of output .. .. . £'000	64,959	78,431	73,212	65,155	78,134
Value of land and buildings .. .. . £'000	7,713	9,019	9,364	10,515	10,625
Value of plant and machinery .. .. . £'000	10,673	10,855	11,641	12,082	12,599
Horse-power of engines ordinarily in use h.p.	71,752	99,385	70,433	72,301	70,811
Articles produced—					
Woolen and worsted cloth(a)(b)'000 sq. yds.	30,279	32,782	31,719	27,265	30,235
Blankets and rugs(a) .. .. . '000	1,799	1,841	2,032	1,838	2,113

(a) Includes production in other industries.

(b) Includes mixtures, predominantly Wool.

17. *Hosiery and Other Knitted Goods.*—Details for each State for 1959-60 and for Australia for a series of years are shown in the following table.

## HOSIERY AND OTHER KNITTED GOODS.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. .. .	195	482	5	8	7	4	701
Number of persons employed .. .. .	6,492	16,938	607	129	(a)	(a)	24,414
Salaries and wages paid .. .. . £'000	5,016	13,146	385	78	(a)	(a)	18,791
Value of power, fuel, etc., used .. .. . £'000	203	573	12	3	(a)	(a)	798
Value of materials used .. .. . £'000	11,780	27,695	1,526	164	(a)	(a)	41,479
Value of production .. .. . £'000	9,708	23,798	754	116	(a)	(a)	34,629
Total value of output .. .. . £'000	21,691	52,066	2,292	283	(a)	(a)	76,906
Value of land and buildings .. .. . £'000	3,072	9,486	213	57	(a)	(a)	12,962
Value of plant and machinery .. .. . £'000	2,262	6,581	219	37	(a)	(a)	9,171
Horse-power of engines ordinarily in use .. .. . h.p.	5,198	15,643	709	190	(a)	(a)	22,019

(a) Not available for publication; figures are included in the total for Australia.

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. .. .	664	665	657	663	701
Number of persons employed .. .. .	23,409	23,492	22,939	22,851	24,414
Salaries and wages paid .. .. . £'000	15,117	16,052	16,124	16,421	18,791
Value of power, fuel, etc., used .. .. . £'000	687	744	770	787	798
Value of materials used .. .. . £'000	31,822	34,769	38,002	34,701	41,479
Value of production .. .. . £'000	27,236	29,035	28,615	31,325	34,629
Total value of output .. .. . £'000	59,745	64,548	67,387	66,813	76,906
Value of land and buildings .. .. . £'000	9,339	9,939	10,910	12,144	12,962
Value of plant and machinery .. .. . £'000	8,159	8,143	8,539	9,353	9,171
Horse-power of engines ordinarily in use h.p.	20,315	22,911	21,858	23,290	22,019

The following quantities of yarn were used in these establishments during 1959-60:—Worsted or woollen 8,898,762 lb.; mixtures predominantly woollen or worsted, 1,637,901 lb.; cotton, 12,449,066 lb.; mercerised cotton, 266,385 lb.; rayon, spun, 951,820 lb.; rayon filament, 3,306,928 lb.; silk, 4,637 lb.; polyamides (nylon, etc.), spun, 949,794 lb.; filament, 3,712,573 lb.; other, including mixtures, 2,412,484 lb. Production of garments and stockings is shown in § 10 (see p. 189).

18. Tanning, Currying and Leather Dressing.—(i) *Details of Industry.* In Class VII. the most important industry is tanning. Formerly the production of tanneries in Australia was confined to the coarser sorts of leathers, but there are now very few kinds which cannot be produced locally, and an export trade has been built up in some varieties.

**TANNING, CURRYING AND LEATHER DRESSING.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. .. .	58	34	13	7	5	1	118
Number of persons employed ..	1,753	1,764	556	217	(a)	(a)	4,435
Salaries and wages paid .. £'000	1,939	1,763	543	228	(a)	(a)	4,612
Value of power, fuel, etc., used £'000	196	201	47	28	(a)	(a)	484
Value of materials used .. £'000	7,009	5,272	2,231	757	(a)	(a)	15,766
Value of production .. £'000	2,928	2,639	836	310	(a)	(a)	6,967
Total value of output .. £'000	10,133	8,112	3,114	1,095	(a)	(a)	23,217
Value of land and buildings £'000	1,501	1,606	105	99	(a)	(a)	3,399
Value of plant and machinery £'000	873	813	237	154	(a)	(a)	2,152
Horse-power of engines ordinarily in use .. h.p.	12,590	13,327	4,407	1,955	(a)	(a)	33,516

(a) Not available for publication; figures are included in the total for Australia.

AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. .. .	137	133	124	123	118
Number of persons employed ..	4,972	4,746	4,708	4,617	4,435
Salaries and wages paid .. £'000	4,468	4,383	4,413	4,510	4,612
Value of power, fuel, etc., used .. £'000	415	446	470	490	484
Value of materials used .. £'000	11,180	11,738	11,938	12,635	15,766
Value of production .. £'000	6,082	5,736	6,214	6,919	6,967
Total value of output .. £'000	17,677	17,920	18,622	20,044	23,217
Value of land and buildings .. £'000	2,176	2,314	2,341	2,535	3,399
Value of plant and machinery .. £'000	2,231	2,264	2,154	2,223	2,152
Horse-power of engines ordinarily in use h.p.	31,590	30,799	32,378	30,749	33,516

(ii) *Materials Used and Articles Produced.* The quantities of materials used and leather produced in tanneries in each State in 1959-60 are shown in the following table.

**TANNERIES: MATERIALS USED AND PRODUCTION, 1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<i>Materials used—</i>							
<i>Hides (cattle)—</i>							
Yearling .. No.	(a)	(a)	(a)	(a)	(a)	..	140,780
Light Hides(b) .. .. .	446,551	468,750	218,727	80,070	(a)	(a)	1,268,071
Heavy Hides(c) .. .. .	351,148	409,191	174,655	52,267	(a)	(a)	1,042,961
<i>Skins—</i>							
Calf .. .. .	681,244	..	(a)	(a)	..	..	692,825
Goat .. .. .	(a)	..	(a)	(a)	..	..	470,076
Sheep including Pelts .. .. .	1,883,940	336,384	(a)	(a)	..	..	2,727,144
Marsupial .. .. .	104,035	..	(a)	(a)	(a)	..	240,678
<i>Bark used—</i>							
Wattle .. tons	1,252	3,617	527	(a)	..	(a)	5,543
Mallet and Other .. .. .	(a)	174	..	(a)	(a)	..	410
Tanning extract (veg.) used ..	1,794	2,351	1,441	(a)	596	(a)	6,625
<i>Articles produced—</i>							
<i>Leather made—</i>							
Sole .. .. lb.	4,882,332	9,838,107	4,738,211	(a)	(a)	(a)	22,432,381
Harness, Belting, etc. .. .. .	456,961	220,640	(a)	(a)	(a)	..	1,121,181
Upholstery .. .. sq. ft.	(a)	(a)	(a)	(a)	(a)	..	1,276,447
<i>Dressed and Upper from Hides—</i>							
<i>Sold by Measurement—</i>							
Patent .. .. sq. ft.	(a)	(a)	..	..	..	..	766,463
All Other .. .. .	23,190,524	19,860,995	9,868,047	4,458,743	(a)	(a)	58,830,432
<i>Sold by Weight (all kinds)—</i>							
.. .. lb.	(a)	(a)	..	..	(a)	(a)	199,069
<i>Dressed from skins—</i>							
Calf .. .. sq. ft.	(a)	931,164	73,562	(a)	..	..	4,676,811
Goat .. .. .	2,269,117	(a)	(a)	(a)	..	..	2,322,669
Sheep .. .. .	9,903,423	787,975	(a)	(a)	..	..	12,117,347
Marsupial .. .. .	459,940	186,098	(a)	(a)	(a)	..	1,173,570

(a) Not available for publication; figures are included in the total for Australia.

(b) Up to

45 lb.

(c) Over 45 lb.

19. Tailoring and Ready-made Clothing.—Statistics showing the distribution of this industry among the States in 1959-60 and for Australia for a series of years are shown in the following table.

**TAILORING AND READY-MADE CLOTHING.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	940	584	108	95	116	17	1,860
Number of persons employed ..	18,491	10,401	2,097	1,307	684	190	33,170
Salaries and wages paid .. £'000	12,245	7,587	1,094	758	337	112	22,133
Value of power, fuel, etc., used .. £'000	241	169	24	21	10	2	467
Value of materials used .. £'000	22,805	15,009	1,406	894	608	69	40,791
Value of production .. £'000	19,866	11,759	1,747	1,042	610	142	35,166
Total value of output .. £'000	42,912	26,937	3,177	1,957	1,228	213	76,424
Value of land and buildings £'000	6,960	4,649	541	637	405	95	13,287
Value of plant and machinery £'000	1,618	1,204	158	93	62	12	3,147
Horse-power of engines ordinarily in use .. .. h.p.	5,840	3,688	638	468	220	45	10,899

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	1,952	1,944	1,914	1,841	1,860
Number of persons employed ..	32,587	31,920	31,457	31,406	33,170
Salaries and wages paid .. £'000	18,261	18,760	19,337	19,533	22,133
Value of power, fuel, etc., used .. £'000	393	416	422	440	467
Value of materials used .. £'000	35,941	35,883	36,680	36,253	40,791
Value of production .. £'000	28,940	29,811	31,117	31,371	35,166
Total value of output .. £'000	65,274	66,110	68,219	68,064	76,424
Value of land and buildings .. £'000	9,484	10,137	11,014	11,948	13,287
Value of plant and machinery .. £'000	2,746	2,861	2,913	3,063	3,147
Horse-power of engines ordinarily in use h.p.	9,017	9,133	9,671	10,143	10,899

20. Dressmaking and Millinery Establishments.—Particulars of dressmaking and millinery establishments in Australia for the years 1955-56 to 1959-60 are shown in the following table.

**DRESSMAKING AND MILLINERY: AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	1,410	1,311	1,295	1,249	1,228
Number of persons employed ..	17,675	16,265	15,668	15,048	15,021
Salaries and wages paid .. £'000	9,063	8,783	8,859	8,599	9,205
Value of power, fuel, etc., used .. £'000	177	185	184	184	190
Value of materials used .. £'000	13,029	12,447	11,999	11,272	11,758
Value of production .. £'000	14,585	14,244	14,220	13,766	14,764
Total value of output .. £'000	27,791	26,876	26,403	25,222	26,712
Value of land and buildings .. £'000	5,788	5,966	6,693	6,937	7,623
Value of plant and machinery .. £'000	1,174	1,152	1,246	1,171	1,114
Horse-power of engines ordinarily in use h.p.	4,697	4,635	4,558	5,159	4,880

21. Shirts, Collars and Underclothing.—Particulars of this industry are shown below for each State for 1959-60 and for Australia for a series of years.

**SHIRTS, COLLARS AND UNDERCLOTHING.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	158	154	21	27	14	2	376
Number of persons employed ..	5,001	5,798	1,072	448	(a)	(a)	12,891
Salaries and wages paid .. £'000	3,322	3,915	544	245	(a)	(a)	8,326
Value of power, fuel, etc., used £'000	57	61	8	5	(a)	(a)	137
Value of materials used .. £'000	7,975	6,529	694	272	(a)	(a)	15,823
Value of production .. £'000	5,222	6,782	763	347	(a)	(a)	13,572
Total value of output .. £'000	13,254	13,372	1,465	624	(a)	(a)	29,532
Value of land and buildings £'000	1,714	1,875	183	129	(a)	(a)	4,050
Value of plant and machinery £'000	548	494	75	38	(a)	(a)	1,206
Horse-power of engines ordinarily in use .. .. h.p.	1,887	2,513	294	163	(a)	(a)	5,090

(a) Not available for publication; figures are included in the total for Australia.

**SHIRTS, COLLARS AND UNDERCLOTHING—continued.**  
**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	404	397	384	394	376
Number of persons employed .. ..	12,686	13,157	13,038	13,589	12,891
Salaries and wages paid .. .. £'000	6,957	7,640	7,718	8,223	8,326
Value of power, fuel, etc., used .. .. £'000	119	129	134	147	137
Value of materials used .. .. £'000	16,112	16,285	16,595	16,410	15,823
Value of production .. .. £'000	11,328	12,051	11,945	13,271	13,572
Total value of output .. .. £'000	27,559	28,465	28,674	29,828	29,532
Value of land and buildings .. .. £'000	2,999	3,543	3,587	3,924	4,050
Value of plant and machinery .. .. £'000	1,146	1,229	1,233	1,317	1,206
Horse-power of engines ordinarily in use h.p.	4,881	5,177	5,064	5,357	5,090

22. Boots and Shoes.—(i) *Details of Industry.* Boot and shoe factories hold an important place in respect of both employment afforded and extent of output. The following tables refer to boot and shoe factories as distinct from those devoted to repairing, except in Tasmania, where it has been necessary to include details of boot and shoe repairing, in order to avoid disclosure of confidential information for that State. Factories engaged in the manufacture of sand shoes, goloshes and gum, etc., boots of rubber are not included here, being classified under Rubber Goods, see para. 39, page 220.

**BOOTS AND SHOES.**  
**1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Aust.
Number of factories .. ..	159	196	28	14	11	47	455
Number of persons employed .. ..	6,371	11,040	975	1,121	523	171	20,201
Salaries and wages paid .. .. £'000	5,020	8,911	714	995	371	90	16,101
Value of power, fuel, etc., used .. .. £'000	88	167	11	15	6	2	289
Value of materials used .. .. £'000	8,197	16,385	1,192	1,662	530	172	28,138
Value of production .. .. £'000	7,327	13,691	932	1,429	503	177	24,059
Total value of output .. .. £'000	15,612	30,243	2,135	3,106	1,039	351	52,486
Value of land and buildings .. .. £'000	1,771	3,035	165	265	164	151	5,551
Value of plant and machinery .. .. £'000	876	2,914	232	415	177	37	4,651
Horse-power of engines ordinarily in use .. .. h.p.	4,489	10,603	971	953	489	169	17,674

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	494	474	486	482	455
Number of persons employed .. ..	21,557	21,432	20,839	20,449	20,201
Salaries and wages paid .. .. £'000	14,310	15,234	15,090	15,148	16,101
Value of power, fuel, etc., used .. .. £'000	233	257	266	275	289
Value of materials used .. .. £'000	21,812	22,221	22,854	25,222	28,138
Value of production .. .. £'000	20,480	21,222	22,019	22,530	24,059
Total value of output .. .. £'000	42,525	43,700	45,139	48,027	52,486
Value of land and buildings .. .. £'000	3,846	4,267	4,567	5,254	5,551
Value of plant and machinery .. .. £'000	3,646	3,715	3,979	4,307	4,651
Horse-power of engines ordinarily in use h.p.	16,485	16,496	16,663	17,572	17,674

(a) Includes details of boot and shoe repairing.

(ii) *Quantity and Value of Production.* The number and value of boots, shoes and slippers made in factories producing boots and shoes in each State are shown for 1959-60 in the following table. Particulars relating to the output of sand shoes, goloshes and gum, etc., boots of rubber are not included.

**BOOT AND SHOE FACTORIES: OUTPUT, 1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Boots, shoes and sandals							
pairs	8,287,830	14,008,321	1,042,657	1,616,089	599,557	74,335	25,628,789
£	15,027,739	25,110,082	1,934,198	2,995,433	889,642	175,566	46,132,660
Slippers .. pairs	2,175,289	7,072,402	321,609	19,626	163,040	..	9,751,966
£	1,768,072	3,654,081	274,000	21,130	142,867	..	5,860,150

23. Flour-milling.—(i) *Details of Industry.* The following table shows particulars of the flour-milling industry in each State for the year 1959-60 and for Australia for a series of years.

## FLOUR-MILLING.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	45	34	12	22	18	4	135
Number of persons employed .. ..	1,572	1,292	570	447	396	133	4,410
Salaries and wages paid .. .. £'000	1,782	1,338	525	465	405	142	4,657
Value of power, fuel, etc., used .. .. £'000	381	234	93	95	110	15	928
Value of materials used .. .. £'000	21,361	17,472	6,083	5,795	6,012	1,232	57,955
Value of production .. .. £'000	4,963	3,340	926	851	786	234	11,100
Total value of output .. .. £'000	26,705	21,046	7,102	6,741	6,908	1,481	69,983
Value of land and buildings .. .. £'000	2,793	2,026	810	426	743	184	6,982
Value of plant and machinery .. .. £'000	2,450	1,781	805	478	537	124	6,175
Horse-power of engines ordinarily in use .. .. h.p.	18,743	14,801	5,169	4,079	5,151	1,310	49,253

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	151	143	142	135	135
Number of persons employed .. ..	4,548	4,729	4,284	4,301	4,410
Salaries and wages paid .. .. £'000	4,073	4,375	4,190	4,281	4,657
Value of power, fuel, etc., used .. .. £'000	835	946	827	827	928
Value of materials used .. .. £'000	54,498	59,094	53,659	51,806	57,955
Value of production .. .. £'000	7,575	9,608	9,934	9,816	11,100
Total value of output .. .. £'000	62,908	69,648	64,420	62,449	69,983
Value of land and buildings .. .. £'000	5,211	5,686	6,322	6,711	6,982
Value of plant and machinery .. .. £'000	5,405	5,690	5,962	5,902	6,175
Horse-power of engines ordinarily in use .. h.p.	47,786	48,103	48,449	48,684	49,253

(ii) *Production of Flour and By-products.* The production of flour by the mills in each State (including other than flour mills) for the years 1955-56 to 1960-61 was as follows.

## FLOUR-MILLING: PRODUCTION OF FLOUR.(a)

(Tons of 2,000 lb.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 ..	571,084	454,628	169,793	154,327	193,490	27,983	1,571,305
1956-57 ..	621,476	492,956	170,397	164,274	184,717	29,157	1,662,977
1957-58 ..	416,490	482,731	143,613	138,537	163,347	28,739	1,373,457
1958-59 ..	455,709	431,656	151,457	137,806	160,909	29,707	1,367,244
1959-60 ..	564,149	434,444	160,382	146,527	170,839	30,872	1,507,213
1960-61 (b) ..	573,856	470,142	160,780	154,730	183,120	28,405	1,571,033

(a) Includes wheatmeal for baking and sharps.

(b) Preliminary, subject to revision.

In addition, 565,827 tons (2,000 lb. per ton) of bran and pollard were produced in 1959-60 and 583,711 tons in 1960-61. The total quantity of wheat ground in flour mills was 67,999,773 bushels in 1959-60 and 72,129,000 bushels in 1960-61.

24. Bakeries.—Information regarding establishments in which the manufacture of bread, cakes, etc., was carried on is given in the table below. It should be noted, however, that the details refer only to establishments coming within the definition of a factory as explained at the beginning of this section. For that reason, the table does not give complete details of the industry, as a large number of bakeries, etc. not coming within the definition are excluded. This is true of all other industries covered by the statistics of manufacturing production, but, in view of the omission of such a large number of establishments in this instance, special mention is deemed necessary.

## BAKERIES (INCLUDING CAKES AND PASTRY).

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Aust.(a)
Number of factories .. ..	1,601	1,146	513	294	294	151	3,999
Number of persons employed ..	8,081	6,006	2,581	1,732	1,087	1,766	21,253
Salaries and wages paid .. £'000	5,805	4,238	1,503	1,259	623	1,508	14,936
Value of power, fuel, etc., used .. £'000	1,035	779	284	210	139	177	2,624
Value of materials used .. £'000	17,922	12,919	5,376	4,068	2,458	5,644	48,387
Value of production .. £'000	13,797	10,110	3,664	2,837	1,794	3,193	35,395
Total value of output .. £'000	32,754	23,808	9,324	7,115	4,391	9,014	86,406
Value of land and buildings .. £'000	9,873	7,706	1,874	1,701	1,116	1,680	23,950
Value of plant and machinery .. £'000	5,375	4,189	1,376	1,149	830	2,203	15,122
Horse-power of engines ordinarily in use .. .. h.p.	11,432	8,670	3,287	3,395	2,226	5,943	34,953

## AUSTRALIA.(a)

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	3,878	3,813	3,986	4,150	3,999
Number of persons employed .. ..	19,543	19,964	20,323	20,994	21,253
Salaries and wages paid .. .. £'000	11,611	12,663	13,110	13,729	14,936
Value of power, fuel, etc., used .. .. £'000	2,090	2,308	2,440	2,546	2,624
Value of materials used .. .. £'000	37,820	40,704	43,476	45,612	48,387
Value of production .. .. £'000	26,418	29,706	29,816	32,182	35,395
Total value of output .. .. £'000	66,328	72,718	75,732	80,340	86,406
Value of land and buildings .. .. £'000	15,865	17,991	20,205	22,220	23,950
Value of plant and machinery .. .. £'000	9,461	10,590	11,797	13,551	15,122
Horse-power of engines ordinarily in use h.p.	29,535	30,204	32,162	33,716	34,953

(a) Includes confectionery in Tasmania.

25. Sugar-mills.—(i) *General.* Sugar-cane is grown in New South Wales and Queensland and particulars of area, yield, etc., are given in extended detail in Chapter XXII.—Agricultural Production.

The products of the sugar-mill are raw sugar and molasses, the former being sent to the refineries in different parts of Australia for further treatment. Particulars of cane crushed and sugar produced included in the following table refer to the quantities treated during the years ended 30th June, irrespective of the season in which the cane was grown; consequently, the figures relating to cane crushed and sugar produced may differ slightly from those given in Chapter XXII.—Agricultural Production, which relate to harvest years.



(ii) *Details for States.* The following table shows details of the operations of sugar mills in New South Wales and Queensland for the years 1955–56 to 1959–60.

## SUGAR-MILLS.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
<b>NEW SOUTH WALES.</b>					
Number of factories .. ..	3	3	3	3	3
Number of persons employed .. ..	152	153	170	254	243
Cane crushed .. .. tons	284,539	294,087	303,086	471,658	574,527
Raw sugar produced (94 net titre) .. .. tons	36,028	35,918	36,854	58,743	70,526
<b>QUEENSLAND.</b>					
Number of factories .. ..	31	31	31	31	31
Number of persons employed .. ..	7,044	7,099	6,547	6,621	6,197
Cane crushed .. .. tons	8,616,163	8,978,081	8,945,617	9,740,795	8,427,731
Raw sugar produced (94 net titre) .. .. tons	1,135,685	1,171,879	1,256,271	1,353,543	1,217,020
<b>Molasses—</b>					
Sold to distilleries .. .. '000 gals	22,772	24,094	20,558	24,045	21,287
Used as fodder .. ..	5,285	5,536	4,861	6,028	5,347
Used as manure .. ..	10,637	9,177	10,880	10,059	6,287
Sold or used for other purposes .. ..	2,292	1,979	1,077	724	716
Total molasses disposed of .. ..	40,986	40,786	37,376	40,856	33,637

26. *Sugar-refining.*—The establishment of the sugar-refining industry considerably antedates the establishment of the sugar-milling industry, the raw material operated on in the earlier years coming chiefly from Mauritius and the East. In 1959–60, there were two sugar refineries in Queensland and one each in New South Wales, Victoria, South Australia and Western Australia. The total quantity of raw sugar treated amounted to 558,510 tons for a yield of 540,087 tons of refined sugar.

27. *Confectionery.*—Particulars for 1959–60 for each State and for Australia for a series of years are shown hereunder.

## CONFECTIONERY.

1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.(b)
Number of factories .. ..	88	89	18	13	6	(a)	214
Number of persons employed .. ..	867	3,102	109	359	268	(a)	6,765
Salaries and wages paid .. .. £'000	370	2,524	88	226	185	(a)	5,493
Value of power, fuel, etc., used .. .. £'000	268	236	9	23	19	(a)	555
Value of materials used .. .. £'000	8,683	7,441	366	596	588	(a)	17,674
Value of production .. .. £'000	5,976	4,280	154	351	378	(a)	11,139
Total value of output .. .. £'000	14,927	11,957	529	970	985	(a)	29,368
Value of land and buildings .. .. £'000	2,400	2,392	93	328	96	(a)	5,309
Value of plant and machinery .. .. £'000	2,240	2,218	67	143	77	(a)	4,745
Horse-power of engines ordinarily in use .. .. h.p.	13,607	14,649	352	1,462	501	(a)	30,571

## AUSTRALIA.(b)

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	226	213	217	209	214
Number of persons employed .. ..	7,183	6,818	6,789	6,704	6,765
Salaries and wages paid .. .. £'000	4,805	4,866	4,982	5,037	5,493
Value of power, fuel, etc., used .. .. £'000	473	509	529	536	555
Value of materials used .. .. £'000	15,583	15,391	16,052	16,842	17,674
Value of production .. .. £'000	8,932	9,885	9,771	10,586	11,139
Total value of output .. .. £'000	24,988	25,785	26,352	27,964	29,368
Value of land and buildings .. .. £'000	3,324	3,239	4,351	4,812	5,309
Value of plant and machinery .. .. £'000	3,612	3,582	3,891	4,572	4,745
Horse-power of engines ordinarily in use .. .. h.p.	29,156	27,348	29,256	30,504	30,571

(a) Not available for publication. Included with bakeries.

(b) Excludes Tasmania.

28. Jam, Fruit and Vegetable Canning, Pickles, Sauces, Vinegar.—(i) *Details of Industry.* The following table shows particulars of factories included in this class for each State for 1959–60 and for Australia for a series of years.

**JAM, FRUIT AND VEGETABLE CANNING, PICKLES, SAUCES, VINEGAR.**  
1959–60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	53	56	20	20	9	19	177
Number of persons employed ..	2,450	4,748	1,359	878	129	1,229	10,793
Salaries and wages paid .. ..	£'000 2,284	4,610	1,170	668	94	1,068	9,894
Value of power, fuel, etc., used ..	£'000 267	485	80	56	8	96	992
Value of materials used .. ..	£'000 8,476	21,270	5,111	2,338	320	2,438	39,953
Value of production .. ..	£'000 5,091	10,069	2,068	1,179	213	1,634	20,254
Total value of output .. ..	£'000 13,834	31,824	7,259	3,573	541	4,168	61,199
Value of land and buildings ..	£'000 2,342	7,250	732	677	153	941	12,095
Value of plant and machinery ..	£'000 1,729	6,025	422	1,076	69	841	10,162
Horse-power of engines ordinarily in use .. ..	h.p. 10,425	20,513	2,631	2,734	370	5,577	42,250

**AUSTRALIA.**

Items.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of factories .. ..	..	183	182	187	180
Number of persons employed ..	..	11,578	12,019	11,407	10,762
Salaries and wages paid .. ..	£'000	8,924	9,698	9,752	9,186
Value of power, fuel, etc., used ..	£'000	802	957	978	949
Value of materials used .. ..	£'000	32,323	39,874	41,159	38,358
Value of production .. ..	£'000	16,103	18,792	19,753	17,458
Total value of output .. ..	£'000	49,228	59,623	61,890	56,765
Value of land and buildings ..	£'000	8,874	9,790	10,621	11,630
Value of plant and machinery ..	£'000	8,083	8,752	9,275	9,573
Horse-power of engines ordinarily in use h.p.	..	38,508	45,820	55,824	48,539

(ii) *Production.* During the 1939–45 War, production of jams increased greatly and an output of 171 million lb. was attained in 1943–44. Production afterwards decreased, but attained a new record of 198.5 million lb. in 1947–48. Production in recent years has been considerably lower, and in 1959–60 was 84.7 million lb. Preliminary figures for 1960–61 show production as being 81.3 million lb.

Production of preserved fruit in 1959–60 was 344.3 million lb., the highest on record being 349.4 million lb. in 1957–58. Preliminary figures for 1960–61 show production as being 310.5 million lb.

There has also been a marked development in the production of canned vegetables. In 1938–39, output totalled 10.3 million lb. but, as a result of the war-time demand by the armed services, production reached the record level of 119.1 million lb. in 1944–45. However, it has since declined and in 1959–60 amounted to 83.2 million lb. Preliminary figures for 1960–61 show production as being 90.0 million lb.

The following table shows the total quantity of jams, pickles, sauces and other items manufactured in each State in 1959–60.

**JAMS, PRESERVED FRUIT AND VEGETABLES, PICKLES AND SAUCES, 1959–60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Jams .. ..	'000 lb. 22,922	39,584	9,733	(a)	(a)	(a)	84,702
Fruit, preserved .. ..	39,312	184,369	70,265	27,640	(a)	(a)	344,294
Fruit Pulp .. ..	cwt. (a)	28,256	(a)	(a)	(a)	58,859	115,418
Fruit Juices, natural .. ..	'000 gals. 562	187	(a)	(a)	203	112	5,041
Vegetables, preserved .. ..	'000 lb. 32,741	31,969	1,897	2,170	(a)	(a)	83,159
Tomato Pulp(b) .. ..	cwt. 22,118	782,436	(a)	(a)	14,058	11,089	852,913
Tomato Paste, Puree, etc., ..	'000 pints 1,161	5,385	..	..	21	..	6,568
Tomato Juice .. ..	'000 gals. 111	671	(a)	465	(a)	..	1,298
Pickles .. ..	'000 pints 3,940	2,386	(a)	1,662	(a)	..	8,310
Chutney .. ..	" " 486	(a)	(a)	(a)	(a)	..	1,690
Sauces .. ..	" " 12,539	16,357	1,409	2,725	(a)	(a)	34,281
Soup (canned) .. ..	" " 5,310	35,475	..	161	192	..	41,138
Soup, Dry Mix .. ..	'000 lb. 4,751	354	(a)	(a)	(a)	..	5,363

(a) Not available for publication. Figures are included in the total for Australia. quantities made and used in the works producing them.

(b) Includes

29. Bacon-curing.—(i) *Details of Industry.* The table hereunder shows particulars of factories engaged in bacon-curing in each State for 1959-60 and for Australia for a series of years.

## BACON-CURING.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	30	15	9	16	5	8	83
Number of persons employed ..	721	774	1,659	509	288	117	4,068
Salaries and wages paid .. £'000	762	754	1,445	533	242	117	3,853
Value of power, fuel, etc., used £'000	88	87	128	76	36	17	432
Value of materials used .. £'000	5,640	5,464	10,134	3,320	2,729	931	28,218
Value of production .. £'000	1,275	1,366	2,636	885	389	228	6,779
Total value of output .. £'000	7,003	6,917	12,898	4,281	3,154	1,176	35,429
Value of land and buildings £'000	747	642	1,136	494	163	206	3,388
Value of plant and machinery £'000	454	335	772	318	115	56	2,050
Horse-power of engines ordinarily in use .. .. h.p.	2,775	3,100	5,341	2,671	1,238	545	15,670

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	82	81	80	80	83
Number of persons employed ..	3,414	3,472	3,745	4,162	4,068
Salaries and wages paid .. £'000	2,754	2,956	3,311	3,649	3,853
Value of power, fuel, etc., used .. £'000	339	362	403	431	432
Value of materials used .. £'000	20,814	22,373	22,147	25,037	28,218
Value of production .. .. £'000	4,997	5,273	6,798	6,473	6,779
Total value of output .. .. £'000	26,150	28,008	29,348	31,941	35,429
Value of land and buildings .. £'000	2,308	2,452	2,667	3,104	3,388
Value of plant and machinery .. £'000	1,329	1,512	1,654	1,806	2,050
Horse-power of engines ordinarily in use h.p.	13,019	13,472	14,747	14,108	15,670

(ii) *Quantity of Production.* The number of pigs cured and the quantity of bacon and ham and lard produced in factories in each State for 1959-60 are shown in the following table.

## BACON-CURING FACTORIES: PIGS CURED AND PRODUCTION, 1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Pigs killed for bacon and ham—							
For curing on own account	154,309	162,472	262,203	83,793	79,177	38,817	780,771
For curing on commission	1,877	1,347	1,969	203	(a)	(a)	5,563
Pork and green bacon used for—							
Curing on own account							
'000 lb.	6,872	5,498	(a)	1,043	(a)	..	14,877
Curing on commission							
'000 lb.	5,591	(a)	..	(a)	..	(a)	5,608
Sugar used .. .. tons	37	40	154	22	27	20	300
Finished bacon and ham made (b)—							
On own account '000 lb.	15,965	15,423	18,171	6,556	6,941	1,763	64,819
On commission .. ..	5,418	319	915	80	(a)	(a)	6,753
Green bacon and ham ..	474	1,211	913	428	578	323	3,927
Lard produced .. .. cwt.	3,359	4,602	24,567	2,881	(a)	(a)	43,137

(a) Not available for publication; figures are included in the total for Australia. (b) Includes smoked bacon and ham, cooked ham (not smoked) made for retail sale, and canned bacon and ham.

Bacon and ham and other pig products are dealt with more fully in Chapter XXIV.—Farmyard, Dairy and Bee Products.

30. Butter, Cheese and Condensed and Processed Milk.—(i) *Details of Industry.* The following table shows particulars of butter, cheese and condensed and dried milk factories in each State for 1959-60 and for Australia for a series of years.

**BUTTER, CHEESE AND CONDENSED AND PROCESSED MILK.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	77	131	75	39	19	22	363
Number of persons employed .. ..	2,474	5,677	1,650	627	315	396	11,139
Salaries and wages paid .. £'000	2,392	5,906	1,493	584	270	397	11,042
Value of power, fuel, etc., used £'000	735	1,604	329	106	66	80	2,920
Value of materials used .. £'000	19,599	55,757	23,212	4,561	3,640	5,538	112,307
Value of production .. £'000	5,329	13,681	3,075	1,126	534	1,071	24,816
Total value of output .. £'000	25,663	71,042	26,616	5,793	4,240	6,689	140,043
Value of land and buildings £'000	3,365	7,185	2,042	621	396	413	14,022
Value of plant and machinery £'000	3,659	8,351	2,591	668	436	464	16,169
Horse-power of engines ordinarily in use .. h.p.	31,252	42,755	24,876	5,953	3,524	2,789	111,149

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	375	371	366	363	363
Number of persons employed .. ..	11,119	11,189	10,870	10,897	11,139
Salaries and wages paid .. £'000	9,568	10,068	9,995	10,270	11,042
Value of power, fuel, etc. used .. £'000	2,741	2,797	2,692	2,816	2,920
Value of materials used .. £'000	106,883	101,517	94,566	101,929	112,307
Value of production .. £'000	18,893	19,265	19,561	21,446	24,816
Total value of output .. £'000	128,517	123,579	116,819	126,191	140,043
Value of land and buildings .. £'000	11,188	11,985	12,558	13,518	14,022
Value of plant and machinery .. £'000	13,923	14,631	15,254	15,819	16,169
Horse-power of engines ordinarily in use h.p.	102,182	108,157	109,647	107,880	111,149

(ii) *Quantity and Value of Production.* The next table shows the quantities and values of butter, cheese and condensed milk produced and the quantities of milk used in their production during 1959-60. These details are restricted to factory production and therefore exclude farm output.

**BUTTER, CHEESE AND CONDENSED MILK, ETC., FACTORIES: PRODUCTION.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
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**MATERIALS USED.**

Whole Milk used in manufacture of—							
Butter .. .. '000 gal.	192,303	408,939	174,593	25,892	32,975	54,111	888,813
Cheese .. .. '000 gal.	9,134	44,204	19,644	23,729	3,145	799	100,655
Condensed, Dried and other Processed Milk Products '000 gal.	15,621	60,858	9,580	..	3,845	3,401	93,305
Sugar .. .. tons	1,089	14,320	(a)	..	(a)	(a)	16,670

**PRODUCTION.**  
(Tons.)

Butter .. ..	41,373	89,389	38,932	6,193	7,376	11,744	195,007
Cheese (Green Weight) .. ..	4,348	19,217	8,492	10,930	1,443	328	44,758
Cheese (Processed) (b) .. ..	(a)	(a)	(a)	..	..	(a)	16,531
Casein .. ..	1,392	8,967	(a)	..	(a)	..	10,433
Condensed, Concentrated and Evaporated Milk—							
Full Cream—Sweetened .. ..	(a)	31,530	..	..	(a)	..	33,867
Unsweetened .. ..	(a)	16,248	..	..	(a)	(a)	32,462
Skim and/or Buttermilk .. ..	..	(a)	(a)	..	(a)	..	4,461
Milk Powder—							
Full Cream .. ..	(a)	10,635	(a)	..	..	..	19,591
Skim .. ..	11,185	28,016	937	(a)	(a)	..	41,204
Buttermilk and Whey .. ..	1,450	3,860	1,272	(a)	(a)	(a)	7,215
Other Whole Milk Products .. ..	..	(a)	..	..	..	(a)	16,909
Ice Cream Mix—Powder .. ..	(a)	639	(a)	(a)	(a)	..	743

(a) Not available for publication; figures are included in the total for Australia. (b) The cheese used in the manufacture of these products is included in Cheese (Green Weight) made as shown above.

The butter, cheese and condensed milk industries are dealt with more fully in Chapter XXIV.—Farmyard, Dairy and Bee Products.

31. **Meat and Fish Preserving.**—The industries included in this group are engaged chiefly in the freezing and preserving of meat. Works have been established at the seaports for the purpose of handling beef, lamb and mutton for export, and insulated space for the carriage of chilled and frozen produce is provided by shipping companies trading between Australia and other parts of the world. The substitution of chilled for frozen meat exported is referred to in Chapter XXIII.—Pastoral Production. In recent years, there has been considerable expansion in the canning of meat and fish.

**MEAT AND FISH PRESERVING.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	10	13	34	19	48	4	128
Number of persons employed ..	457	805	6,223	258	1,511	72	9,326
Salaries and wages paid .. £'000	430	854	6,768	198	1,580	84	9,914
Value of power, fuel, etc., used £'000	74	177	782	24	176	11	1,244
Value of materials used .. £'000	2,055	6,025	51,261	1,543	4,030	202	65,116
Value of production .. £'000	965	1,895	8,501	370	2,328	136	14,195
Total value of output .. £'000	3,094	8,097	60,544	1,937	6,534	349	80,555
Value of land and buildings £'000	343	1,556	3,962	203	2,422	131	8,617
Value of plant and machinery £'000	218	794	3,115	163	1,206	83	5,579
Horse-power of engines ordinarily in use .. h.p.	1,473	3,043	24,507	1,021	8,908	438	39,390

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	116	113	114	115	128
Number of persons employed .. ..	9,550	8,866	8,878	10,142	9,326
Salaries and wages paid .. £'000	8,704	8,366	8,690	10,699	9,914
Value of power, fuel, etc. used .. £'000	1,119	1,099	1,128	1,292	1,244
Value of materials used .. £'000	46,359	45,483	45,695	61,816	65,116
Value of production .. £'000	14,345	14,385	13,723	15,354	14,195
Total value of output .. £'000	61,823	60,967	60,546	78,462	80,555
Value of land and buildings .. £'000	5,934	6,241	6,710	7,459	8,617
Value of plant and machinery .. £'000	4,118	4,147	4,594	5,261	5,579
Horse-power of engines ordinarily in use h.p.	33,086	36,517	36,956	38,994	39,390

Particulars of the quantities and values of beef, mutton and lamb preserved by cold process exported from Australia over a series of years will be found in Chapter XXIII.—Pastoral Production.

32. **Breweries.**—(i) *Details of Industry.* The following table gives particulars of breweries in each State for the year 1959-60 and for Australia for a series of years. It should be noted, however, that the data shown are not strictly comparable throughout, owing to the inability or failure of some breweries to furnish a separate return for each branch of activity. Consequently the figures for some States include details of employment, wages, output, etc., not directly concerned with the brewing of beer, although associated with it. These extraneous activities include cooperage, malt works, aerated waters, etc.

**BREWERIES.**  
1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	6	6	5	3	3	2	25
Number of persons employed ..	1,908	(a)	760	(a)	(a)	(a)	5,701
Salaries and wages paid .. £'000	2,167	(a)	765	(a)	(a)	(a)	6,438
Value of power, fuel, etc. used £'000	548	(a)	201	(a)	(a)	(a)	1,491
Value of materials used .. £'000	8,391	(a)	2,252	(a)	(a)	(a)	22,731
Value of production .. £'000	7,099	(a)	2,736	(a)	(a)	(a)	18,620
Total value of output(b) .. £'000	16,038	(a)	5,189	(a)	(a)	(a)	42,842
Value of land and buildings £'000	4,065	(a)	3,140	(a)	(a)	(a)	12,924
Value of plant and machinery £'000	5,413	(a)	2,225	(a)	(a)	(a)	15,426
Horse-power of engines ordinarily in use .. h.p.	17,056	(a)	8,684	(a)	(a)	(a)	48,396

(a) Not available for publication; figures are included in the total for Australia. Excise Duty.

(b) Excludes

**BREWERIES—continued.**  
**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	28	27	26	27	25
Number of persons employed .. ..	6,835	6,107	5,909	5,830	5,701
Salaries and wages paid .. .. £'000	6,588	6,196	6,228	6,232	6,438
Value of power, fuel, etc., used .. .. £'000	1,396	1,509	1,479	1,488	1,491
Value of materials used .. .. £'000	22,437	21,238	22,146	22,416	22,731
Value of production .. .. £'000	15,224	16,266	17,271	16,964	18,620
Total value of output(a) .. .. £'000	39,057	39,013	40,896	40,868	42,842
Value of land and buildings .. .. £'000	10,099	11,069	11,797	12,716	12,924
Value of plant and machinery .. .. £'000	12,917	14,863	15,510	15,727	15,426
Horse-power of engines ordinarily in use h.p.	44,908	45,268	44,869	46,525	48,396

(a) Excludes Excise Duty.

(ii) *Production, Consumption, Materials Used.* The quantity of ale, beer and stout brewed fell from 73.7 million gallons in 1928-29 to 49.8 million gallons in 1931-32, but thereafter increased each year to 109.2 million gallons in 1941-42. Under the Control of Liquor Order which operated between March, 1942, and March, 1946, the production of beer was restricted and consequently annual output remained static at about 100 million gallons from 1942-43 to 1944-45. Thereafter, production increased, and in 1960-61 amounted to nearly 242 million gallons.

The average annual consumption of ale, beer and stout per head of population exceeded 11 gallons prior to the economic depression of the early thirties; it dropped to 7.3 gallons in 1931-32, increased to 13.8 gallons in 1941-42 and declined again to about 13 gallons during the period of control from 1942 to 1946. The consumption per head in 1960-61 was 22.2 gallons.

The table below shows the quantities of materials used and the quantity and value of ale, beer (excluding waste beer) and stout brewed in each State during 1959-60.

**BREWERIES: MATERIALS USED AND PRODUCTION, 1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<b>MATERIALS USED.</b>							
Malt .. .. '000 bus.	(a)	(a)	749	488	(a)	(a)	6,633
Hops .. .. '000 lb.	2,058	(a)	497	407	(a)	(a)	4,520
Sugar .. .. tons	20,219	(a)	4,587	(a)	(a)	(a)	43,775

**ALE, BEER AND STOUT BREWED (EXCLUDING WASTE BEER).**

Quantity	'000 gals.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Value (b)	£'000	94,712	(a)	25,408	18,454	(a)	(a)	231,675
		15,842	(a)	5,142	3,605	(a)	(a)	42,894

(a) Not available for publication; figures are included in the total for Australia. (b) Excludes Excise Duty.

33. *Wineries and Distilleries.*—The following table shows particulars of the operations of Wineries and Distilleries for each State during 1959-60 and for Australia for a series of years.

**WINERIES AND DISTILLERIES.**  
**1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	33	30	5	72	25	..	165
Number of persons employed .. ..	226	309	152	1,295	76	..	2,058
Salaries and wages paid .. .. £'000	263	283	154	1,150	40	..	1,890
Value of power, fuel, etc., used .. .. £'000	131	63	67	138	3	..	402
Value of materials used .. .. £'000	2,347	703	465	4,295	177	..	7,987
Value of production .. .. £'000	947	1,072	325	2,441	115	..	4,900
Total value of output .. .. £'000	3,425	1,838	857	6,874	295	..	13,289
Value of land and buildings .. .. £'000	390	414	173	1,699	83	..	2,759
Value of plant and machinery .. .. £'000	653	402	366	1,318	69	..	2,808
Horse-power of engines ordinarily in use .. .. h.p.	1,817	1,226	780	7,375	406	..	11,604

WINERIES AND DISTILLERIES—*continued.*

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	155	157	160	158	165
Number of persons employed .. ..	1,908	2,027	2,066	2,021	2,058
Salaries and wages paid .. .. £'000	1,532	1,699	1,800	1,827	1,890
Value of power, fuel, etc., used .. .. £'000	368	423	426	396	402
Value of materials used .. .. £'000	5,074	6,461	7,448	7,900	7,987
Value of production .. .. £'000	2,890	3,704	4,569	3,889	4,900
Total value of output .. .. £'000	8,332	10,588	12,443	12,185	13,289
Value of land and buildings .. .. £'000	2,254	2,363	2,458	2,588	2,759
Value of plant and machinery .. .. £'000	2,099	2,348	2,339	2,573	2,808
Horse-power of engines ordinarily in use h.p.	11,159	11,412	11,548	10,773	11,604

34. **Tobacco, Cigars and Cigarettes.**—Particulars of establishments in which the manufacture of tobacco, cigars or cigarettes was carried on during 1959-60 are shown below for each State and for Australia for a series of years. There were no such factories in South Australia or Tasmania.

## TOBACCO, CIGARS AND CIGARETTES.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	W. Aust.	Aust.
Number of factories .. ..	8	8	3	2	21
Number of persons employed .. ..	2,930	2,058	(a)	(a)	5,046
Salaries and wages paid .. .. £'000	2,789	1,944	(a)	(a)	4,774
Value of power, fuel, etc., used .. .. £'000	86	88	(a)	(a)	176
Value of materials used .. .. £'000	22,340	14,189	(a)	(a)	36,578
Value of production .. .. £'000	11,251	5,606	(a)	(a)	16,889
Total value of output(b) .. .. £'000	33,677	19,883	(a)	(a)	53,643
Value of land and buildings .. .. £'000	1,550	2,021	(a)	(a)	3,620
Value of plant and machinery .. .. £'000	2,585	2,339	(a)	(a)	4,961
Horse-power of engines ordinarily in use h.p.	5,927	4,230	(a)	(a)	10,417

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	33	29	27	22	21
Number of persons employed .. ..	4,622	4,630	4,754	4,779	5,046
Salaries and wages paid .. .. £'000	3,728	4,038	4,203	4,178	4,774
Value of power, fuel, etc., used .. .. £'000	128	127	145	160	176
Value of materials used .. .. £'000	31,227	33,535	35,408	35,775	36,578
Value of production .. .. £'000	9,244	10,999	11,177	13,451	16,889
Total value of output(b) .. .. £'000	40,599	44,661	46,730	49,386	53,643
Value of land and buildings .. .. £'000	1,867	1,764	2,962	2,700	3,620
Value of plant and machinery .. .. £'000	2,784	3,059	4,156	4,178	4,961
Horse-power of engines ordinarily in use h.p.	10,778	10,990	10,586	10,384	10,417
Leaf used—					
Australian (stemmed) .. .. '000 lb.	5,204	5,299	7,158	8,792	11,533
Imported (stemmed) .. .. '000 lb.	37,399	40,860	38,369	40,179	38,186
Tobacco made .. .. '000 lb.	18,836	18,917	18,192	17,087	15,262
Cigars made .. .. '000 lb.	132	114	119	109	106
Cigarettes made .. .. '000 lb.	27,162	30,513	32,748	35,255	39,391

(a) Not available for publication; figures are included in the total for Australia.

(b) Excludes Excise Duty.

For many years the production of locally-grown leaf was comparatively small, and manufacturers were dependent on imported leaf for the supply of their raw materials. Increased import duties stimulated local production, and the quantity of Australian leaf used by manufacturers rose from 1.2 million lb. in 1929-30 to over 3 million lb. in 1930-31. During the 1939-45 War, about 4.7 million lb. of Australian-grown leaf was used annually and the 1959-60 usage was 11.5 million lb. For further information see Chapter XXII.—Agricultural Production.

Imports of tobacco during 1959-60 comprised: manufactured tobacco, 591,796 lb., cigars, 139,714 lb., cigarettes, 975,434 lb., unmanufactured tobacco, 37,004,900 lb.; and in 1960-61 were 611,072 lb., 155,394 lb., 1,028,701 lb. and 35,711,198 lb. respectively.

35. Sawmills, etc.—The most important industry in Class X. is sawmilling. Because of difficulties associated with the classifying of sawmills into forest and town mills, they have been combined in the following table, together with plywood and veneer mills. The figures exclude particulars of a small number of itinerant and travelling sawmills.

## SAWMILLS AND PLYWOOD AND VENEER MILLS.

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	975	525	613	94	238	346	2,791
Number of persons employed ..	11,019	7,106	8,493	2,500	4,070	2,852	36,040
Salaries and wages paid .. £'000	9,771	6,696	6,739	2,176	3,332	2,458	31,172
Value of power, fuel, etc., used £'000	817	601	445	194	303	244	2,604
Value of materials used .. £'000	27,171	16,920	13,735	6,786	5,764	6,300	76,676
Value of production .. £'000	18,848	12,559	11,499	4,144	6,491	4,871	58,412
Total value of output .. £'000	46,836	30,080	25,679	11,124	12,558	11,415	137,692
Value of land and buildings £'000	5,584	4,100	2,089	2,604	1,232	1,047	16,656
Value of plant and machinery £'000	5,689	3,425	3,484	2,826	2,009	2,202	19,635
Horse-power of engines ordinarily in use .. .. . h.p.	121,850	84,697	92,012	26,926	41,910	40,045	407,440

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	3,025	3,000	2,910	2,805	2,791
Number of persons employed ..	37,102	35,835	35,185	35,891	36,040
Salaries and wages paid .. £'000	27,086	27,563	27,932	29,478	31,172
Value of power, fuel, etc., used .. £'000	1,938	2,056	2,143	2,382	2,604
Value of materials used .. £'000	65,618	66,817	69,644	70,253	76,676
Value of production .. £'000	47,042	47,928	50,246	53,649	58,412
Total value of output .. £'000	114,598	116,801	122,033	126,284	137,692
Value of land and buildings .. £'000	11,136	12,079	13,924	14,545	16,656
Value of plant and machinery .. £'000	16,201	17,086	17,971	18,737	19,635
Horse-power of engines ordinarily in use h.p.	371,003	378,902	380,203	395,630	407,440

The sawmill output of Australian grown timber, which declined from 740 million super. feet in 1925-26 to the abnormally low figure of 237 million super. feet during the depression, recovered to 717 million super. feet in 1938-39, and in 1960-61 stood at 1,397 million super. feet. Further reference is made to the sawmilling industry in Chapter XXV.—Forestry.

36. Cabinet and Furniture Making and Upholstery.—These industries constitute the principal manufactures in Class XI. The following table shows particulars for each State in 1959-60 and for Australia for a series of years.

## CABINET AND FURNITURE MAKING AND UPHOLSTERY, 1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	566	507	231	151	153	56	1,664
Number of persons employed ..	6,516	4,585	2,242	1,657	1,069	406	16,475
Salaries and wages paid .. £'000	6,167	4,056	1,624	1,291	743	306	14,187
Value of power, fuel, etc., used £'000	144	102	40	35	19	6	346
Value of materials used .. £'000	12,197	6,733	2,994	2,189	1,550	460	26,123
Value of production .. £'000	10,342	6,833	2,566	1,991	1,260	509	23,501
Total value of output .. £'000	22,683	13,668	5,600	4,215	2,829	975	49,970
Value of land and buildings £'000	4,643	3,821	1,196	1,029	650	279	11,618
Value of plant and machinery £'000	1,126	835	354	315	182	57	2,869
Horse-power of engines ordinarily in use .. .. . h.p.	15,736	12,674	6,741	5,882	3,588	1,334	45,955



CABINET AND FURNITURE MAKING AND UPHOLSTERY—*continued.*

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	1,642	1,635	1,644	1,629	1,664
Number of persons employed .. ..	15,250	15,164	15,929	16,012	16,475
Salaries and wages paid .. .. £'000	10,840	11,193	12,462	12,963	14,187
Value of power, fuel, etc., used .. .. £'000	272	289	311	334	346
Value of materials used .. .. £'000	17,470	17,926	20,860	22,222	26,123
Value of production .. .. £'000	17,064	18,059	20,163	21,228	23,501
Total value of output .. .. £'000	34,806	36,274	41,334	43,784	49,970
Value of land and buildings .. .. £'000	6,799	7,759	9,069	10,457	11,618
Value of plant and machinery .. .. £'000	2,292	2,424	2,515	2,679	2,869
Horse-power of engines ordinarily in use h.p.	46,957	45,096	46,447	46,539	45,955

37. **Printing Works.**—Printing and bookbinding rank high in importance among the industries of Australia and in 1959-60 afforded employment for 43,181 employees, and paid £43,766,529 in salaries and wages while the value of output amounted to £143,647,122. The following table gives particulars of establishments engaged in general printing in each State for 1959-60 and for Australia for a series of years. These establishments include those engaged in lithographic printing, bookbinding, paper ruling and linotyping and Government printing works.

## GOVERNMENT AND GENERAL PRINTING WORKS, 1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	679	567	120	93	85	29	1,573
Number of persons employed .. ..	11,530	9,851	2,431	1,792	1,482	658	27,744
Salaries and wages paid .. .. £'000	11,654	9,719	1,949	1,604	1,222	563	26,711
Value of power, fuel, etc., used .. .. £'000	356	295	52	40	37	17	797
Value of materials used .. .. £'000	16,484	12,803	2,107	1,883	1,367	531	35,175
Value of production .. .. £'000	20,488	17,027	3,293	2,691	2,163	905	46,567
Total value of output .. .. £'000	37,328	30,125	5,452	4,614	3,567	1,453	82,539
Value of land and buildings .. .. £'000	9,987	8,203	1,012	989	833	575	21,599
Value of plant and machinery .. .. £'000	8,190	7,246	1,329	1,322	886	378	19,351
Horse-power of engines ordinarily in use .. .. h.p.	18,302	16,462	3,067	2,578	2,210	942	43,561

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	1,347	1,399	1,431	1,518	1,573
Number of persons employed .. ..	24,453	25,271	25,916	26,827	27,744
Salaries and wages paid .. .. £'000	19,421	20,632	22,099	23,705	26,711
Value of power, fuel, etc., used .. .. £'000	551	621	675	729	797
Value of materials used .. .. £'000	25,792	27,202	29,809	32,420	35,175
Value of production .. .. £'000	32,075	35,136	38,068	41,036	46,567
Total value of output .. .. £'000	58,418	62,959	68,552	74,185	82,539
Value of land and buildings .. .. £'000	11,715	13,310	15,084	19,041	21,599
Value of plant and machinery .. .. £'000	13,560	14,586	15,705	17,535	19,351
Horse-power of engines ordinarily in use h.p.	35,667	36,784	37,963	40,751	43,561

The following table gives similar particulars in respect of establishments producing newspapers and periodicals.

## NEWSPAPERS AND PERIODICALS, 1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	180	133	56	36	19	5	429
Number of persons employed .. ..	7,138	3,633	2,264	1,232	754	416	15,437
Salaries and wages paid .. .. £'000	7,978	4,063	2,314	1,335	881	485	17,056
Value of power, fuel, etc., used .. .. £'000	288	144	83	43	47	10	615
Value of materials used .. .. £'000	12,296	9,549	3,532	2,417	1,522	410	29,726
Value of production .. .. £'000	14,511	6,922	4,450	2,355	1,861	668	30,767
Total value of output .. .. £'000	27,095	16,615	8,065	4,815	3,430	1,088	61,108
Value of land and buildings .. .. £'000	7,779	2,955	1,391	1,989	829	250	15,193
Value of plant and machinery .. .. £'000	7,785	2,750	1,470	1,092	619	244	13,960
Horse-power of engines ordinarily in use .. .. h.p.	15,091	11,171	5,756	4,503	2,651	944	40,116

## AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	416	412	407	423	429
Number of persons employed .. ..	14,446	14,640	14,387	14,878	15,437
Salaries and wages paid .. .. £'000	13,273	13,134	13,997	15,291	17,056
Value of power, fuel, etc., used .. .. £'000	511	551	562	590	615
Value of materials used .. .. £'000	23,491	24,009	25,299	27,746	29,726
Value of production .. .. £'000	23,437	25,110	25,580	27,738	30,767
Total value of output .. .. £'000	47,439	49,670	51,441	56,074	61,108
Value of land and buildings .. .. £'000	9,414	10,763	12,112	13,739	15,193
Value of plant and machinery .. .. £'000	10,716	11,315	10,833	11,595	13,960
Horse-power of engines ordinarily in use h.p.	40,305	36,980	37,440	37,440	40,116

38. Paper Making.—Although the paper manufacturing industry has been established in Australia for many years, it was not until the manufacture of paper pulp from indigenous timber commenced in 1938-39 that any marked development occurred.

Mills producing pulp from eucalypt timber are operating in Victoria and Tasmania, while in South Australia pulp is being produced from locally-grown softwoods. The production of pulp rose from 6,000 tons in 1938-39 to 88,000 tons in 1946-47. It remained at about this level until 1949-50, but in 1959-60 nearly 213,000 tons were produced.

The number of factories operating in 1959-60 comprised four in New South Wales, nine in Victoria, two in Queensland, one each in South Australia and Western Australia, and three in Tasmania. In Tasmania, newsprint, writing and printing papers are produced, and in the other States wrappings, other papers and boards. Particulars for this industry are shown in the following table.

## PAPER MAKING, INCLUDING PULP MILLS: AUSTRALIA.

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	17	17	18	18	20
Number of persons employed .. ..	7,480	7,903	8,088	8,406	8,775
Salaries and wages paid .. .. £'000	7,813	8,783	9,752	10,422	11,980
Value of power, fuel, etc., used .. .. £'000	2,735	2,996	3,131	3,341	3,906
Value of materials used .. .. £'000	18,963	22,419	22,903	25,025	26,601
Value of production .. .. £'000	17,330	19,383	23,910	25,817	28,326
Total value of output .. .. £'000	39,028	44,798	49,944	54,183	58,833
Value of land and buildings .. .. £'000	9,312	9,527	12,203	12,317	13,307
Value of plant and machinery .. .. £'000	18,640	18,141	21,835	22,482	27,018
Horse-power of engines ordinarily in use h.p.	164,123	170,382	174,557	179,364	189,774

39. **Rubber Goods.**—The following table shows particulars of this industry for each State during 1959–60 and for Australia for a series of years. Establishments engaged primarily in the retreading and repairing of tyres are excluded.

**RUBBER GOODS, 1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	42	52	14	8	2	..	118
Number of persons employed ..	6,864	6,566	1,189	(a)	(a)	..	15,620
Salaries and wages paid .. ..	£'000 7,545	7,433	1,005	(a)	(a)	..	17,142
Value of power, fuel, etc., used ..	£'000 929	1,153	118	(a)	(a)	..	2,318
Value of materials used .. ..	£'000 18,651	20,557	2,840	(a)	(a)	..	43,382
Value of production .. ..	£'000 9,396	12,974	1,803	(a)	(a)	..	26,072
Total value of output .. ..	£'000 28,976	34,684	4,761	(a)	(a)	..	71,772
Value of land and buildings ..	£'000 2,727	3,834	487	(a)	(a)	..	7,585
Value of plant and machinery ..	£'000 2,928	5,966	358	(a)	(a)	..	9,543
Horse-power of engines ordinarily in use .. .. h.p.	54,073	61,124	8,822	(a)	(a)	..	128,393

(a) Not available for publication ; figures are included in the total for Australia.

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	117	120	118	122	118
Number of persons employed ..	14,480	14,859	15,017	15,227	15,620
Salaries and wages paid .. ..	£'000 13,616	14,296	14,931	15,442	17,142
Value of power, fuel, etc., used ..	£'000 1,831	2,007	2,131	2,205	2,318
Value of materials used .. ..	£'000 38,329	34,378	36,044	36,339	43,382
Value of production .. ..	£'000 21,211	23,246	24,782	27,108	26,072
Total value of output .. ..	£'000 61,371	59,631	62,957	65,652	71,772
Value of land and buildings ..	£'000 5,841	6,292	7,120	7,288	7,585
Value of plant and machinery ..	£'000 7,156	6,645	7,839	7,632	9,543
Horse-power of engines ordinarily in use h.p.	106,720	114,562	120,602	126,901	128,393

40. **Electric Light and Power Works.**—(i) *Details of Industry.* The increased demand for electrical energy has been responsible for considerable development in electric light and power works during recent years. For further information on this subject see Chapter VII.—Electric Power Generation and Distribution. Particulars of the industry for each State during the year 1959–60 and for Australia for a series of years are shown below.

**ELECTRIC LIGHT AND POWER WORKS.**

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	62	44	61	34	91	12	304
Number of persons employed ..	5,162	3,470	1,640	(a)	1,080	(a)	12,810
Salaries and wages paid .. ..	£'000 5,590	4,218	1,747	(a)	1,229	(a)	14,564
Value of power, fuel, etc., used ..	£'000 15,754	10,472	6,595	(a)	3,610	(a)	40,756
Value of materials used .. ..	£'000 1,806	700	1,344	(a)	328	(a)	4,839
Value of production .. ..	£'000 31,979	17,977	6,619	(a)	3,916	(a)	68,582
Total value of output .. ..	£'000 49,539	29,149	14,558	(a)	7,854	(a)	114,177
Value of land and buildings ..	£'000 48,947	21,184	10,058	(a)	4,470	(a)	136,087
Value of plant and machinery ..	£'000 88,512	74,548	37,761	(a)	16,260	(a)	259,899
Generators installed—Kilowatt capacity .. .. '000 kW	2,525	1,367	703	(a)	340	(a)	5,953

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	332	328	319	305	304
Number of persons employed ..	12,111	12,473	12,833	13,124	12,810
Salaries and wages paid .. ..	£'000 12,497	13,571	13,467	14,011	14,564
Value of power, fuel, etc., used ..	£'000 37,479	39,830	40,261	39,383	40,756
Value of materials used .. ..	£'000 4,090	4,396	4,740	4,744	4,839
Value of production .. ..	£'000 43,219	50,722	55,514	63,422	68,582
Total value of output .. ..	£'000 84,788	94,948	100,515	107,549	114,177
Value of land and buildings ..	£'000 71,680	100,011	104,512	122,460	136,087
Value of plant and machinery ..	£'000 152,672	191,352	213,926	235,844	259,899
Generators installed—Kilowatt capacity .. .. '000 kW	4,140	4,705	4,881	5,531	5,953

(a) Not available for publication ; figures are included in the total for Australia.

Particulars of the types of engines and generators installed in Electric Light and Power Works and their rated horse-power are given on page 248.

(ii) *Production.* The generation of electricity in each of the States for a series of years to 1960-61 is shown in the following table.

**ELECTRIC LIGHT AND POWER WORKS: ELECTRICITY GENERATED.**  
(Million kWh.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1955-56 .. ..	6,505	4,633	1,786	1,204	753	1,794	16,675
1956-57 .. ..	7,008	5,037	1,937	1,315	782	2,210	18,289
1957-58 .. ..	7,595	5,320	2,133	1,581	829	2,338	19,796
1958-59 .. ..	8,275	5,704	2,305	1,583	876	2,456	21,199
1959-60 .. ..	9,200	6,198	2,467	1,864	938	2,532	23,199
1960-61(a) ..	9,992	6,578	2,790	2,054	1,031	2,627	25,072

(a) Preliminary—subject to revision.

41. *Gas-works.*—(i) *Details of Industry.* Gas works are in operation in the majority of important towns in Australia. The following table shows particulars of gas-works in each State for the year 1959-60 and for Australia for a series of years.

**GAS-WORKS.**

1959-60.

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Number of factories .. ..	37	27	16	3	3	2	88
Number of persons employed ..	1,310	1,513	335	(a)	176	(a)	3,790
Salaries and wages paid .. £'000	1,585	1,789	307	(a)	190	(a)	4,367
Value of power, fuel, etc., used £'000	2,152	503	41	(a)	133	(a)	2,942
Value of materials used .. £'000	5,725	5,471	1,068	(a)	581	(a)	14,738
Value of production .. £'000	6,037	3,807	1,046	(a)	360	(a)	12,037
Total value of output .. £'000	13,914	9,781	2,155	(a)	1,074	(a)	29,717
Value of land and buildings £'000	1,593	3,031	785	(a)	217	(a)	5,946
Value of plant and machinery £'000	7,956	13,701	2,137	(a)	1,569	(a)	29,346
Horse-power of engines ordinarily in use .. .. h.p.	17,982	16,717	2,924	(a)	1,356	(a)	46,058

**AUSTRALIA.**

Items.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Number of factories .. ..	95	94	88	88	88
Number of persons employed .. ..	4,087	4,138	3,783	3,917	3,790
Salaries and wages paid .. .. £'000	4,148	4,448	4,309	4,298	4,367
Value of power, fuel, light, etc., used £'000	2,297	2,591	2,720	2,712	2,942
Value of materials used .. .. £'000	15,350	15,598	15,030	14,996	14,738
Value of production .. .. £'000	9,272	9,894	10,577	11,239	12,037
Total value of output .. .. £'000	26,919	28,083	28,327	28,947	29,717
Value of land and buildings .. .. £'000	2,748	5,189	5,710	6,079	5,946
Value of plant and machinery .. .. £'000	19,828	27,667	26,823	28,127	29,346
Horse-power of engines ordinarily in use h.p.	42,082	44,373	44,913	46,743	46,058

(a) Not available for publication; figures are included in the total for Australia.

(ii) *Coal Used and Production.* The following table shows details for 1959–60.

**GAS-WORKS: COAL USED AND PRODUCTION, 1959-60.**

Items.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Coal used '000 tons	848	466	187	174	(a)	(a)	1,744
Gas produced million cu. ft.	22,625	17,992	3,216	3,973	(a)	(a)	49,593
Gas sold	19,075	15,766	2,772	3,619	(a)	(a)	42,737
Coke produced (b) '000 tons	398	135	76	103	(a)	(a)	759

(a) Not available for publication; figures are included in the total for Australia. (b) In addition, 2,376,097 tons of metallurgical coke were made in Coke Works in 1959–60.

Since 1938–39, when the output of gas was 21 thousand million cubic feet, production has increased each year with one exception (1949–50) and reached 50,648 million cubic feet, with an equivalent of 265,783 thousand therms (1 Therm = 100,000 B.T.U.), in 1960–61.

## CHAPTER VII.

### ELECTRIC POWER GENERATION AND DISTRIBUTION.

This chapter is divided into three major parts. A.—Introduction, which deals briefly with the resources, generation and distribution, and future development of electric power in Australia; B.—The Snowy Mountains Hydro-electric Scheme; and C.—The origins, development, present situation and new projects of electrical systems in each Australian State and Territory. A Statistical Summary is appended.

It should be noted that the information contained in the chapter relates to situations existing and projects contemplated in 1961 and that it may be considerably affected by changes in policy or plans, or by developments in the projects themselves.

#### A. INTRODUCTION.

1. *Distribution of Population and Location of Power Resources.*—The geographical pattern of electric power generation and distribution in Australia has been affected by two main influences—the distribution of population, with a resulting distribution of industry, and the location of fuel and water resources.

The Australian population increased between 1939 and 1961 from approximately 6,969,000 to 10,500,000. The two principal centres of population and industry, the metropolitan areas of Sydney and Melbourne, make the greatest demands for electric power and their growth has been associated with the development of large deposits of coal located relatively close to the source of demand. This, together with the fact that the major water resources are also located in the south-eastern portion of the Commonwealth, materially influences the distribution of industrial population and the location of major electric power stations.

By far the most important source of energy used in the production of electric power in Australia is coal. At 30th June, 1960, thermal power equipment represented 72 per cent., hydro plant 24 per cent. and internal combustion equipment 4 per cent. of the total installed generating capacity.

Most of Australia is poorly supplied with water, only about 15 per cent. receiving an annual rainfall of 30 inches or over. This is confined largely to Tasmania and to the narrow coastal strip along the east coast of the mainland. The possibility of establishing large hydro stations in inland areas is, therefore, strictly limited by the lack of sufficient water.

The only region on the mainland of Australia high enough to receive reliable winter snowfall, and from which, therefore, reasonably constant water supplies throughout the year can be expected, is the mountain chain which stretches from the high plateaux of south-eastern New South Wales through to the north-eastern highlands of Victoria. The hydro-electric potential of this area is considerable, and plans have been formulated to develop more than 3,000,000 kW within the next 25 years. The two major construction projects in this area are the Snowy Mountains and Kiewa Schemes. Other hydro-electric potential does exist on the mainland on the rivers of the coastal areas of New South Wales and Queensland, but the amount there available is only small compared with the potential of the Alpine region. In Tasmania, hydro-electric resources have been estimated at about 50 per cent. of the total Australian hydro-electric potential. Whereas on the mainland the chief source of energy is coal, water occupies this position in Tasmania.

2. *Electric Power Generation and Distribution.*—(i) *Ownership of Undertakings.* At the beginning of this century, Australia's electrical undertakings were carried on mainly by private enterprise, but some measure of governmental control was exercised through various electric light and power Acts. This legislation was designed to provide standards of safety, and to define the scope and obligations of the private organizations engaged in producing electric power for sale. A trend towards public ownership commenced during the 1914–18 War and became more pronounced after the 1939–45 War. By 1961, all major

generating stations supplying the public were, in varying degrees, under the control of State statutory organizations constituted with the object of unifying and co-ordinating the generation and distribution of electricity supplies within the various States. There are, however, still a large number of small private and municipal enterprises generating power for supply to country towns, although central authorities are extending supply to these places wherever practicable. In many areas, however, it has been, and remains, the practice for central authorities to sell power in bulk to local distributing organizations which undertake reticulation.

In addition to the private, local government and statutory organizations which generate and/or distribute electricity for sale, there are numerous firms generating power for use in their own establishments, particularly those engaged in mining pursuits remote from the main centres of population. This chapter, however, is concerned mainly with the activities of central electric stations, and the power regularly produced for such internal consumption is, in any case, a relatively small proportion of the total power produced.

(ii) *Power Production and Generating Capacity.* In the period between 1938-39 and 1960-61, production of electric power in Australia increased by more than 400 per cent. from 4,688 to 25,072 million kilowatt hours.

Since the 1939-45 War, industry and commerce have expanded rapidly, many new houses have been built and the population has increased by approximately 42 per cent. These factors, together with the extension of electricity supplies to rural areas and the increased use of domestic electric appliances, have all helped to bring about a position where the greatly increased demand for power cannot be satisfied by the existing installed capacity of central generating stations.

At 30th June, 1960, installed generating capacity in Australia totalled 5.95 million kW compared with 5.53 million kW in 1959, an increase of nearly 8 per cent. In 1959-60, each kW of installed capacity produced an average of nearly 4,000 kWh. These figures are based on Commonwealth totals; figures for the States vary, depending on such factors as the distribution of demand, number of consumers, and type of equipment employed.

## B. SNOWY MOUNTAINS HYDRO-ELECTRIC SCHEME.\*

1. *Snowy Mountains Hydro-electric Power Act, 1949.*—In July, 1949, the Commonwealth Government passed the Snowy Mountains Hydro-electric Power Act establishing the Snowy Mountains Authority.

The functions and powers of the Authority as defined in the Act are:—

- (a) to generate electricity by means of hydro-electric works in the Snowy Mountains Area;
- (b) to supply electricity generated to the Commonwealth:—
  - (i) for defence purposes;
  - (ii) for consumption in the Australian Capital Territory.

The Authority is empowered also to supply to a State, or to a State Authority, electricity not immediately required for defence purposes or for consumption in the Australian Capital Territory.

To enable it to perform its functions, the Authority is given power to construct, maintain, operate, protect, manage and control works:—

- (a) for the collection, diversion and storage of water in the Snowy Mountains Area;
- (b) for the generation of electricity in that area;
- (c) for the transmission of electricity generated by the Authority;
- (d) incidental or related to the construction, maintenance, operation, protection, management or control of any works otherwise specified in the Act.

The Authority is constituted by a Commissioner appointed by the Governor-General. He is assisted by two Associate Commissioners also appointed by the Governor-General.

The Snowy Mountains Act is supported by a detailed Agreement between the States of New South Wales and Victoria and the Commonwealth with regard to the construction and operation of the Scheme, the distribution of power and water, charges to be made for

\* See also Chapter VIII.—Water Conservation and Irrigation, page 257 of this issue and special detailed article in Official Year Book No. 42, pp. 1103-1130.

electricity, and other such matters. The Snowy Mountains Council, established under the terms of the Agreement and consisting of representatives of the Commonwealth, the Authority and the two States, directs and controls the operation and maintenance of the permanent works of the Authority and the allocation of loads to generating stations.

2. **Geography of the Area.**—The Snowy Mountains Area in south-eastern New South Wales is the only part of the continent in which altitudes exceed 7,000 feet and in which there is a substantial area over the altitude of 6,000 feet. The precipitation which results from the presence of this barrier on the line of the prevailing winter depressions of Antarctic origin amounts to as much as 120 inches a year in the vicinity of Mt. Kosciusko, the highest point in Australia. The drainage from the snowfields is practically all to three systems—those of the Murray and Murrumbidgee Rivers, which flow inland, and that of the Snowy River, which flows southward to Bass Strait.

3. **Description of the Scheme.**—(i) *General.* The Scheme involves two main diversions, the diversion of the Eucumbene, a tributary of the Snowy, to the Upper Tumut River and the diversion of the main stream of the Snowy River at Island Bend and Jindabyne to the Swampy Plain River. These two diversions divide the Scheme geographically into two sections, the Snowy-Tumut Development and the Snowy-Murray Development. The features referred to may be identified by reference to the map on page 240. For purposes of both power production and irrigation, it is necessary to provide a considerable degree of regulation of run-off and this will be achieved by the use of Lake Eucumbene formed by the construction of Eucumbene Dam and other smaller storages to control the waters of the Eucumbene, Murrumbidgee, Tooma, and Tumut Rivers for the Snowy-Tumut Development and of the Snowy River for the Snowy-Murray Development. A sectional diagram of the Scheme appears on page 239.

(ii) *Snowy-Tumut Development.* This Development comprises works for the diversion and regulation of the waters of the Eucumbene, Upper Tooma, Upper Murrumbidgee and Upper Tumut Rivers and their combined development through a series of power stations down the Tumut River. A major dam has been constructed on the Eucumbene River to create Lake Eucumbene which has an ultimate usable storage of 3.5 million acre feet. The waters of the Upper Murrumbidgee River are diverted into Lake Eucumbene by a dam at Tantangara and a 10½-mile tunnel from Tantangara Reservoir. From Lake Eucumbene, the water flows through a 14-mile tunnel to Tumut Pond Reservoir on the upper reaches of the Tumut River, where it joins the waters of the Tumut River itself and the waters of the Tooma River diverted to Tumut Pond Reservoir by a diversion dam and a 9-mile tunnel. A feature of this 14-mile Eucumbene-Tumut Tunnel is its use during periods of high flow to divert waters of the Tumut River from Happy Jacks Shaft or the combined waters of the Tumut and Tooma Rivers from Tumut Pond reservoir back to Lake Eucumbene for storage.

From Tumut Pond reservoir water is conveyed by pressure tunnel to Tumut 1 underground Power Station (capacity 320,000 kW), returned to the Tumut River and then by another pressure tunnel to Tumut 2 underground Power Station (capacity 280,000 kW), thence discharging into Tumut 3 Reservoir at Lobs Hole, also on the Tumut River.

Tumut 3 and Tumut 4 Power Stations will be constructed between Tumut 3 and Blowering Reservoirs. Blowering Dam is to be constructed by the State of New South Wales and will provide for the regulation of power station discharges for use for irrigation in the Murrumbidgee valley. The Authority will, however, construct another power station at the foot of this dam to make use of irrigation releases for power purposes.

(iii) *Snowy-Murray Development.* The principal features of the Snowy-Murray Development are the diversion of the main stream of the Snowy River by tunnels, shafts, and pipelines westwards through the Great Dividing Range into the Swampy Plain River in the catchment of the Upper Murray, and the development of power on the western slopes of the Alps. The main works of the Development will be as follows:—

- (a) The construction of a tunnel from the Snowy River near Island Bend through the Great Dividing Range to Geehi Reservoir on the Geehi River and two power projects between Geehi Reservoir and the Swampy Plain River near Khancoban. The power stations associated with these two power projects, Murray 1 and Murray 2, will be the Scheme's largest stations and will have a combined capacity of 1,200,000 kW.
- (b) Construction of a tunnel from a small dam on the Snowy River near Island Bend to Eucumbene Dam to carry Snowy water to Lake Eucumbene for storage at times of high river flows. When river flows are lower than average,



this stored water will be returned towards Island Bend and thence through the Snowy-Geehi Tunnel to Geehi Reservoir and Murray 1 and Murray 2 Power Stations.

- (c) The construction of a dam on the Snowy River near Jindabyne to store the residual flow of the Snowy and Eucumbene Rivers downstream from Island Bend and Eucumbene Dams, including the flows of major tributaries, the Crackenback and Mowamba Rivers, and the construction of a pumping plant, pipeline and tunnel to lift this water from Jindabyne Reservoir to the Snowy-Geehi Tunnel near Island Bend, where it will join the flow to the Geehi Reservoir for use through Murray 1 and Murray 2 Power Stations.

Associated with the main Snowy-Murray diversion are power developments of the Upper Snowy and Upper Geehi Rivers. The Upper Snowy proposals provide for a series of three power projects utilizing the fall in the waters of the Snowy River from Kosciusko Reservoir at elevation 5,800 feet to Island Bend at elevation 3,900 feet. One of these, the Guthega Project, came into operation in February, 1955.

On the western side of the Divide, the waters of the Upper Geehi River and its tributary, Windy Creek, falling from an altitude of 5,200 feet to Geehi Reservoir at elevation 3,600 feet, will generate power in Windy Creek Power Station.

**4 Utilization of Power.**—The future electric power plants on the mainland of Australia will be predominantly thermal or thermo-nuclear installations, and in an electrical system in which the greater part of the energy is generated in thermal plants it is usually found that the hydro installations operate to the best advantage on peak load. However, the existing New South Wales and Victorian systems include a proportion of relatively old and less efficient installations which, for reasons of fuel economy, are also best used for the production of peak load power. Therefore, in order to utilize the potential of the Snowy Mountains Scheme most effectively, it is proposed to arrange the order of development so that the early stations will operate, initially, somewhat below the peak of the system load, with a progressive change to predominantly peak load operation as construction proceeds and as the load increases in magnitude.

The Snowy Mountains Scheme is situated geographically about midway between the principal load centres of Sydney and Melbourne and will be connected to these centres by 330,000 volt transmission lines. It will, consequently, be in a strategic position to take advantage of the diversity in the power requirements of these two load systems, a most important factor in so far as it affects the economy of operation of the supply systems of the two States.

Although most of the output from the Scheme will go to the States of New South Wales and Victoria, the Commonwealth Government has the right to draw from the Scheme its requirements of power and energy for the Australian Capital Territory and for defence purposes. For convenience, the Commonwealth's share of power and energy will be drawn from the New South Wales transmission network by an exchange arrangement between the Commonwealth and the Electricity Commission of New South Wales. After fulfilling the Commonwealth's requirements, the remaining power and energy from the Scheme will be divided between the States of New South Wales and Victoria in the ratio of 2 : 1.

**5. Progress and Future Programme.**—The first power station in the Scheme, Guthega, of 60,000 kW initial capacity, came into operation in February, 1955. This was followed by Tumut 1 Power Station, total capacity 320,000 kW, which came into operation progressively during 1959. Eucumbene Dam, which provides the major regulating storage for the Scheme, was completed in May, 1958, and water now being stored in Lake Eucumbene will be used later for power generation through the Tumut Power Stations. Completion of the Eucumbene-Tumut Tunnel in June, 1959, made possible the first major trans-mountain diversion of water. Construction of the second of the Tumut River Power Stations, Tumut 2, with a capacity of 280,000 kW, was completed in 1962. Tantangara Dam on the Murrumbidgee River was completed in February, 1960, and water is now being stored and diverted to Lake Eucumbene through the Murrumbidgee-Eucumbene Tunnel which was completed early in 1961. The Tooma-Tumut Tunnel to Tumut Pond Reservoir was also completed early in 1961.

The next works to be constructed will be parts of the main Snowy-Murray Development, and it is anticipated that the first production of power from the Murray 1 Power Station and the first trans-mountain diversion of the water from the Snowy River to the Murray will occur during 1966.

## C. STATES AND TERRITORIES.

## § 1. New South Wales.

1. **General.**—In Official Year Book No. 39, an account was given, in some detail, of the origin and development of electricity generation and distribution in New South Wales, describing in particular the growth of the systems of the Sydney County Council, the Department of Railways, the Electric Light and Power Supply Corporation Ltd., the Southern Electricity Supply and the Clarence River County Council (now the Northern Rivers County Council). A description was also given of the legislation which constituted The Electricity Authority of New South Wales and the Electricity Commission of New South Wales as well as legislation existing prior to their constitution. At present, the following are the three main Acts governing electricity supply in New South Wales.

- (i) The Local Government Act, 1919, which lays down the various rights and responsibilities of local government bodies in the establishment and operation of electricity trading undertakings.
- (ii) The Electricity Development Act, 1945–1957, which established The Electricity Authority of New South Wales as the body responsible for the co-ordination of electricity supply throughout the State.
- (iii) The Electricity Commission Act, 1950–1957, which constituted the Electricity Commission of New South Wales as the major generating authority and not subject to the provisions of the Electricity Development Act.

2. **Organization.**—(i) *The Electricity Commission of New South Wales.* The Commission, which was constituted under the Electricity Commission Act, 1950–1957, consists of five members of whom one is full-time Chairman and one is full-time Vice-Chairman. In its administration, the Commission is directly responsible to the Minister for Local Government.

When the Commission was established, 93 per cent. of the State's power requirements were generated by four bodies—the Sydney County Council, the Department of Railways, the Southern Electricity Supply (a division of the Department of Public Works) and the privately-owned Electric Light and Power Supply Corporation Ltd. The Electricity Commission Act, 1950–1957, and the Electricity Commission (Balmain Electric Light Company Purchase) Act, 1950, provided for the acquisition of the power stations and main transmission lines of those bodies. The transfer of the power stations and transmission lines of all these undertakings has been effected. On 1st July, 1956, the Commission acquired the power station and bulk supply system of the Tamworth City Council, which supplied in bulk to a number of distributing bodies in the north of the State.

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the government railways and tramways, and to certain large industrial consumers. As the major generating authority, it is also responsible for the development of new power sources. An important exception is the hydro-electric potential of the Snowy Mountains region, which is being developed by the Snowy Mountains Hydro-electric Authority, a Commonwealth Government body.

(ii) *Other Electricity Supply Authorities.* The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities—municipal and shire councils, electricity county councils (consisting of groups of shire and/or municipal councils) or private franchise holders. At 30th June, 1961, there were 58 of these supply authorities throughout the State, of which 20 also generated part or all of their power requirements. The majority of country power stations are small oil engine plants which are becoming increasingly costly to operate. Consequently, they are gradually being closed down as the main transmission network is extended further afield.

Over the past few years, there has been a distinct trend towards the consolidation of supply areas, many of which have been regarded as being too weak individually to form satisfactory areas for distribution. Generally these consolidations have taken the form of a county district consisting of a number of neighbouring shire and municipal areas grouped for electricity supply purposes only, and administered by a county council of representatives elected by the constituent shire and municipal councils.

Of the 227 cities, municipalities and shires in New South Wales, 213 are included in one or other of the 36 electricity county districts. The majority of these county districts have been constituted since 1945. The largest of the county councils is the Sydney County Council, which at 30th June, 1961, was supplying 485,484 consumers in the Sydney Metropolitan Area. Unlike the other county councils, which are constituted under the provisions of the Local Government Act, 1919, the Sydney County Council was specially constituted under the Gas and Electricity Act, 1935.

(iii) *The Electricity Authority of New South Wales.* The Electricity Authority was constituted under the Electricity Development Act, 1945–1957, for the stated purpose of promoting and regulating the co-ordination, development, expansion, extension and improvement of electricity supply throughout the State. The Authority, which is a regulatory body only, consists of seven members of whom one is a full time Chairman. Like the Commission, it is responsible to the Minister for Local Government.

The following are the main functions of the Authority.

(a) *Distribution.* Under the Act, the approval of the Authority is required, *inter alia*, for the establishment or acquisition of an electricity trading undertaking by a local government council, for the granting or renewing by such a council of electricity franchise agreements or corresponding agreements with other councils, and for the giving or taking of bulk supplies of electricity. It also has power to formulate proposals for the establishment of county councils.

In exercising these powers, the Authority is mainly concerned with seeing that distributing authorities are sufficiently strong to provide an economical, efficient and satisfactory service. Its most important activities in this regard are in investigating supply areas and in making recommendations to the Minister for the consolidation of such areas into county districts. Many of the new county districts referred to earlier have been formed largely as a result of the Authority's advice.

(b) *Rural Electrification.* The Authority administers the rural electricity subsidy scheme under which rural electrification throughout the State is progressing very rapidly (*see* para. 4, p. 230).

(c) *Safety.* The Electricity Development Act, 1945–1957, contains provisions for the making of regulations relating to most aspects of safety, and these powers are being used more and more extensively. Safety regulations now in force cover such matters as inspection of consumer's installations, licensing of electricians and electrical contractors, approval of electrical appliances, safety of linesmen and overhead line construction.

(d) *Generation and Transmission.* The approval of the Authority is required for the establishment or extension of power stations and main transmission lines (with the exception of those of the Electricity Commission).

3. *Generation and Transmission.*—(i) *General.* Except in the Snowy Mountains district and in one or two other areas, New South Wales is lacking in major water power potential and for the generation of electricity the State is, therefore, dependent mainly on steam power stations. During the year ended 30th June, 1961, coal-fired stations generated 91.8 per cent. of the State's energy requirements, hydro-electric stations 7.6 per cent. and internal combustion plants 0.6 per cent.

The proportion of power generated in the hydro-electric stations will increase considerably with the future plant development of the Snowy Mountains Scheme by the Commonwealth Government, but at no stage of its development will the Scheme supply more than 15 per cent of the State's energy requirements. Coal-fired steam power stations, therefore, will continue to supply the greater part of requirements for the foreseeable future.

(ii) *Major Generating Stations.* In New South Wales, the generation of electricity has followed the general world trend towards large centralized power stations supplying large areas through inter-connected transmission networks. Whereas until a few years ago the greater part of the coal-fired generating plant was located in the industrial areas of Sydney, Newcastle and Wollongong, where most of the population is also located, major power stations are now being located on the coalfields to the north, south and west of Sydney, and power is transmitted to the load centres through high voltage transmission lines.

As at 30th June, 1961, the major power stations of the State system of the Electricity Commission of New South Wales and their installed capacities were as follows:—*Steam*—Bunnerong "A" and "B" (Sydney), 375,000 kW; Wangi (Lake Macquarie), 330,000 kW; Tallawarra (Lake Illawarra), 320,000 kW; Pyrmont (Sydney), 200,000 kW; Wallerawang (near Lithgow), 180,000 kW; White Bay (Sydney), 172,000 kW; Balmain (Sydney), 107,000 kW; Ultimo (Sydney), 80,000 kW; Port Kembla, 60,500 kW; Zarra Street (Newcastle), 45,000 kW; Muswellbrook, 30,000 kW; Lithgow, 27,000 kW; Tamworth, 27,000 kW; Maitland, 20,000 kW; Penrith, 20,000 kW; Liverpool, 20,000 kW; *Hydro*—Hume (near Albury), 50,000 kW; Warragamba (near Penrith), 50,000 kW; Burrinjuck (near Yass), 20,000 kW. There were also various other steam, hydro and internal combustion stations aggregating 36,870 kW. The total installed capacity of the Electricity Commission's system was 2,170,370 kW.

The greater part of the Commission's generating plant is therefore concentrated within a hundred mile radius of Sydney—the largest stations outside this area being located at Hume, capacity 50,000 kW, at Muswellbrook, capacity 30,000 kW, and at Tamworth, capacity 27,000 kW.

(iii) *Major Transmission Network.* The retailing of electricity to 97 per cent. of the population of New South Wales is in the hands of local distributing authorities, who obtain electricity in bulk from the Commission's major State network. This network of 330 kV, 132 kV and 66 kV and some 33 kV and 22 kV transmission lines links the Commission's power stations with the load centres throughout the eastern portions of the State, extending geographically up to 400 miles inland.

At 30th June, 1961, there were in service 376 route miles of 330 kV (including 291 miles operating for the time being at 132 kV and 66 kV) and 1,366 miles of 132 kV transmission lines (including 258 miles operating for the time being at 66 kV or lower). There were also in service 2,365 miles of transmission line of 66 kV and lower voltages.

Superimposed upon the 132 and 66 kV network will be a powerful 330 kV trunk system extending from the Snowy Mountains Hydro-electric Scheme in the south through Wollongong, Sydney and Newcastle to Armidale in the north. At 30th June, 1961, the section, 85 miles long, between the Snowy Mountains Upper Tumut Switching Station and the Commission's Yass 330/132 kV Sub-station had completed its second year of operation, conveying power from the Snowy Mountains Scheme to the Commission's State network and interconnecting the systems of the Electricity Commission of New South Wales and the State Electricity Commission of Victoria at the Upper Tumut Switching Station. A further 291 miles of this 330 kV transmission network has been built, but these sections are operating at lower voltages for the time being.

The installed transformer capacity at the Commission's 99 sub-stations is 3,992,500 kVA.

(iv) *Separate Systems and Total State Installed Capacity.* There are a number of small isolated plants which have not yet been interconnected with the main network and which supply isolated towns and villages. Some councils along the Victorian border receive bulk supplies from Victorian authorities.

A number of local government bodies have undertaken the development of independent power stations. Of these, the more important are:—the Northern Rivers County Council which has constructed a steam power station at Koolkhan (near Grafton) with an installed capacity of 28,750 kW, and the North-West County Council, which has established a 12,500 kW steam power station on the Ashford coalfield.

The aggregate installed capacity for the whole of the New South Wales systems and isolated plants was 2,271,371 kW as at 30th June, 1961.

(v) *Future Development.* The major new thermal stations already built and those now being developed on the coalfields will become the main base load centres for the northern, southern and western regions respectively. Wangi, on Lake Macquarie, and Tallawarra, on Lake Illawarra, have been completed, the latter including two 100,000 kW generating units which are the largest in operation in the State. At Wallerawang work is proceeding on the installation of a second 60,000 kW unit which will bring the station to its planned capacity of 240,000 kW.

At Vales Point, on Lake Macquarie, work is in progress on a large thermal station with an initial capacity of 875,000 kW. The first stage will comprise two 200,000 kW units and the second stage one 200,000 kW and one 275,000 kW unit.

The site of a further major station, to be called Munmorah power station, has been selected between Lakes Munmorah and Budgewoi (on the central coast) and tenders invited for the first stage of construction comprising two 350,000 kW generating units.

The development of the 330 kV main system is expected to be rapid in the next few years. The most recent section is that of 42 miles between a new 330 kV substation just south of Sydney and the site of a future 330 kV switching station at Dapto to which a connexion to Tallawarra Power Station will be made. Work is in progress on a 110 mile section between Yass and Dapto, which will permit full 330 kV operation of the whole of the link between the Upper Tumut Switching Station and Sydney South early in 1962, to bring power from the Tumut 1 and Tumut 2 stations. The 330 kV line from Snowy to Yass is being duplicated. Work has also begun on two new lines from Sydney South to a new substation just north of Sydney, and a further link from there to the new power station at Vales Point ready for the operation of that station in 1963.

New construction of 132 kV and 66 kV transmission lines will extend the system geographically within the next two or three years to South Grafton in the north, to Hay and to Moulamein in the west and south-west, and subsequently down to Moruya on the South Coast. The mileage of these and other lines to be built within this period exceeds 650 miles and in the same period the Commission will build three 330 kV substations, ten new 132 kV substations and a number of substations of lower voltages. The additional transformer capacity resulting from this work and the augmentation of existing substations will be of the order of 2,500,000 kVA.

(vi) *Hydro-electricity.* The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains Area (see Snowy Mountains Hydro-electric Scheme, p. 224). Apart from this area, there are in operation the new hydro-electric stations at the Warragamba Dam (50,000 kW), and Hume Dam (50,000 kW), and stations at the Burrinjuck Dam (20,000 kW), Wyangala Dam (7,500 kW) (shortly to be closed during repairs and extensions to the Dam), and Keepit Dam (6,000 kW). The output of Warragamba Power Station is dependent upon the availability of water surplus to the requirements of the Sydney Metropolitan Area, and the output of the other stations on the release of water for irrigation.

Of the remaining hydro installations, the largest is that of the New England County Council on the Oakey River, a tributary of the Macleay River, which has a capacity of 5,250 kW.

The Northern Rivers County Council operates a hydro-electric power station on the Nymboida River, a tributary of the Clarence River. This station has a capacity of 4,500 kW.

The Bega Valley County Council has constructed a hydro-electric scheme at Brown Mountain utilizing the headwaters of the Bemboka River. This installation has a capacity of 3,950 kW.

The Mullumbimby Municipal Council has in operation two 150 kW hydro units on Wilson's Creek, a tributary of the Richmond River.

**4. Rural Electrification.**—When The Electricity Authority of New South Wales was constituted in 1946, one of its first tasks was to devise a scheme for subsidizing the cost of rural electrification. At that time, only 16,000 New South Wales farms were being served with electricity—less than one-quarter of those within reasonable reach of public electricity supply systems. In August, 1946, a subsidy scheme was approved by the Government and put into immediate operation. Under this scheme, local electricity suppliers receive subsidies from The Electricity Authority towards the cost of new rural lines. The amount of subsidy is based on the estimated cost of the proposed extension and the number of consumers able to be served by the new lines. In order that the funds available for subsidy purposes might be used to the best possible advantage, the scheme was designed to encourage local electricity supply authorities to construct the more economic extensions first. This was achieved by fixing a limit to the cost eligible for subsidy. Originally this limit was £250 per consumer when averaged over the cost of the whole extension, but the limit was raised to £400 in December, 1953. Some subsidy was paid on higher cost extensions but the excess over an average of £400 was not subsidized.

To assist supply authorities in extending supply to less populated, and thus high-cost, areas of the State, the subsidy scheme was extended from May, 1959, to provide for payment of increased subsidy in respect of extensions where the average capital cost per consumer lies within the range of £600–£800.

Between August, 1946, and June, 1961, about 39,900 miles of new distribution lines in rural areas were erected at a cost of over £27,000,000. These lines served 48,800 farms and 30,000 other rural consumers. At 30th June, 1961, The Electricity Authority was committed to the payment of £11,867,048 in subsidies, of which £5,485,177 had been paid.

## § 2. Victoria.

1. **General.**—In Official Year Book No. 39, a detailed description is given of the development of electricity generation in the cities of Melbourne, Geelong, Bendigo and Ballarat up to the time of transfer of control of electricity undertakings in those cities to the State Electricity Commission of Victoria. An account is also given of the events culminating in the establishment of the Commission in 1919, and of the early developments in the Commission's undertakings.

2. **State Electricity Commission of Victoria.**—(i) *Power and Fuel Authority.* Since it began operating in 1919, the State Electricity Commission has expanded and co-ordinated the production and supply of electricity on a State-wide basis to the point where its system now generates almost all the electricity produced in Victoria and serves about 97 per cent. of the population through a supply net-work covering more than three-quarters of the populated area of the State.

Development of Victoria's electricity system is based on the utilization for both power and fuel of Victoria's extensive brown coal resources in the Latrobe Valley in eastern Gippsland, with supplementary development of the hydro-electric potential of north-eastern Victoria. Victoria is entitled to one-third of the electricity from the Snowy Mountains Hydro-electric Scheme, after the Commonwealth has taken the power it needs for the Australian Capital Territory and within the Snowy Mountains area. Output from the Snowy scheme was made available to Victoria in the latter half of 1959. Victoria also shares with New South Wales in the electricity generated at Hume Hydro Station on the River Murray. Nearly four-fifths of the State's electricity is generated from brown coal, either used in its raw state or manufactured into higher quality fuel in the form of brown coal briquettes. All of the brown coal and briquette fuel is supplied by undertakings which the Commission itself owns and operates. Output of brown coal in 1960-61 from the three open cuts at Yallourn, Yallourn North and Morwell totalled 15,221,385 tons, of which 9,390,007 tons were used in the Commission's own power stations, and 5,343,214 tons were manufactured into 1,806,619 tons of brown coal briquettes, 51 per cent. of the briquette output then being used for electricity production in metropolitan and provincial steam power stations.

The two functions, generation of electricity and production of fuel, are closely integrated. Apart from the large proportion of brown coal and briquette fuel consumed in the power stations, the actual process of briquette manufacture results also in large-scale generation of electricity, since the steam needed for processing the raw coal for briquetting is first used to operate turbo-generators.

(ii) *Status and Powers.* Constituted by Act of the Victorian Parliament, the State Electricity Commission is a semi-governmental authority administered since 1921 by a full-time Chairman and three part-time Commissioners. The principal duty of the Commission is to co-ordinate and extend on an economic basis the supply of electricity throughout Victoria. For this purpose, it is vested with power to erect, own, and operate power stations and other electrical plant and installations, supply electricity retail to individual consumers, or in bulk to any corporation or public institution, acquire and operate electricity undertakings, develop, own, and operate brown coal open cuts and briquetting works, and develop the State's hydro-electric resources. From its own revenues, which it controls, the Commission must meet all expenditure in the operation of its power, fuel and subsidiary undertakings, and all interest and other charges incurred in the service of its loans and other capital commitments.

The Commission is the controlling authority for all electrical undertakings in Victoria. It is responsible for the registration of electrical contractors, the licensing of electrical mechanics, the control of installation methods and material and the testing and approval of electrical equipment and appliances. Incidental to its main operations, the Commission owns and operates the tramway systems in Ballarat and Bendigo. For the accommodation of its employees at Yallourn, the Commission owns and administers the town of Yallourn. It also owns large housing estates in the surrounding area, but is progressively selling houses in these estates to Commission employees. In the Kiewa hydro-electric works area, it has built the two townships of Mount Beauty and Bogong, municipal administration of the former now being vested in the Shire of Bright. With construction at Kiewa now complete, many houses at Mount Beauty have been sold for holiday homes.

(iii) *Electricity Supply.* At 30th June, 1961, consumers in Victoria served by the State system totalled 906,638. Outside the State system, there were 18,190 other consumers served by local country undertakings. The system supplies all the Melbourne metropolitan area and nearly 1,650 other centres of population.

The Commission sells electricity retail in all areas except part of the metropolitan area, where it sells in bulk to eleven municipal undertakings which operate as local retail supply authorities under franchises granted before the Commission was established. Bulk supply is also being provided at present to several New South Wales municipalities and irrigation settlements bordering the River Murray. Rural electrification is now more than 87 per cent. completed, the over-all plan to extend the State system to all populated regions of Victoria having made rapid progress during recent years. Consumers served by the State system outside Melbourne metropolitan area (390,185) have more than doubled, and the number of farms connected to supply (46,838) has almost trebled in the past ten years. Of the new consumers connected to supply each year, more than two-thirds are outside the metropolitan area. New farm connexions average nearly 3,000 a year.

The Commission's retail consumers totalled 712,421 at 30th June, 1961. Retail supply is administered through the metropolitan branch, seven extra-metropolitan branches (namely Ballarat, Eastern Metropolitan, Geelong, Gippsland, Midland, North Eastern and South Western) and the North Western Region, which comprises Northern branch (based on Bendigo) and the two sub-branches based on Mildura and Horsham (Wimmera). At 30th June, 1961, there were branch and district supply offices in 83 towns in Victoria.

(iv) *Electricity Production.* Electricity generated in the State system or purchased by it totalled 6,577 million kWh in 1960-61 or 99 per cent. of all Victoria's electricity. The system comprises a series of thermal and hydro-electric power stations. Inclusive of generator capacity both within the State and available to the Victorian system from outside the State, the total installed generator capacity at 30th June, 1961, was 1,682,000 kW. All but two small regional power stations are interconnected, and feed electricity into a common pool for general supply. The major power station in this interconnected system is the brown coal burning power station at Yallourn, which alone generates nearly half of Victoria's electricity. Other power stations in the interconnected system comprise the important brown coal burning power station at Morwell, steam stations in Melbourne (Newport, Richmond and Spencer Street), Geelong and Ballarat; hydro-electric stations at Kiewa, Eildon, on the Rubicon and Royston Rivers, near Eildon, and at Cairn Curran; and internal combustion stations at Shepparton and Warrnambool. All within Victoria are Commission owned, except Spencer Street Power Station, which remains the property of the Melbourne City Council, although operated as a unit in the interconnected system. A 330,000-volt transmission line links the Victorian system with the Snowy Mountains undertaking, and also provides facilities for interconnexion between the Victorian and New South Wales State generating systems. Also linked with the Victorian interconnected system is the hydro station at Hume Dam on the River Murray. This power station is operated by the Electricity Commission of New South Wales. Output and operating costs are shared by Victoria and New South Wales.

In meeting the total demand on the system, which fluctuates throughout the day and from month to month, each group of stations in the interconnected system, whether steam, hydro or internal combustion, is assigned a predetermined function dependent upon the availability of power from each group and the overall economics of generation. The various stations are utilized in the combination that will meet the system load most economically at a given time. This procedure results in an arrangement of the system on the following general lines.

- (a) Yallourn Power Station, owing to the low cost of extraction and ample supply of raw brown coal, is a base-load station, and is operated continuously at its maximum economic capacity. Morwell Power Station which, like Yallourn, burns raw brown coal, is also a base-load power station.
- (b) Metropolitan and provincial steam stations and provincial internal combustion stations situated close to load centres are designed to operate as peak load stations to assist in meeting the heavy, short period load.
- (c) Hydro stations are operated in accordance with the availability of water. Their primary function is to provide peak load power. As the basic purpose of Eildon reservoir is to provide water for irrigation, generation of electricity is mainly governed by irrigation requirements, but provision has been made

for limited operation of the power station in winter, when electricity requirements are heaviest and there is no irrigation demand for water. Hume Hydro Station also operates on water released for irrigation, and no regular output of electricity can be expected during the non-irrigation months in the winter.

Commission power stations not yet connected with the rest of the State system comprise the two steam stations (Redcliffs and Mildura) serving the Mildura region.

(v) *Transmission and Distribution.* The electrical transmission and distribution system in the State supply network at 30th June, 1961, comprised 34,559 miles of power-lines, sixteen terminal receiving stations and nearly 27,000 distribution sub-stations. Main transmission is by 220 kV, 132 kV and 66 kV power lines which supply the principal distribution centres and also provide interconnexion between the power stations. The 330 kV line connecting the Victorian system with the Snowy Mountains Scheme via Dederang, near Kiewa, came into service in November, 1959. The 220 kV system now extends from Yallourn to Melbourne, Melbourne to Geelong, Melbourne to Kiewa and Kiewa to Shepparton. Two further sections of the 220 kV system—Geelong to Colac and Shepparton to Bendigo and Kerang—are operating temporarily at 66 kV. From Yallourn there is also a 132 kV transmission line to Melbourne. The 66 kV lines radiate from Melbourne to Geelong and main centres in the South West, Ballarat and Horsham, and Bendigo and Charlton, and also to Benalla and other main centres in the North East. Further 66 kV lines radiate from Yallourn to main centres in Gippsland.

(vi) *Future Development.* With the completion of the Kiewa hydro-electric undertaking, major new construction is now concentrated on the development of the Commission's brown coal undertakings at Yallourn and Morwell in the Latrobe Valley and the erection of a large new brown coal burning power station (Hazelwood) near Morwell. At the same time, the Commission continues its programme of rural electrification, extension of the State system (particularly in western and north-western Victoria) and reinforcement of supply by extending the 220 kV system from Bendigo north-westward to Redcliffs, near Mildura, and also between Bendigo and Geelong, where connexion will be made with the existing Melbourne-Colac line, thus completing a 220 kV circle around Central Victoria. The 220 kV system is also being extended from Colac to Terang. Another major supply extension is a new 66 kV line from Bairnsdale to Orbost in Eastern Gippsland.

Yallourn Power Station is being greatly enlarged. An extension of 240,000 kW capacity is due for completion in 1962. The first generating unit (120,000 kW) went into service in June, 1961. Enlargement of the power station has required a corresponding expansion in production of brown coal at Yallourn. New dredger plant increased annual output at the Yallourn open cut to nearly 12 million tons in the 1960-61 financial year.

At Morwell, six miles from Yallourn, the Commission has developed a second brown coal power and briquette undertaking. The new undertaking comprises a large brown coal open cut and a major power station operating in association with a large briquetting plant. Some of the electricity generated at Morwell is needed to operate the briquette works, but most of the output of the power station is transmitted through Yallourn to metropolitan terminal stations for general supply through the State network. The power station began operation at the end of 1958. Installed generator capacity, now 110,000 kW, will be increased to 170,000 kW in the 1962-63 financial year. Commercial production of briquettes began in December, 1959. The briquette works (completed in September, 1960) have a production capacity of approximately 1,300,000 tons of briquettes a year. The Commission's new Hazelwood Power Station will be located a short distance south of Morwell. It will operate on raw brown coal fuel supplied by belt conveyor direct from the Morwell open cut. The power station will have a capacity of 1,200,000 kW and will comprise six turbo-generators each of 200,000 kW capacity. Hazelwood will be built in stages. Contracts have been placed and site work begun for the first two generating units (400,000 kW) and the related boiler plant. The first turbo-generator is due to be in service in 1964 and the second in 1965. Succeeding units are scheduled to be in service in 1967, 1968, 1970 and 1971. Power generated at Hazelwood Power Station will be transmitted at high voltage to Melbourne metropolitan terminal stations for distribution through the State supply network.



(vii) *Hydro Electricity.* At the Kiewa hydro-electric undertaking, in addition to the two existing stations, totalling 87,600 kW capacity, a third power station of 96,000 kW capacity was completed in December, 1960. The total installed capacity of the completed undertaking is 183,600 kW.

3. *Local Country Electricity Undertakings.*—At 30th June, 1961, there were 30 independent electricity undertakings in country centres in Victoria generating and distributing their own local supply. Most of these undertakings were in the far south-west, west and north-west of the State. Under the State Electricity Commission's rural electrification programme, almost all the independent local country undertakings will ultimately be acquired and absorbed into the State system. For the year 1960–61, the total production of the independent undertakings was 44 million kWh. The number of consumers at 30th June, 1961, was 18,190. The operation of the independent undertakings is governed by the Electric Light and Power Act, 1958, which the State Electricity Commission administers.

### § 3. Queensland.

1. *General.*—In Official Year Book No. 39, an account is given of the growth of electricity generation in Queensland, with particular reference to the City Electric Light Co. Ltd. of Brisbane (now the Southern Electric Authority of Queensland), the Brisbane City Council and the Toowoomba Electric Light and Power Co. Ltd.

The first of these organizations supplies a large part of Brisbane's electric power requirements, and those of a considerable rural area in the south-eastern corner of the State, from modern power stations at Bulimba, a suburb of Brisbane. Capacity is 95,000 kW at Bulimba "A", 120,000 kW at Bulimba "B", and a 10,000 kW "packaged plant" at Abermain (near Ipswich). The output from a 3,200 kW hydro-electric unit installed at Somerset Dam near Brisbane is also fed into the Southern Electric Authority system. With these plants, 840 million kWh were generated in 1959–60, while the total number of the Authority's consumers at 30th June, 1960, was 124,643.

The Brisbane City Council's electrical undertaking and power production in 1959–60 had an installed capacity of 205,000 kW, comprising 75,000 kW at New Farm and 120,000 kW at the new Tennyson Station, plus a 10,000 kW "packaged plant" also erected at Tennyson. Units purchased and generated amounted to 716 million kWh, and there were 137,891 consumers connected.

The Toowoomba Electric Light and Power Co. Ltd., which commenced operations in 1905, was absorbed by the Southern Electric Authority of Queensland in 1954.

The generation and distribution of electric power in Queensland had in earlier years tended to lag behind developments in this field in other States of Australia. The comparatively slow growth in the production and consumption of electricity can be attributed to some extent to the absence, prior to 1938, of a central statutory authority constituted to undertake the functions of co-ordinating, unifying and controlling the production and transmission of electric power. In addition, Queensland's vast area, coupled with a low population density, made large-scale rural electrification an uneconomic proposition, except in the south-eastern portion of the State, which surrounds the major centres of industry and population.

Before establishment of the Regional Electricity Boards in 1945, no attempts had been made to unify or co-ordinate electricity supplies outside of south-eastern Queensland, and rural electrification, apart from reticulation within certain townships, was practically unknown.

2. *Royal Commission on Generation and Distribution of Electric Power in Queensland, 1936.*—On 5th December, 1935, the Queensland Government appointed a Royal Commission to inquire into and make recommendations on matters relating to the generation and distribution of electric power in Queensland. An account of the results of its investigations and of the alternative proposals put before it will be found on page 1182 of Official Year Book No. 39.

3. **The State Electricity Commission of Queensland.**—The State Electricity Commission of Queensland commenced to function during January, 1938. Its main powers were to secure a proper and efficient supply of electric power, review tariffs, grant licences to supply electricity, secure the safety of the public, and control and advise electrical undertakings generally. It was thus a controlling authority as distinct from an operating authority. Details of its growth and development may be found in earlier issues of the Official Year Book (see No. 44, p. 284). Since its inception, the Commission has made considerable progress in its task of developing the State's power resources and promoting a more widespread use of electric power. The degree of utilization of electrical energy in Queensland now compares favourably with other States in the Commonwealth.

4. **Regional Electricity Boards.**—With a view to facilitating the control and development of electricity supply in areas of low population density and those having a predominantly primary producing economy, the Government, in 1945, passed the Regional Electric Authorities Act providing for the creation of regions of electricity supply and the constitution of Regional Electricity Boards.

Soon after passage of the Act, four Regional Boards were constituted, namely, Wide Bay, Capricornia, Townsville and Cairns. A fifth Board, entitled South Burnett, became an operating authority in October, 1947, but on 1st July, 1951, was absorbed in the Wide Bay Regional Board and this organization is now known as the Wide Bay-Burnett Regional Electricity Board.

As from 1st March, 1957, a further Regional Board became operative, covering the areas of Mackay, Sarina, Proserpine and adjacent rural areas under the name of Mackay Regional Electricity Board. Supply throughout this Region is provided from the central generating station at Mackay and accelerated electrical development of this area is being undertaken.

The Townsville Regional Electricity Board's area was extended in July, 1957, to include that of the Bowen Electricity Undertaking and in October, 1959, to include the Hughenden Electricity Undertaking and in September, 1960, to include the Collinsville Electricity Undertaking. The local authority areas of Thursday Island and Cook were included in the Cairns Regional Electricity Board's area from 1st July, 1956, and 1st July, 1957, respectively. As from 1st January, 1958, the Capricornia Region was extended to include the Shires of Bauhinia, Belyando, Emerald and Peak Downs in central-west Queensland.

Activities of the five Regional Boards in 1959-60 and 1960-61 compared with operations of the stations located in regions in 1945-46 are shown in the following table.

#### QUEENSLAND: REGIONAL OPERATIONS.

Region.	1945-46.		1959-60.		1960-61.	
	Units Generated.	No. of Consumers.	Units Generated.	No. of Consumers.	Units Generated.	No. of Consumers.
	Million kWh		Million kWh		Million kWh	
Wide Bay-Burnett ..	13.7	11,467	90.3	31,298	102.9	33,199
Capricornia ..	19.5	11,196	151.3	23,210	159.4	24,355
Townsville ..	25.8	11,612	(a) 70.4	28,555	(a) 53.1	30,338
Cairns ..	22.7	9,722	230.8	22,425	276.5	23,686
Mackay ..	6.5	4,283	37.3	11,157	40.9	12,198
<i>Total</i> ..	<i>88.2</i>	<i>48,280</i>	<i>580.1</i>	<i>116,645</i>	<i>632.2</i>	<i>123,776</i>

(a) Excludes 94 m.kWh purchased from Tully Falls Power Station in 1959-60 and 131.4 m.kWh in 1960-61.

Installed generator capacity of the five Regional Boards at 30th June, 1961, was:—Wide Bay-Burnett, 37,500 kW; Capricornia, 54,508 kW; Townsville, 41,815 kW; Mackay, 15,250 kW; Cairns, 86,820 kW; total, 235,893 kW.

**5. Creation of the Southern Electric Authority of Queensland.**—A major step in electrical progress was taken by the passing of the Southern Electric Authority of Queensland Act of 1952. This Act constituted the City Electric Light Co. Ltd. as a public authority to be known as the Southern Electric Authority of Queensland.

Two Government representatives are included on the Board of the Authority, whose establishment prepares the way for the complete amalgamation, in due course, of the electrical undertakings serving the south-eastern Queensland area of supply.

As from 1st July, 1954, the Southern Electric Authority acquired the Toowoomba Electric Light and Power Co. Ltd., thus bringing that company's area of supply under its control. The Southern Electric Authority is now responsible for the electrical supply and development of a consolidated area of 19,386 square miles and is also providing bulk supply to the Western Downs area centred on Dalby.

**6. Hydro-electricity.**—Behind the coastal plain of the Cairns-Ingham area is an extensive plateau with elevation ranging from 2,000 to 3,000 feet, although isolated peaks exceed 4,000 feet. The short coastal streams which rise on the plateau descend rapidly into deep gorges, which they have cut through the divide. With heavy monsoonal rainfall on their catchments and concentrated fall, these streams represent a considerable potential source of power, but storage, which can be provided in most cases, is essential to control the very variable flow.

There is a pronounced wet season from December to March, with a dry season from July to November. Average annual rainfall varies greatly with geographic location, being 178 inches at Deeral (midway between Cairns and Innisfail), but only 34 inches at Cashmere (120 miles south-west of Innisfail).

In 1935, a small hydro-electric power station was placed in service at Barron Falls, ten miles north-west of Cairns. The station comprises three 2,000 h.p. turbines, each driving a 1,320 kW generator, and with a hydraulic head of 410 feet. An output of 34 million kWh was attained during 1960–61, the station operating essentially as a run-of-river station, without any significant water storage capacity being available. Power is fed at 22 kV into the main network at Mareeba and Cairns.

The hydro-electric power scheme at Tully Falls was commissioned in September, 1957, with an initial plant installation of 36,000 kW. Work was completed during 1958–59 on the installation of a further two 18,000 kW sets, making a total installation of 72,000 kW. An output of 241 million kWh was obtained from this station during 1960–61. Power is transmitted to the load centres at Cairns and Innisfail by means of 132 kV transmission lines. Future automatic power plants upstream and downstream from Tully Falls consisting of two 7,500 kW sets under 405 feet head and one 5,400 kW set under 230 feet head are under consideration. The combined peak load for the three plants would then be 69,000 kW. Interconnexion of the Tully Scheme with the Townsville area, which is also being served by a thermal station, was completed in February, 1958, by the provision of a 160 mile double circuit 132 kV transmission line. On present estimates, power from the completed Tully Scheme will be sufficient to supply the interconnected area until 1963, when additional power will be required.

A new peak load power station is under construction at Barron Falls to provide a firm (dry year) output of 60,000 kW at 25 per cent. load factor (i.e. firm output of 131 million kWh per annum). This scheme will ensure an adequate supply of power to the Cairns and Townsville areas until 1967. The completed scheme will provide for an underground power station below the Barron Falls containing two 30,000 kW Francis turbines, operating under a head of 920 feet.

Other major schemes which are currently being investigated include North Johnstone-Russell Rivers (32,000 kW); Beatrice-North Johnstone Rivers (9,000 kW); South Johnstone River (25,000 kW); Herbert River (90,000 kW).

In the Townsville Region, the Commission, acting on behalf of the Burdekin River Authority, investigated the proposed hydro-electric development of the Burdekin. The Scheme envisaged a power plant immediately below the Burdekin Falls Dam to operate under an average head of 225 feet.

In relation to other projects, the Scheme is not as favourable economically as a power production project alone, but as a joint power production, irrigation, and flood mitigation scheme, it has considerable potentialities. An estimated output of 80,000 kW at 50 per cent. load factor would be available.

The State Electricity Commission, in conjunction with other Government Departments, is carrying out an extensive investigation into the development of hydro-electric resources. It is estimated that full development of the hydro-electric potential of North Queensland would provide the equivalent of over 300,000 kW of power at 50 per cent. load factor or approximately 1,300 million kWh a year.

A number of small hydro-electric projects are being investigated in other parts of the State. On the Broken River near Eungella (50 miles west of Mackay), a site exists for the establishment of a peak load hydro-electric power station, and this is being examined. The construction, in the future, of a major dam on the Dawson River at Nathan Gorge (near Cracow) in the Capricornia Region for irrigation purposes, would permit the installation of a small hydro-electric power station at this site if the power produced could be economically absorbed. A plant of 3,200 kW capacity has been installed to utilize the outflow from Somerset Dam on the Stanley River a few miles above its confluence with the Brisbane River.

7. New Capacity.—(i) *Regions.* To provide for development of the electric power resources in the regions, the State Electricity Commission formulated a ten-year programme divided into two five-year periods. In the first, it was planned to erect main transmission systems to connect existing power stations located within the regions and supplement generating capacity by the construction of new stations. Work on this section of the plan in the original Regional Board areas is now complete. In the second, the transmission system will be extended to more sparsely settled areas, the ultimate purpose being the provision of "ring" transmission lines throughout each region and interconnexion between the regions.

The following new generating stations were commissioned:—Wide Bay (Burnett Region) of which 15,000 kW was placed in service during September, 1951, and 7,500 kW in 1954, while a further set of 15,000 kW was installed in 1957; Rockhampton (Capricornia Region) of which 22,500 kW was placed in service during September, 1952, a further 15,000 kW in May, 1956, and a further 15,000 kW in December, 1958; and Townsville (Townsville Region) of which 22,500 kW was commissioned in July, 1953, and a further 15,000 kW in January, 1956. Each of these stations is to have an ultimate installed capacity of 52,500 kW and be steam-operated. In the Cairns Region, the Tully Falls Hydro-electric Power Station has been completed with 72,000 kW installed capacity.

The Tully Falls Scheme (*see* para. 6, p. 236) was planned to link with the Townsville Regional Electricity Board's system for the purpose of marginal supply, and this interconnexion was completed by the close of 1957. Preliminary work has commenced on the construction of a further hydro-electric scheme on the Barron River which should be completed by June, 1963, and will add 60,000 kW to the available hydro-electric generation capacity in the area. The first stage of the Scheme's development is estimated to cost £5,850,000, and, initially, full use will be made of available storage capacity at Tinaroo Falls Dam, thus enabling construction of a £5,000,000 storage dam on Flaggy Creek to be postponed for a number of years.

At Mackay, where supply was first given in 1924, a Regional Electricity Board has now been constituted and a 66 kV transmission line to Proserpine has been erected. The generating capacity of the station under the control of this Regional Board is 12,500 kW, and a further 3,000 kW of diesel plant is being installed. To supplement this output a transmission line from the Townsville Region is being erected. At Bowen, the Town Council, which established the service in 1952, transferred control of its area to the Townsville Regional Electricity Board, and transmitted supply is provided by a 66 kV

transmission line. During 1935, a small (3,800 kW) power house—Australia's first underground hydro station—was placed in service at Barron Falls near Cairns. When the Cairns Regional Board was established during 1946, operation of the station passed to the Board's control and now comprises part of its generating plant.

(ii) *Western Queensland.* In western Queensland, where a number of small isolated generating stations supply power to some of the larger towns, the Commission evolved a plan to increase and modernize existing capacity. It involved installation of small internal combustion units ranging in size from 100 kW to 600 kW according to the load likely to be experienced, and conversion from direct to alternating current supply. The Government has assisted the scheme by subsidy—a feature of electrical development in Queensland. Assistance provided for regional electrical development comprises subsidies of up to one-third of capital cost on annual loan charges, with special subsidies of up to 50 per cent. for authorities in the larger towns outside the Regions.

In addition to improving supplies to the larger western towns, a scheme was devised for electricity supplies for smaller towns in the western districts, where consumers range from 50 to 200. Subsidies of 65 and 60 per cent. apply in those cases where the number of consumers supplied is less than 100 and 200, respectively. This plan has been implemented, and at 30th June, 1961, 30 townships in western Queensland had been provided with electricity. The power is supplied by small oil driven generating sets with automatic controls which can be run with a minimum of operating attendance. In addition, investigations of the possibility of supply have been carried out at a number of other small centres.

Coal-burning gas producers have been successfully commissioned for public electricity supply purposes at Longreach, Clermont, Blackall and Barcaldine and further extension of their use in western Queensland is predicted, as lower tariffs and more efficient production of electricity should follow their use.

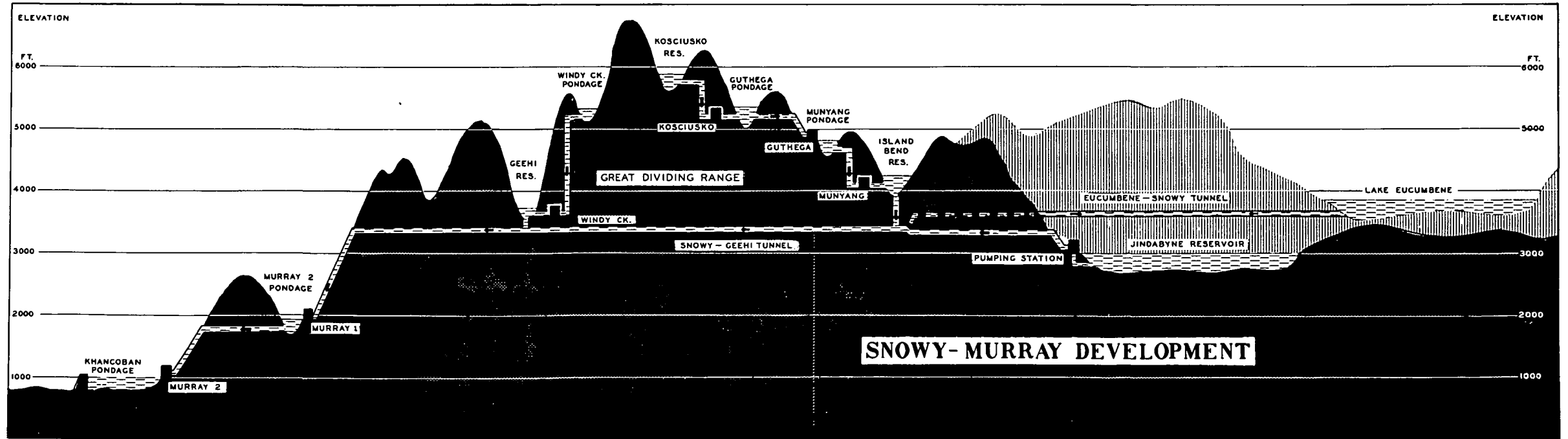
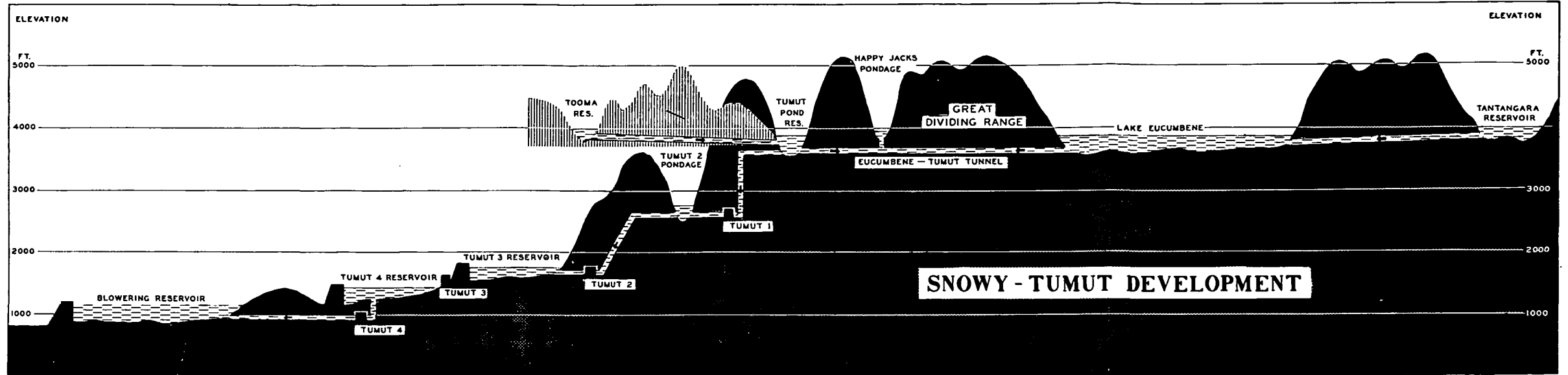
(iii) *South-eastern Queensland.* To increase the availability of electric power in the south-eastern area of the State, the two major generating authorities, in conjunction with the Commission, have power station projects under construction which are designed to place in service, by 1968, new generating units totalling 400,000 kW. The Southern Electricity Authority is continuing the development of the station known as Bulimba "B" on a site adjacent to Bulimba "A"; 120,000 kW had been installed to 30th June, 1961, and the ultimate capacity may reach 180,000 kW. At Tennyson in the Brisbane area, the Brisbane City Council has constructed a new power station with an initial capacity of 60,000 kW which may be increased ultimately to 180,000 kW. At 30th June, 1961, generating plant of 120,000 kW was in service at this station. To supplement capacity pending completion of these projects, "packaged" generating units totalling 20,000 kW were obtained from overseas and commissioned early in 1953, one 10,000 kW set having been installed at Tennyson and another 10,000 kW set at Abermain near Ipswich.

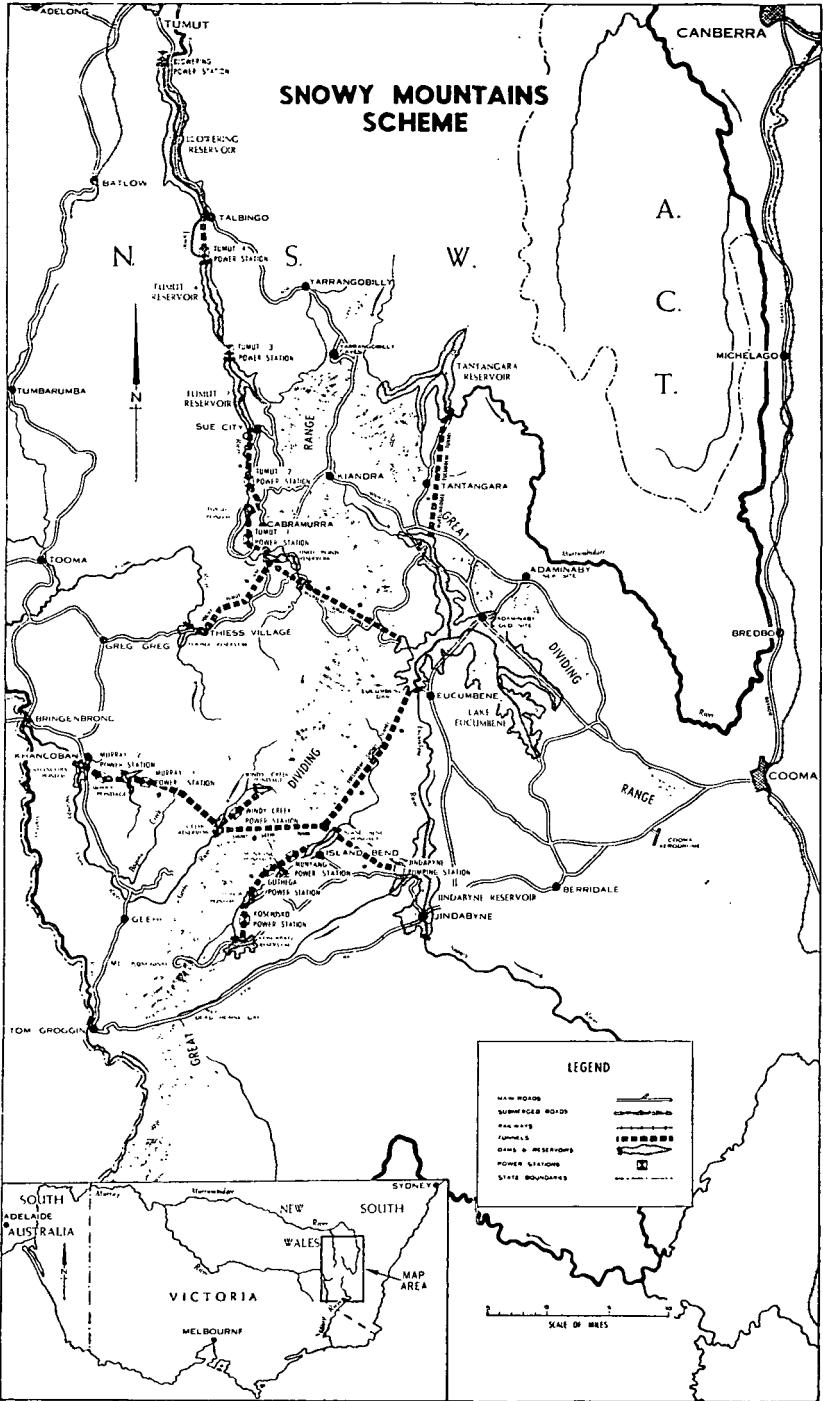
The power stations of the two major generating authorities at New Farm and Bulimba are interconnected at 33 kV.

8. *Future Development.*—The development required to meet future demands for electricity has been the subject of detailed investigation by a firm of oversea consultants in conjunction with the Commission, and the Queensland Government has now given its approval to recommendations providing for the construction of two new major power stations on the coalfields of central and southern Queensland respectively, together with a general plan of development for those parts of the State to meet requirements until 1970. The general plan of development incorporating these works is anticipated to cost approximately £159 million.

#### § 4. South Australia.

1. *General.*—An account of the companies generating electric power in South Australia prior to the establishment of the Adelaide Electric Supply Co. Ltd., and describing the development of that company's activities, was given in Official Year Book No. 39. Also included in the account was some reference to the early measures of public control over electricity supply in South Australia and the extent to which they were applied, and also to the inquiries into the activities of the Adelaide Electric Supply Co. Ltd. in 1932 and 1935.





Following upon an inquiry instituted by the Government in 1943, relative to measures for increasing electricity supply to the metropolitan area and country districts, the Electricity Act 1943 was passed which, *inter alia*, established the South Australian Electricity Commission. However, until the State assumed full responsibility for the supply of electric power, this body was not able to do much more than exercise the formal functions conferred on it by the Act.

2. **The Electricity Trust of South Australia.**—Early in 1946, legislation was passed transferring the assets of the Adelaide Electric Supply Co. Ltd. to the newly formed public authority, the Electricity Trust of South Australia, which became responsible for unification and co-ordination of the major portion of the State's electricity supply. This legislation provided that the Trust should take over the powers vested in the South Australian Electricity Commission under the 1943 Act, which, after establishment of the Trust, ceased to exist. In addition to the powers specified in the Adelaide Electric Supply Company's Acts 1897-1931, the Trust may, *inter alia*, supply electricity direct to consumers within a district or municipality with the approval of the local authority, and by agreement with other organizations which generate or supply electricity, arrange to inter-connect the mains of the Trust with those of other organizations, and give or receive supplies of electricity in bulk.

3. **Capacity and Production.**—There are three main categories of organizations generating electric power in South Australia, namely:—(a) Governmental, which include the Electricity Trust; (b) Local Authorities, e.g., municipal and district councils, and Renmark Irrigation Trust; and (c) other, including individuals and firms primarily engaged in generating power for sale, firms generating power primarily for their own use but supplying outside consumers, and firms generating power solely for their own use.

In 1959-60, total installed capacity in South Australia was 457,469 kW, and electricity generated totalled 1,864 million kWh.

Of the total installed capacity, the Electricity Trust of South Australia operated plant with a capacity of 424,600 kW. It is thus the most important authority supplying electricity in the State. There were approximately 291,000 ultimate consumers of electricity in the State, of whom 268,193 were supplied directly by the Trust and approximately 10,000 supplied indirectly by the Trust (i.e. through bulk supply). Its major steam stations were Osborne "A" (64,000 kW), Osborne "B" (180,000 kW), and Port Augusta Playford "A" (90,000 kW) and Playford "B" (60,000 kW), the balance of the capacity controlled consisting of house sets and regional stations at Port Lincoln and Mount Gambier, where the Trust operates steam power stations of 5,000 kW and 16,800 kW capacity respectively, the former burning fuel oil and the latter either wood waste or fuel oil.

No hydro-electric potential exists in South Australia. Steam generating units comprise 96 per cent. of installed capacity and the balance is internal combustion equipment. Until recently, all fuel consumed in the thermal stations was obtained from sources outside the State, and at times power restrictions were necessary owing to the inadequacy of supplies.

4. **Leigh Creek and other New Capacity.**—With a view to reducing the dependence on external sources of fuel, steps have been taken to produce local coal and to install plant to use it. Fairly extensive deposits of low-grade sub-bituminous coal are obtainable at Leigh Creek, about 360 miles north of Adelaide. Under the Electricity Trust of South Australia Act Amendment Act 1946, the Trust was given authority to develop Leigh Creek coal for use in its own undertakings and also for sale to other consumers. Production from the Leigh Creek field commenced in 1944, and in the year ended 30th June, 1960, 737,468 tons of coal were produced, practically all of which was used by the electricity undertaking.

In order to cope with the rapidly increasing demand for power, the Electricity Trust is constructing a second power station at Port Augusta, known as Playford "B". This station will have a capacity of 240,000 kW, making the combined capacity at Port Augusta 330,000 kW. A 60,000 kW turbo-alternator was commissioned in March, 1961, and the station is scheduled for completion about 1964. Leigh Creek coal will be used exclusively. The power station will be interconnected with the metropolitan area by two 275 kV transmission lines.

Consideration is now being given to the future establishment of some pumped-storage hydro plant, as being possibly the most economic way of handling the peak loads of the system.



## § 5. Western Australia.

1. **General.**—Electrical undertakings in Perth and Fremantle formerly owned by the Perth City Council, the Western Australian Government Electricity Supply, the Fremantle Municipal Tramways and Electric Lighting Board and other metropolitan, municipal and road board supply authorities have been taken over by the State Electricity Commission of Western Australia. For information on the early history of electricity supply in the metropolitan area, see Official Year Book No. 39, page 1189.

2. **Metropolitan Undertaking.**—Statistics relating to activities of the Metropolitan undertaking are shown in the following comparative table.

## WESTERN AUSTRALIA: METROPOLITAN UNDERTAKING.

(Including Bunbury Power Station.)

Particulars.	1938-39.	1959-60.	1960-61.
Plant capacity .. .. . kW	57,000	245,000	275,000
Maximum load .. .. . kW	33,000	149,000	167,000
Units generated .. .. . Million kWh	137	654	755
Fuel used per unit (kWh) generated .. .. . lb.	2.77	1.51	1.49
Coal used .. .. . tons	168,722	442,211	352,045

3. **Kalgoorlie.**—In Kalgoorlie, the Municipal Council supplies approximately 3,800 consumers with either direct or alternating current. A diesel station of 1,825 kW generating capacity provides direct current to the limit of its capacity. Alternating current is purchased from Kalgoorlie Power Corporation and retailed by the Council to some consumers, while portion is passed through a rectifier to convert it to direct current. Primarily established to supply power to the gold mines, the Kalgoorlie Electric Power and Lighting Corporation operates a steam station of 11,000 kW and maintains a 22 kV line of 21 miles to the Celebration mine. Alternating current is also supplied to about 1,400 consumers. The Corporation's undertaking generates approximately 35 million kWh per annum and boilers are fired by Collie coal.

4. **General Pattern of Electricity Supply.**—The State Electricity Commission gives central power station supply to the metropolitan area and an area of approximately 25,000 square miles defined in the report which formed a basis for the South West Power Scheme Act.

These areas include the more highly developed rural districts with a greater population density, which can more readily be connected to a central power station system.

In the other areas of the State, towns are supplied by the local authority or by a concessionaire operating under an agreement with the local authority and the Commission. Power stations operated under these conditions are exclusively diesel of varying sizes, with the exception of Kalgoorlie which is separately mentioned.

5. **The State Electricity Commission of Western Australia.**—(i) *Origin and Aims.* In order to ensure an organized and co-ordinated future growth of electricity generation and distribution throughout the State, the Government introduced a Bill in 1945 to establish the State Electricity Commission, which, together with an Electricity Bill, became law early in 1946. Under these Acts, the Commission was given power, *inter alia*, to secure the ultimate co-ordination of all State or other electrical undertakings in the State, to construct and operate power stations and transmission lines, and to purchase as a going concern and carry on the undertaking of any supply authority. Under the Electricity Act, which should be read in conjunction with, and is subject to, the State Electricity Commission Act, no person or organization is permitted to construct or extend an electricity supply undertaking without consent from the Commission. Local authorities are empowered to operate and construct power stations and other works associated with the supply of electricity, provided that authority is first obtained from the Commission and any proposals are not inconsistent with the Commission's plans.

(ii) *New Projects.* Since its inception in 1946, the Commission has made the provision of an adequate reserve of generating plant its primary object. With the commissioning of the first unit at South Fremantle Power Station in May, 1951, the lag caused by shortages during the war and early post-war years was overcome. The system then developed rapidly to keep pace with the expansion of industry and housing. Generating plant has been quadrupled in the past fourteen years. The three major power stations have been interconnected with the South West Power Station at Collie enabling the most economical units to be used as a base load station. Continuous development of the transmission and distribution system is being undertaken to keep pace with the growth in consumer demand, at present about 8 per cent. per annum.

Tenders have closed for two 60,000 kW turbo alternators, boilers and buildings for the first section of a new station to be constructed at Muja near Collie, adjacent to a source of open-cut coal. The first unit is planned to be in service in the latter part of 1965.

6. *South-west Development.*—At the request of the Government, the Electricity Advisory Committee, in 1945, submitted a report recommending, among other things, that a national power scheme for the south-west be proceeded with. The plan provided for acquisition of the existing Collie Power Station and installation of additional generating capacity, construction of a power station at Bunbury and inter-connexion of the south-west scheme with the metropolitan system. On 12th October, 1946, the State Electricity Commission acquired the Collie Power Station, which prior to 1946 was owned and operated by the Collie Power Company Limited. At the date of acquisition, the Station's installed capacity was 5,000 kW, comprising two steam units, but this was increased to 12,500 kW in 1952.

Since 1950, the Commission has acquired a number of electrical undertakings from municipal bodies and private organizations in the south-west area and is proceeding with arrangements for the purchase of others. In August, 1951, the first portion of the South-West Power Scheme was officially opened at Collie and many of the south-west towns have now been connected by transmission line to the Collie Power Station. When completed, a system of power lines will reticulate electricity over an area of approximately 25,000 square miles. The fourth and final 30,000 kW unit at Bunbury Power Station was commissioned during July, 1961. This completes this station to the planned capacity of 120,000 kW. It is the most economical, and is used as the base load, station of the system.

Diesel stations of 9,400 kW capacity at Albany serve the towns of Albany, Denmark, and Mount Barker in the extreme south of the State.

## § 6. Tasmania.

1. *General.*—A considerable part of the water catchment in Tasmania is at high level, with a substantial natural storage available, and this has made it possible to produce energy at lower cost than elsewhere in Australia, or in most other countries. Another factor contributing to the low costs is that rainfall is distributed fairly evenly throughout the year, with comparatively small yearly variations. The cheap power has led to the establishment in Tasmania of several large electro-chemical works with high load factor, and as a consequence the system load factor is also very high (at present 66.8 per cent.).

For information on hydro-electric development in Tasmania prior to the establishment of the Hydro-Electric Commission in 1930, see Official Year Book No. 39, pages 1192-3.

2. *The Hydro-Electric Commission.*—(i) *Present System.* In 1929, the Government passed the Hydro-Electric Commission Act, under which was established the Hydro-Electric Commission and which vests in the Commission, with some minor exceptions, the right to use the waters of the State of Tasmania and authorizes it to develop and reticulate electric power for all purposes. In 1930, this corporate body took over the State hydro-electric undertaking and the business of the Hydro-Electric Department.

The first project undertaken by the Commission was the Shannon Power Development which utilizes 258 feet of the difference in level between the Great Lake (Miena Dam) and Waddamana forebay. A small earthen dam diverts the outflow from the Great Lake through 2½ miles of canal and then by two pipelines to the Shannon Power Station, where 10,500 kW was added to the system in 1934. After passing through Shannon Power Station, the water discharges into the Waddamana canals to be used again at the Waddamana power stations.

In 1933, the Tarraleah Power Development was commenced. In this scheme, the waters of the River Derwent are picked up near Butler's Gorge by a canal and conveyed 14 miles to the pipeline forebay 982 feet above the power station on the Nive River, where three 15,000 kW generators were placed in service in 1938. Shortly afterwards, two more 15,000 kW units were added, and a sixth machine installed in 1951 brought the total installed capacity at Tarraleah Power Station to 90,000 kW. Storage is provided at Lake St. Clair and at Lake King William, an artificial lake created by the 200-ft. high Clark Dam across the Derwent at Butler's Gorge. In the Butler's Gorge Power Station at the foot of the dam, a single 12,200 kW generator was installed in 1951. To increase the security of the system and to permit variable seasonal loading of Tarraleah Station, a second canal from Clark Dam to Tarraleah was completed in 1955.

Early in 1939, it was decided to make full use of the Great Lake storage by increasing the peak capacity at Waddamana. War conditions impeded progress, but by 1945, two 12,000 kW generators had been installed in a new power station, Waddamana "B", adjacent to the original station Waddamana "A". A third unit installed in 1946 and a fourth in 1949 brought the total to 48,000 kW. To enable a full peak capacity to be maintained at both Waddamana stations a duplicate of the original Waddamana Canal was constructed during 1947-48.

Between 1930 and 1948, the generating capacity of the system was increased by 121,500 kW, but the demand for power continued to increase rapidly and it was obvious that a greatly accelerated construction programme would have to be undertaken. Construction of the Tungatinah Power Development was started in 1948 and the Trevallyn Power Development in 1949.

The Trevallyn Power Development, the first constructed by the Commission outside the Central Plateau region, was undertaken primarily to meet the requirements of the aluminium industry. The waters of the South Esk River are diverted through two miles of tunnel and pipeline to a power station on the Tamar River near Launceston, where four generators, with a total installed capacity of 80,000 kW, were brought into operation before the end of 1955.

The Tungatinah Scheme draws water from three separate catchment areas located on the Central Plateau between the Great Lake (Shannon-Waddamana) and Lake St. Clair (Butler's Gorge-Tarraleah) catchments and control of practically the whole run-off from the Central Plateau has now been effected.

The principal catchment utilized by the Tungatinah Scheme is drained by the Nive River. A 120-ft. high dam at Pine Tier diverts the waters of the Nive through 6½ miles of canal system to the first of a chain of four artificial lakes, created by dams constructed across the outlets from natural marshes and linked by large open cuts. From the southernmost lake, a tunnel and then five steel pipelines lead to the five 25,000 kW generators in Tungatinah Power Station, 1,005 feet below on the Nive River just upstream from Tarraleah Station on the opposite bank of the river. Power was first generated at Tungatinah in mid-1953 with a capacity of 125,000 kW. Water from the smaller Clarence River catchment is brought into one of the lakes in the Tungatinah system by means of a woodstave pipeline 5½ miles in length and the third catchment area utilized is the Lake Echo-Dee River catchment. Regulation of this catchment has been achieved by construction of a dam at Lake Echo to provide the main storage reservoir for the Tungatinah Scheme, construction of the Lake Echo Power Station (one 32,400 kW generator) to utilize 568 feet of the difference in level between Lake Echo and Dee Lagoon, and the diversion of water from Dee Lagoon through 2 miles of tunnel to the main Tungatinah system.

The Wayatinah Power Development, started in 1952, comprises two power stations and headworks to utilize water which is, in the main, already regulated and which has been used several times. The volume of water available is much larger and the head smaller than in the case of other major stations. All the water which passes through Tarraleah or Tungatinah Stations is diverted, by a weir across the Nive River below Tarraleah, through 4 miles of tunnel and then steel pipes to Liapootah Power Station, completed in 1960, with a capacity of 83,700 kW.

A dam across the River Derwent, just below its junction with the Nive, has created a lake into which flows all the water from the Liapootah Station plus water collected by the Derwent below Clark Dam. A mile of tunnel and a mile of pipeline leads the water to Wayatinah Power Station on the Derwent below its junction with the Florentine River. This Power Station, completed in 1957, has an installed capacity of 38,250 kW.

The total installed capacity of the present system in January, 1962, was as follows.

Power Station.	Installed Capacity of Alternators. kW
Shannon .. .. .	10,500
Waddamana " A " .. .. .	49,000
Waddamana " B " .. .. .	48,000
Tarraleah .. .. .	90,000
Butler's Gorge .. .. .	12,200
Trevallyn .. .. .	80,000
Tungatinah .. .. .	125,000
Lake Echo .. .. .	32,400
Liapootah .. .. .	83,700
Wayatinah .. .. .	38,250
<b>Total .. .. .</b>	<b>(a) 569,050</b>
King Island (Diesel Plant) .. .. .	390

(a) In addition, Catagunya, 48,000 kW, is to operate from July or August, 1962.

(ii) *New Capacity.* Four miles below Wayatinah, a diversion dam is being constructed at Catagunya, where a power station, designed to add a further 48,000 kW to the system, is scheduled for completion by 1962. The dam is designed as a pre-stressed concrete structure, 140 feet in height, and is notable as being only the second of its type and the largest yet undertaken by this technique anywhere in the world. The Hydro-Electric Commission is engaged in a progressive construction programme comprising the completion of the Catagunya and the Great Lake Power Developments. In the nine years between June, 1951, and June, 1960, the installed capacity of the system has grown from 184,500 kW to 569,050 kW. Approved construction will bring this total to 917,000 kW by 1966. Investigations are continuing into the very considerable resources as yet untouched, and it is estimated that the potential which can be developed economically should ultimately harness 2,400,000 kW to the system.

The Great Lake Power Development, now in the early stages of construction, is the most recent project to be undertaken by the Commission. In this scheme, the water of the Great Lake, by its diversion in the direction of the most precipitous fall, will be used to much greater advantage than at present. Eventually reaching the South Esk River, it will be used again through the generators of the Trevallyn Power Station.

The works will consist of an intake at the Great Lake, a four mile headrace tunnel through the Western Tiers, one mile of surface pipeline on the face of the Tiers, a vertical shaft leading to the power station some 500 feet underground, a two and a half mile tailrace tunnel discharging into a canal, thence through a regulating pond into a channel flowing into the Lake River, a tributary of the South Esk River.

In this development, the power will be generated by the fall of water through a vertical distance of 2,750 feet to an underground power station where generators of 300,000 kW capacity will be installed. The station will be known as Poatina Power Station. A further section of the scheme includes the provision of a dam at Arthur Lakes to increase greatly the storage of the system, and a pumping station and a conduit discharging into the Great Lake so that water from this catchment may be utilized through the Poatina Power Station. Below Catagunya on the River Derwent, a new three-stage development has been sanctioned for construction. With dams and power stations named Repulse, Cluny and Meadowbanks, the completion of this project by 1968 will add a further 85,000 kW to the system, and it will also bring to an end the exploitation of the power potential of the River Derwent and its tributaries.

There is every indication that the demand for power in Tasmania will continue to increase. The Commission is conducting extensive surveys and investigation of other schemes with a view to further construction after the completion of the present programme.

3. **Power Usage by Secondary Industry.**—The abundant and comparatively cheap supplies of electricity and other natural resources have attracted to Tasmania a number of important secondary industries for which energy costs constitute a significant proportion of the total cost of production. Some of the more important organizations and their continuous power demands when plant is operating are as follows:—Electrolytic Zinc Company of Australasia Ltd., 85,000 kW at Risdon and 4,100 kW at Rosebery; Australian Aluminium Production Commission, 34,000 kW; Australian Newsprint Mills Ltd., 21,500 kW; Associated Pulp and Paper Mills Ltd., 17,200 kW; Australian Commonwealth Carbide Company Ltd., 7,850 kW; Mt. Lyell Mining and Railway Company Ltd., 5,500 kW; and Goliath Portland Cement Company Ltd., 3,600 kW.

In addition to the above, the Broken Hill Pty. Co. is setting up a plant at Bell Bay on the Tamar, for the manufacture of ferro-manganese. This is to be completed early in 1962, with a power demand of the order of 12,000 kW. A new paper pulp mill is being constructed by Australian Paper Manufacturers Ltd., at Geeveston, south of Hobart, and this also is to be in operation in 1962. There are expectations of expansion by, and hence of increased supply to, some of these organizations, and of new supplies to other industrial undertakings contemplating establishment in the State.

## § 7. Commonwealth Territories.

1. **Internal Territories.**—(i) *General.* The electricity supply undertakings at Canberra in the Australian Capital Territory and at Darwin, Katherine, Tennant Creek and Alice Springs in the Northern Territory are operated by the Commonwealth Government.

(ii) *Australian Capital Territory.* The supply authority is the Canberra Electric Supply. Supply was first established at Canberra during 1915 and was met from local steam plant. Connexion to the New South Wales interconnected system was effected in 1929, and all requirements are now taken from this system. Locally owned plant consists of diesel alternators of 4,000 kW, which are retained as a standby for essential supplies, and steam plant of 5,100 kW, which is in retirement.

Total population served with electricity at 30th June, 1961, was 58,000 and the total number of ultimate consumers was 17,279.

During the year 1960–61, the bulk electricity purchased was 142,580,000 kWh and the maximum demand incurred was 38,475 kVA.

(iii) *Northern Territory.* At Darwin, supply was established by the Town Council in October, 1934, but during April, 1937, responsibility for generation and supply was transferred to the Northern Territory Administration. The power station is equipped with diesel generating plant of 6,770 kW capacity, two new 970 kW diesel sets being installed in 1955–56 and an additional 1,380 kW diesel set during 1957. At Alice Springs, the power station is equipped with diesel generating plant of 2,266 kW capacity. A 520 kW set was installed in 1957–58 and an additional 865 kW set in June, 1960.

At Katherine, the power station is equipped with a small diesel generating plant of 450 kW capacity. The diesel station at Tennant Creek was closed down in 1957, supply for the township being purchased in bulk from Peko Mines No Liability.

The total number of ultimate consumers served in the Territory at 30th June, 1961, was 4,919.

In 1956–57, the Department of Works selected a site on the water front of Darwin for a 15,000 kW steam driven generating set. This steam station is being designed to supply Darwin and suburbs when the present diesel station has reached its maximum economical capacity. Construction work is planned to be completed during 1962. A 66 kV transmission system is being built.

2. **External Territories—Papua and New Guinea.**—Responsibility for the operation and establishment of the electrical undertakings in Papua and New Guinea is at present vested in the Administration of the Territory of Papua and New Guinea, whose headquarters are located at Port Moresby. It is anticipated that this responsibility will shortly be vested in an Electricity Commission which will be incorporated under an ordinance of the Territory. The total generating capacity of the diesel engine driven generating sets amounts to 12,022 kW and of the hydro operated sets to 5,930 kW. The generating capacity of the power plants at the main centres is—Port Moresby, diesel 2,303 kW, hydro, 5,500 kW; Rabaul, 2,960 kW;

Lae, 2,640 kW; Madang, 890 kW; Samarai, 300 kW; Kavieng, 194 kW; Wewak, 445 kW; Lorengau, 60 kW; Goroka, hydro, 400 kW; Aiyura, hydro, 30 kW; and 2,230 kW distributed among 96 outstations where generating capacity is between 5 kW and 50 kW. The townships of Wau and Bulolo are supplied by power generated by the Bulolo Gold Dredging Co., which operates a hydro-electric plant of 5,500 kW. Power produced in this plant is used mainly to supply the plywood mill and gold dredges at Bulolo.

The total number of ultimate consumers served in the Territory was 8,357 in 1960-61.

There is a vast hydro-electric potential in New Guinea and it has been estimated at 15,000,000 kW, but, because of the island's location, absence of large load centres and lack of industrialization, there has been very little development.

In 1950, the Commonwealth Government joined with the British Aluminium Co. Ltd. of London to locate and develop large capacity hydro-electric schemes in New Guinea. A new company was formed, known as New Guinea Resources Prospecting Co. Ltd., with a capital of £100,000. The Commonwealth Government held 51 per cent. of the shares and had a controlling interest on the board of five members. The Commonwealth Government later sold its interest to a company formed by Consolidated Zinc Pty. Ltd., and the British Aluminium Co. Ltd., both of London. This company is continuing investigations into the hydro-electric potential of the Purari River, this being considered in conjunction with the treatment of bauxite to be mined in the Gulf of Carpentaria.

The following hydro-electric schemes are now in operation. At Port Moresby, at a site two miles downstream from the Rouna Falls, a plant with an installed capacity of 5,500 kW is operating. Works are at present in hand to regulate the flow of the Laloki River to 180 cusecs, from a present minimum approximating 80 cusecs, by the erection of a dam on the Laloki River at a location known as Sirinumu, 9 miles upstream from the Rouna Falls. The design provides for a second stage in the dam height which will provide regulation to a minimum of 400 cusecs. Designs are at present being prepared for the construction of a second power station which will utilize the head available at the Rouna Falls and some 100 feet head in the rapids above the Falls. The plant proposed will be initially two units each of 6,000 kW and provision will be made for the installation of a further three units, giving a total capacity of 30,000 kW. At Aiyura, a 30 kW hydro-electric station for the Agricultural Experimental Station has been operating since August, 1956.

At Goroka, the plant installed consists of two 100 kW and one 200 kW units. This is the ultimate development at this site. Investigations are being made on other proposals within the area.

Investigations are advanced for a proposal to develop the potential available in the Upper Ramu River for a power supply to Lae, Goroka, Kainantu and Madang. It is proposed that the initial installation will consist of two 5,000 kW sets with provision for the installation of a further three 5,000 kW sets. Investigations are proceeding for a proposal to develop the potential of the Towanokoko and Pondo Rivers in the Bainings area of the Gazelle Peninsula to provide a supply to Rabaul and other settlements in the peninsula.

Stream gauging and other preliminary investigations for hydro-electric schemes have been carried out at Lae, Rabaul, Madang, Wewak and Highland Stations.

There are possibilities for major hydro-electric development in the following localities:—Rouna Falls (near Port Moresby), Upper Snake and Busu-Erap-Leron (near Lae), Upper Ramu (near Markham-Ramu divide—80 miles from Lae) and Hathor Gorge (on Purari River), with an estimated average power of 100,000 kW, 150,000 kW, 2 million kW, 250,000 kW, and 3 million kW respectively. These have estimated run-offs of 1,400, 6,000, 12,000, 1,000, and 75,000 cusecs respectively.

In an area of 150,000 square miles of the Eastern New Guinea mainland, the power potential has been estimated at 150 kW per square mile which compares favourably with potentials of 170 kW per square mile for Switzerland and 95 kW per square mile for Norway.

#### D. STATISTICAL SUMMARY, 1959-60.

The following table shows statistics for each State separately and for the six States combined for the year 1959-60 and relates to:—(i) the numbers and installed capacity of central electric generating stations, (ii) the values of production and output and the average numbers of persons employed in the generating side of the electricity supply industry and (iii) the amount of electricity generated and the number of ultimate consumers of electricity.

For further statistics of the electricity supply industry (years 1955-56 to 1959-60), see Chapter VI.—Manufacturing Industry.

## CENTRAL ELECTRIC STATIONS, 1959-60.

Year.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
<i>Generating Stations—</i>								
Government ..	No.	27	15	..	6	11	9	68
Local Authority ..	"	19	14	59	10	38	..	140
Companies ..	"	16	15	2	18	42	3	96
<i>Total</i> .. ..		62	44	61	34	91	12	304
<i>Installed Capacity of Generators—</i>								
Steam .. '000 kW		1,923	1,055	594	(a)	276	(a)	4,301
Hydro .. "		522	269	79	(a)	2	(a)	1,423
Internal combustion ..		80	43	30	(a)	62	(a)	229
<i>Total</i> .. ..		2,525	1,367	703	(a)	340	(a)	5,953
Persons employed(b)	No.	5,162	3,470	1,640	(a)	1,080	(a)	12,810
Value of output(c)	£'000	49,539	29,149	14,558	(a)	7,854	(a)	114,177
Value of production(d)	"	31,979	17,977	6,619	(a)	3,916	(a)	68,582
Electricity generated(e)								
million kWh		9,200	6,198	2,467	1,864	938	2,532	23,199
Ultimate consumers(f)	No.	1,142,520	889,487	400,600	291,000	155,000	117,266	2,995,873

(a) Not available for publication; included in the total for Australia. (b) Average employment in generating station, over whole year, including working proprietors. (c) Value, at generating station, of electricity produced plus certain earnings. (d) Value added in the process of generation. (e) Total generated including that generated by factories for their own use. (f) Approximate figures supplied by the electricity authority in each State. An "ultimate consumer" is a person, business, undertaking, etc., that has contracted to receive electric power from a public or private organization supplying this service. The number of ultimate consumers is not identical with the number of persons served with electricity because one ultimate consumer may represent three or four persons, e.g. in a household.

## CHAPTER VIII.

## WATER CONSERVATION AND IRRIGATION.

## A. RESOURCES, UTILIZATION AND NATIONAL AND INTERSTATE ASPECTS.

## § 1. Introduction.

Official Year Book No. 37, pages 1096-1141, contained a special article "The Conservation and Use of Water in Australia" prepared by Mr. U. R. Ellis. In subsequent issues, much of Mr. Ellis's article of a statistical nature has been advanced, as has the general information on the more important developments in this field, but for details of general, descriptive and historical matter reference should be made to the original article. Appended to the special article, pages 1140-41, was a bibliography of selected books, reports, papers, etc., dealing with the development of the water resources of Australia and their conservation.

For further details on geographical and climatic features determining the Australian water pattern, reference should be made to Chapter II.—Physiography; on water supply and sewerage in metropolitan areas, cities and towns to Chapter XIX.—Local Government; and on the generation of hydro-electric power to Chapter VII.—Electric Power Generation and Distribution, of this issue.

A series of maps showing the location of major dams and reservoirs and the various irrigation schemes operating in each of the States may be found on pages 259-65 of Official Year Book No. 46, and a map showing the extent of known artesian basins throughout Australia is shown on page 273 of this issue.

## § 2. Water Resources and their Utilization.

1. **Surface Supplies.**—Though river gaugings have been recorded over considerable periods in some parts of Australia, records elsewhere are intermittent, of short duration, or non-existent. At present, therefore, it is impossible to estimate, with any degree of reliability, the total average annual flow of Australian streams, but it would probably amount to only a small figure in comparison with the flow of rivers in other continents some examples of which, expressed as mean annual discharges in millions of acre feet, are: Nile, 72; Danube, 228; Amazon, 1,780; Volga, 148; Mississippi, 474; and the ten main rivers of the United States of America in the aggregate, 900.

2. **Major Dams and Reservoirs.**—The table below lists existing major dams and reservoirs, together with those under construction and those projected as at June, 1961. The list is confined to dams and reservoirs with a capacity of 100,000 acre feet or more. There are, in addition, many others of smaller capacity in Australia.

## MAJOR DAMS AND RESERVOIRS IN AUSTRALIA.

Name.	Location.	Capacity (Acre feet).	Height of Wall (Feet).	Remarks.
<b>EXISTING DAMS AND RESERVOIRS.</b>				
Eucumbene ..	Eucumbene River, New South Wales	3,500,000	381	Part of Snowy Mountains Hydro-electric Scheme.
Eildon .. ..	Upper Goulburn River, Victoria	2,750,000	260	Storage for irrigation and for the generation of electricity.
Hume .. ..	Murray River near Albury	2,500,000	142	Part of Murray River Scheme—storage for domestic, stock and irrigation purposes. Hydro-electric power also developed.
Menindee Storage Lakes	Darling River, near Menindee, New South Wales	2,000,000	..	Part of Darling River Water Conservation Scheme for irrigation and possible hydro-electric power generation.
Warragamba ..	Warragamba River, New South Wales	1,570,000	379	For Sydney water supply. Also provides for generation of hydro-electricity and flood mitigation

(a) Useful storage only.



MAJOR DAMS AND RESERVOIRS IN AUSTRALIA—*continued.*

Name.	Location.	Capacity (Acre feet).	Height of Wall (Feet).	Remarks.
<i>EXISTING DAMS AND RESERVOIRS—continued.</i>				
Miena .. ..	Great Lake, Tasmania	(a)984,500	40	Regulates water to Waddamana hydro-electric power station.
Burrinjuck .. ..	Murrumbidgee River, New South Wales	837,000	264	Storage for irrigation and production of hydro-electric power.
Somerset .. ..	Stanley River, Queensland	735,000	173	Brisbane-Ipswich water supply, flood mitigation and small hydro-electric power station.
Lake Victoria .. ..	Murray River near South Australian border, in New South Wales	551,700	..	Natural storage for irrigation in South Australia. Storage improved by construction of embankments and control regulators.
Lake Echo .. ..	Lake Echo, Tasmania	(a)412,200	60	Storage for Lake Echo and Tungatinah hydro-electric power stations.
Keepit .. ..	Namoi River, near Gunnedah, New South Wales	345,000	177	For rural water supplies and hydro-electricity generation.
Waranga .. ..	Goulburn River, Victoria	333,400	..	Irrigation storage.
Tinaroo Falls .. ..	Barron River, North Queensland	330,000	133	For irrigation purposes in the Mareeba-Dimbulah area.
Glenbawn .. ..	Hunter River, near Scone, New South Wales	293,000	251	Part of Hunter Valley conservation work, for irrigation and flood mitigation.
Rocklands .. ..	Gleng River, Victoria	272,000	..	Part of Wimmera-Mallee domestic and stock water supply system.
Clark .. ..	Derwent River, Tasmania	(a)253,400	200	Serves Tarraleah hydro-electric power station.
Wyangala .. ..	Lachlan River, New South Wales	(b)245,000	200	Storage for domestic, stock and irrigation purposes and for generation of hydro-electric power. ( <i>See also</i> under Dams and Reservoirs under Construction.)
Tantangara .. ..	Murrumbidgee River, New South Wales	(a)193,000	148	Part of Snowy Mountains Hydro-electric Scheme.
Avon .. ..	Avon River, New South Wales	173,800	232	Part of Sydney water supply.
G'nenmaggie .. ..	Gippsland, Victoria	154,300	100	Storage for irrigation.
Lake St. Clair .. ..	Central Highlands, Tasmania	(a)154,200	..	Improved natural storage for Tarraleah hydro-electric power station.
Wellington .. ..	Collie River, Western Australia	150,100	112	For supply of water to irrigation districts and to agricultural areas and country towns.
Lake Brewster .. ..	Lachlan River, near Hillston, New South Wales	123,900	..	Storage of rural water supplies for the lower Lachlan.
Cairn Curran .. ..	Loddon River, Victoria	120,600	..	Storage for irrigation.
Upper Yarra .. ..	Yarra River, Victoria	110,000	270	For Melbourne water supply.

## DAMS AND RESERVOIRS UNDER CONSTRUCTION.

Burrendong .. ..	Macquarie River, near Wellington, New South Wales	1,361,000	240	For rural water supplies, flood mitigation and possible hydro-electric power generation.
Wyangala .. ..	Lachlan River, New South Wales	1,000,000	280	Strengthening and enlarging of existing dam for increased water supply and hydro-electric power generation. ( <i>See also</i> under Existing Dams and Reservoirs.)
Eppalock .. ..	Campaspe River, near Heathcote, Victoria	250,000	150	To supplement supply to Bendigo and for irrigation.
Koombooloomba .. ..	Tully River, North Queensland	146,000	123	For hydro-electric and possibly irrigation purposes.
Serpentine .. ..	Serpentine River, Western Australia	143,500	171	For Perth water supply.

(a) Useful storage only.

(b) Temporary reduced level.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA—*continued.*

Name	Location.	Capacity. (Acre feet).	Height of Wall (Feet).	Remarks.
<b>DAMS AND RESERVOIRS PROJECTED.</b>				
Burdekin Falls ..	Burdekin River, North Queensland	6,584,000	150	For generation of hydro-electric power, irrigation and flood mitigation.
Chowilla ..	Murray River, in South Australia near Victorian border	4,650,000	63	Regulation of the lower Murray River.
Ord River ..	Near Wyndham, Western Australia	3,500,900	200	For irrigation, generation of hydro-electric power and flood mitigation. (Additional 6,000,000 acre-feet flood control proposed.)
Blowering ..	Tumut River, New South Wales	846,000	280	For regulation of discharges from stations of Snowy Mountains Hydro-electric Scheme, primarily for irrigation but also for power generation.
Jindabyne ..	Snowy River, New South Wales	560,000	210	Part of Snowy Mountains Hydro-electric Scheme.
Warkworth ..	Wollombi Brook, Hunter Valley, New South Wales	406,000	130	Flood mitigation and irrigation dam for the Hunter Valley.
Arthur Lakes ..	Source of Lake River near Great Lake, Tasmania	(a)339,000	50	Part of Great Lake hydro-electric power development.
Tumut 4 ..	Tumut River, New South Wales	138,000	300	Part of Snowy Mountains Hydro-electric Scheme.
Tumut 3 ..	Tumut River, New South Wales	120,000	240	Part of Snowy Mountains Hydro-electric Scheme.

(a) Useful storage only.

3. Irrigation.—(i) *History.* For some brief remarks on the history of irrigation in Australia referring to the efforts of the Chaffey brothers and to the Victorian Irrigation Act in 1886 see issues of the Official Year Book prior to No. 39. Trends in irrigation practice in more recent years were described in Official Year Book No. 37, page 1099.

(ii) *Extent and Nature of Irrigated Culture.* About half of Australia's irrigated acreage is in Victoria, and about two-thirds is situated along the Murray and its tributaries (including the Murrumbidgee) in the three States of New South Wales, Victoria and South Australia. In those areas served by the Murray and its tributaries, irrigation water is used extensively for vines, orchards, pastures, fodder, and for domestic and stock purposes. Approximately forty per cent. of Queensland's irrigated acreage is devoted to sugar cane. Western Australia's small irrigated acreage is confined to areas in the south-west where vegetables, orchards, fodder, and pastures are served. Large scale irrigation schemes have not been developed in Tasmania or the Northern Territory, although investigations are at present being carried out in the Northern Territory to determine the availability of irrigation water for rice production.

The following table shows the area of land irrigated in each State during the years 1956-57 to 1960-61.

AREA OF LAND IRRIGATED.

(Acres.)

Season.	N.S.W. (a)	Vic. (b)	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1956-57 ..	525,236	855,182	121,672	66,118	38,567	12,110	168	885	1,619,938
1957-58 ..	695,365	1,001,800	160,345	80,853	41,319	15,321	(c) 127	1,396	1,996,526
1958-59 ..	641,361	965,766	154,633	85,081	44,102	13,431	(c) 274	1,224	1,905,872
1959-60 ..	722,668	1,052,782	152,136	100,899	45,889	18,108	(c) 365	869	2,093,716
1960-61 ..	658,671	1,007,180	184,974	102,023	48,551	18,934	(c) 602	1,432	2,022,367

(a) Source: Water Conservation and Irrigation Commission.

(b) Source: State Rivers and Water Supply Commission.

(c) Incomplete; excludes area of rice irrigated.

The next table shows the area of land irrigated in each State during 1960–61 according to the nature of irrigated culture.

AREA OF LAND IRRIGATED, 1960-61.

(Acres.)

Crop.	N.S.W. (a)	Vic. (b)	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Rice ..	46,116	..	..	..	..	..	(c)	..	46,116
Vegetables ..	3,362	21,735	29,698	10,643	9,076	2,103	103	114	76,834
Fruit ..	17,962	40,274	5,758	22,706	8,335	3,311	80	8	98,434
Vineyards ..	12,388	44,817	(d)	26,071	897	..	..	..	84,173
Sugar-cane ..	(e)	..	68,987	..	..	..	..	..	68,987
Hops ..	..	(e)	..	..	(e)	1,364	..	..	1,364
Cotton ..	..	..	2,675	..	(e)	..	..	..	2,675
Other Crops (including Fodder and Fallow land)	115,071	79,017	(f)62,205	23,555	5,591	1,787	295	867	288,388
<b>Total, Crops</b> ..	<b>194,899</b>	<b>185,843</b>	<b>169,323</b>	<b>82,975</b>	<b>23,899</b>	<b>8,565</b>	<b>478</b>	<b>989</b>	<b>666,971</b>
Pastures ..	463,772	821,337	15,651	19,048	24,652	10,369	124	443	1,355,396
<b>Total</b> ..	<b>658,671</b>	<b>1,007,180</b>	<b>184,974</b>	<b>102,023</b>	<b>48,551</b>	<b>18,934</b>	<b>(g) 602</b>	<b>1,432</b>	<b>2,022,367</b>

(a) Source: Water Conservation and Irrigation Commission. (b) Source: State Rivers and Water Supply Commission. (c) Not available for publication. (d) Included with Fruit. (e) Included in Other Crops. (f) Includes Tobacco, 12,066 acres. (g) Incomplete; excludes area of rice irrigated.

(iii) *Research.* Comprehensive programmes of research and investigation are being pursued by State water and agricultural authorities and the Commonwealth Scientific and Industrial Research Organization, often in collaboration. Special attention is being given to the following:—high water tables due to the application of water; surface accumulation of salt and other soil changes associated with irrigation; methods of applying water efficiently; soil treatments to improve the physical condition of irrigated heavy clay soils; the utilization of irrigated pastures by stock; growth problems affecting plants and trees; the prevention of evaporation from water storages; and the potability of saline waters for stock.

The Commonwealth Scientific and Industrial Research Organization maintains the following research stations:—Merbein (Victoria)—irrigation problems with particular reference to ground-water, hydrology and viticulture; Griffith (New South Wales)—irrigation problems with particular reference to citrus and stone fruits and to vegetables; Deniliquin (New South Wales)—irrigated pastures; and the Kimberley Research Station (Western Australia)—tropical crops and pastures. In the maintenance of Merbein and Griffith stations, the Commonwealth is assisted, financially and otherwise, by the New South Wales Water Conservation and Irrigation Commission, by the Dried Fruits Export Control Board and by private organizations.

The Soils Division of the Organization has made detailed surveys of more than a million acres since 1927, with less detailed reconnaissance surveys over many millions of acres. The Division works closely with State authorities. The keynote of soil investigations is the relationship between soil and land use, and there is an increasing tendency to seek such surveys before irrigation districts are established. Research is also conducted in the field of water percolation in relation to soil structure.

The Physical Chemistry Division of the Commonwealth Scientific and Industrial Research Organization is currently investigating methods of minimizing evaporation losses from both large and small reservoirs.

The Irrigation Research and Extension Committee plays an important part in the agricultural activity of the Murrumbidgee Irrigation Areas. It is representative of the State Department of Agriculture, the Commonwealth Scientific and Industrial Research Organization, the Rural Bank of New South Wales, the Soil Conservation Service of New South Wales and certain farmers' organizations (including Extension Groups). Finance is provided by these authorities on an agreed basis. The objectives are:—to enable the

agricultural extension services to the farmers in the defined sub-region to be continued and developed; to provide a system for advising on local agricultural policy and organization; to provide means for farmer opinion to have due weight in the consideration of regional agricultural administration and policy; to achieve a unified approach to sub-regional extension in all branches of agriculture; to advise on the research needs of the sub-region and the co-ordination of the agricultural research of the various rural institutions working therein; to achieve close liaison between research and extension; and to conduct research in extension methods.

4. **Preservation of Catchments.**—Since water conservation commences on the catchments, it is becoming increasingly recognized that anything which interferes with catchment efficiency affects the quantity of water available for all purposes. Active steps are being taken to counteract soil erosion, to conserve soil generally, and to minimize the effects of floods, overstocking, bush fires, and the destruction of vegetative cover. All States and the Commonwealth have initiated forestry policies which provide for reforestation and the preservation of catchments. In recent years, efforts to counteract soil erosion have been intensified, and there is some evidence of a more unified approach to catchment, water, forestry, and land use factors regarded as parts of a single problem.

5. **Sub-surface Supplies.**—(i) *General.* Much of Australia's underground water is obtained from artesian and sub-artesian basins and is used for stock purposes. These supplies are indispensable in most inland areas. The quality of the water ranges from usable to very saline. In inland areas, a considerable amount of water has been tapped that is unusable because of its high salt content. Because of this, development of an economic desalting process would provide the interior with additional large quantities of usable water.

Considerable use is also made of sub-surface water, other than pressure water, from local storages, particularly in the well-settled areas. The water is used mainly for domestic and stock purposes. Compared with other countries with similar rainfall and climate, underground water is not used extensively for town supplies.

The Underground Water Conference of Australia was established on a Commonwealth basis in May, 1961. This body is made up of representatives from Commonwealth and State departments interested in underground water, and was established as a consequence of recommendations made by the Australian Academy of Science to the Commonwealth Government in 1958.

The various States and Territories maintain Geological Surveys and Water Commissions which are continually extending the knowledge of their own States. For example, in New South Wales, the Hunter Valley Research Foundation is carrying out scientific investigations in the catchment area of the Hunter River, and this includes an integrated study of water, soils and climate.

In addition, The University of New South Wales recently formed the Water Research Foundation which has among its objectives research into underground water. To date, research has been devoted mainly to run-off studies, to the design of large earth farm dams and to sponsoring post-graduate hydrology courses.

As a result, a general picture exists of Australia's available and potential underground water resources. Much remains, however, to be done in the mapping and assessment of individual artesian and sub-artesian basins and in the investigation of their constituent aquifers. Detailed investigations also remain to be carried out of shallower underground water in alluvial deposits, coastal sands and mantles of weathered and jointed rock.

Surveys of this nature are of great importance because of the fundamental need for underground sources of water in the settlement of large areas of Australia.

(ii) *Artesian and Sub-artesian Supplies.* Pressure water (either artesian or sub-artesian) variable in quantity and quality is obtainable in many parts of Australia, the various artesian basins extending over about half the continent. A map of Australia showing the extent of the known artesian basins appears on page 273 of this Year Book.

The Great Artesian Basin, the most extensive in the world, underlies an area of approximately 670,000 square miles, comprising about 430,000 in Queensland, 120,000 in South Australia, 80,000 in New South Wales and 40,000 in the Northern Territory. The following are the principal defined water-bearing basins in Australia.

## PRINCIPAL WATER-BEARING BASINS IN AUSTRALIA.

Name.	State.	Geological Age of Chief Aquifers.	Approximate Area.	Depth to Pressure Water.
			Square Miles.	Feet.
Great Artesian ..	Queensland, New South Wales, South Australia and Northern Territory	Mesozoic .. ..	670,000	Up to 7,000
Canning and Fitzroy	Western Australia	Mesozoic-Palaeozoic	160,000	100 to 1,500
Murray ..	Victoria, New South Wales and South Australia	Miocene-Eocene ..	107,000	100 to 1,300
Eucla .. ..	Western Australia, South Australia	Pliocene-Miocene ..	68,000	300 to 2,000
Barkly-Georgina	Northern Territory, Queensland	Cretaceous, Ordovician, Cambrian and Upper Proterozoic(?)	57,000	150 to 1,000
Carnarvon ..	Western Australia	Cretaceous, Permian ..	40,000	230 to 4,000
Perth .. ..	Western Australia	Tertiary, Quaternary, Mesozoic	10,000	200 to 2,500
Western District	Victoria ..	Miocene-Eocene ..	6,500	100 to 4,500
Pirie-Torrens ..	South Australia ..	Recent, Pleistocene ..	4,000	Up to 600
East Gippsland ..	Victoria ..	Pleistocene-Eocene ..	2,500	200 to 3,500
Adelaide ..	South Australia ..	Recent, Oligocene ..	1,100	10 to 850
Basins of Ord-Victoria Region	Northern Territory, Western Australia	Mainly Cambrian and Permian	Unknown	Unknown

More than 3,000 artesian bores have been constructed within the Great Artesian Basin, while the daily free discharge from all bores continuing to flow in Australia has been stated to exceed 350 million gallons, of which the loss by evaporation and seepage has been estimated at more than 90 per cent. Sub-artesian bores and wells throughout Australia number more than 200,000.

Artesian water generally is good stock water, but most is unsuitable for plant life, while in certain areas sub-artesian waters are suitable for all uses including irrigation. In the Eucla Basin and parts of the Murray and Pirie-Torrens Basins, the water is of poor quality, being barely suitable for stock.

In common with other countries possessing artesian supplies, Australia has been faced with the problem of flow diminution. It was recognized early that flows were diminishing as more bores were drilled, but it is now considered that while many of the bores will ultimately cease to flow, others will assume a perpetually steady rate of flow, corresponding with the average intake of water from rainfall absorbed by permeable outcrops, mainly sandstone and limestone. Diminution in flows from artesian bores has emphasized the need to eliminate wastage as much as possible, and investigations have been made regarding wasteful methods of distribution of artesian water by open channels or "bore drains" and the careless use of water. (For greater detail on this subject see Official Year Book No. 37, pp. 1103-4.)

(iii) *Shallow Groundwater.* Shallow groundwater supplies are used in various parts of Australia for industry, irrigation, stock and domestic purposes. Two of the most important of these supplies are in New South Wales. The Hunter District Water Board pumps 15 million gallons a day for general use from the Tomago coastal sands near Newcastle and at Botany, Sydney, private industry pumps 8-10 million gallons a day for its own use from similar sands. Exploration of the coastal sands north of the Tomago Sands has revealed a further potential production of 25 million gallons a day.

In the sugar-cane growing areas of Queensland, particularly the Burdekin Delta, groundwater is used extensively for irrigation. Having a greater opportunity for replenishment of their water supplies, many of the smaller groundwater occurrences are more important than is suggested by comparison of their extent with that of larger basins. Some of these occurrences have, as yet, not been significantly developed.

### § 3. National and Interstate Aspects.

1. *General.*—As the Commonwealth Constitution makes special reference to water rights, both the Commonwealth and the State Governments have an interest in the control and conservation of water. The main responsibility for control of water resources rests with the individual State governments, but as political boundaries sometimes intersect river valleys and catchments, co-operation between governments has been necessary to develop resources in certain cases. Specific examples of Commonwealth-State and interstate co-operation and approach are given in the following sections.

On page 257 of Official Year Book No. 47, information is given on the Rural Reconstruction Commission's Report of 1945, which emphasized national aspects of water conservation and use, and the Irrigation Production Advisory Committee, whose functions are to prepare for consideration conclusions from investigations as to possible agricultural industries on irrigated lands, and to undertake long-term co-ordination of land utilization in irrigable areas served by the Murray River and its tributaries.

2. *Murray River Scheme.*—(i) *General.* The Murray River and its tributaries form the largest river system in Australia. The catchment is approximately 414,000 square miles, or one-seventh of the area of the Australian continent, comprising five-sixths of New South Wales, over one-half of Victoria, one-sixth of Queensland and one-fortieth of South Australia. The Murray proper is 1,600 miles long. Its main tributaries are the Darling (1,700 miles), the Murrumbidgee (980 miles), and the Goulburn (350 miles). The average annual flow of each of the chief contributory streams is as follows:—Upper Murray, including the Mitta Mitta and Kiewa Rivers, 3,623,000 acre feet; Darling River, 2,896,000 acre feet; Goulburn River (including Broken River), 2,570,000 acre feet; Murrumbidgee River, 2,054,000 acre feet; and Ovens River, 1,222,000 acre feet. Irrigated production in the River Murray Basin is mainly grapes for wine, dried fruits, fresh fruits, rice, vegetables, dairy produce, wool, fat lambs, poultry, eggs and pigs.

For a brief summary of the historical events leading up to the River Murray Agreement (1915) by the Governments of the Commonwealth, New South Wales, Victoria, and South Australia, see issues of the Year Book prior to No. 39. The Agreement provided for the construction of works, the allocation of the water between the three States, and the appointment of a Commission to implement the Agreement. The Commission comprises four Commissioners, representing the Commonwealth and the three States respectively. The Commonwealth representative presides.

(ii) *River Murray Waters Agreement.* Under the Agreement, construction works are carried out by the States (who are also responsible for maintenance) subject to the approval and direction of the Commission. The Agreement provides that the minimum quantity of water to be allowed to pass for supply to South Australia in each year shall be sufficient to fill Lake Victoria storage once, and with the aid of water returned from Lake Victoria, to maintain certain specified flows in the lower river varying from 47,000 acre feet a month in the winter months to 134,000 acre feet a month in the four summer months of maximum demand—the total amounting to 1,254,000 acre feet over twelve months. These flows are to meet domestic and stock requirements in South Australia, losses of water in lockages and evaporation losses other than in the lakes at the Murray mouth, together with 603,000 acre feet per annum for diversion from the Murray in South Australia. The flow at Albury is shared equally by New South Wales and Victoria, and each of these States has full control of its tributaries below Albury, subject in each case to the fulfilment of the South Australian allocation. For a brief outline of the operation of the Agreement prior to 1949, see Official Year Book No. 40, page 1065, and earlier issues.

At a conference of Ministers held in July, 1949, to consider the diversion of the Snowy River, it was decided that, by diversion of streams in the Snowy Mountains area, an average of approximately 440,000 acre feet per annum would be added to the Murray River (see para. 4, Snowy Mountains Hydro-electric Scheme, p. 257) and that a storage of not less than 1,500,000 acre feet should be provided in order to give additional regulation of the Murray River itself as well as to provide for regulation of the diverted waters. Hydro-electric potentialities would also affect the size of the storage.

The River Murray Commission investigated the position and found that an increase in capacity of 500,000 acre feet in storage on the Upper Murray River above Albury was the maximum that was economically justifiable for the regulation for irrigation purposes of the waters of the Upper Murray River and of waters added from the Snowy River. The Commission agreed that this increase could best be provided by increasing the size of the Hume Reservoir from its previously designed capacity of 2,000,000 acre feet to 2,500,000 acre feet, but if additional storages for hydro-electric purposes become justified in the future, better provision could be made at some other site. It subsequently recommended to the contracting Governments that the River Murray Waters Agreement be amended to provide for this enlargement of the Hume Reservoir to 2,500,000 acre feet. A conference of Ministers considered the recommendation in July, 1954, and agreed to the enlargement. In addition, it was agreed that the Commission should be given power to construct regulators and to carry out such other work on the Murray River between Tocumwal and Echuca as it considered necessary to reduce the losses from the regulated flow in that stretch of the river. The amended Agreement was ratified in the Parliaments of the Commonwealth and the three States and was proclaimed on 7th April, 1955. In view of the proposed diversions by the Snowy Mountains Authority to and from the Murray River, and for other reasons, amendments to those sections of the River Murray Waters Agreement dealing with the distribution of the waters of the Murray were considered desirable. Following ministerial conferences, amendments were ratified by the four Parliaments concerned and came into force on 6th November, 1958.

The estimated quantity (in acre feet) of water diverted during 1960–61 from the Murray and its tributaries for irrigation and other purposes under the River Murray Agreement was as follows:—New South Wales, 2,324,000; Victoria, 2,296,000; South Australia, 230,000; a total of 4,850,000 acre feet.

(iii) *River Murray Works.* One of the major works of the Murray River Scheme is the Hume Reservoir, situated just below the junction of the Murray and Mitta Mitta Rivers, 10 miles above Albury, forming a lake of 56,000 acres. The design comprises a mass concrete spillway and outlet works extending 1,000 feet and an earthen embankment 110 feet high extending for 4,000 feet across the river flats, the length of the total structure being approximately one mile. Work on the enlargement of the reservoir to its approved capacity was completed in August, 1961.

The Yarrawonga Diversion Weir, which was completed in 1939, raised the river level so that water could be diverted by gravitation into main channels constructed on either side of the river. Between the Yarrawonga Weir and the Murray mouth, thirteen weirs and locks have been built. Two flood diversion weirs have been constructed on the Murrumbidgee—one between Hay and the Lachlan Junction and the other below the Lachlan Junction.

The Mulwala Canal, served by the Yarrawonga Weir, has an off-take capacity of 2,500 cubic feet a second, to serve 1,500,000 acres of land in New South Wales. The Yarrawonga Channel, on the Victorian side, has an off-take capacity of 1,250 cubic feet a second, to serve 270,000 acres. Only a portion of each area will be irrigated.

Adjoining the river in New South Wales and 35 miles from the Murray-Darling Junction, Lake Victoria storage, with a capacity of 551,700 acre feet and a surface area of 27,670 acres, was completed in 1928. The water released from Lake Victoria is used by the South Australian settlements. The inlet channel to Lake Victoria was enlarged in 1957 to permit greater diversion of periodical flood flows of short duration.

Five barrages across channels near the Murray River mouth connecting Lake Alexandrina with the sea were completed in 1940 to prevent ingress of salt water to Lakes Alexandrina and Albert and to the lower river, thereby increasing the productivity of adjacent lands. The structures maintain a sufficiently high level for 50 miles up river to permit watering by gravitation of a considerable area of reclaimed river flats. The total distance across the barrages and intervening islands is 15 miles.

In addition to the works carried out under the auspices of the Commission, the separate States have constructed thousands of miles of distribution channels and have provided a number of storages on the tributaries, thereby contributing very materially to the large amount of irrigation development in the Murray Basin. The total capacities of such main storages are: New South Wales—Menindee Lakes Storage (Darling), 2,000,000 acre feet; Burrinjuck (Murrumbidgee), 837,000 acre feet; Keepit (Namoi), 345,000 acre feet; Wyangala (Lachlan), 245,000 acre feet; Victoria—Eildon (Goulburn), 2,750,000 acre feet; Waranga (Goulburn), 333,400 acre feet. More details of these and other State works

on Murray tributaries will be found in the sections dealing with State systems. No storages exist on the Murray in South Australia, but a proposal has been made recently by the South Australian Government for a 4½ million acre feet storage at Chowilla on the river about 37 miles above Renmark.

**3. New South Wales-Queensland Border Rivers Agreement.**—The New South Wales-Queensland Border Rivers Agreement came into effect on 1st July, 1947. The Agreement provides for the construction of certain works on those sections of the Severn, Dumaresq, Macintyre and Barwon Rivers which constitute part of the boundary between New South Wales and Queensland, for the furtherance of water conservation, water supply and irrigation in those States.

The works to be constructed comprise a dam on the Dumaresq River at a site to be selected by the Commission to give a storage basin with a capacity as large as is reasonably practicable and not less than six nor more than twelve weirs as may be found necessary to meet the requirements of irrigation along the rivers. Provision is also made for the construction of not more than four regulators in the effluents from the barrier rivers and for the taking over of the existing weir on the Macintyre River at Goondiwindi and the existing weir on the Barwon River at Mungindi. The costs of these works and of administration are to be borne by the States in equal shares. The agreement further provides that the water discharged from the Dumaresq storage, whether by regulated or unregulated flow, shall be available to the two States in equal shares.

The Water Conservation and Irrigation Commission of New South Wales, which is the constructing authority for the dam, carried out investigations of several dam sites on the Dumaresq River near Mingoola Station homestead, which is approximately 39 miles from Tenterfield. Foundation drilling supplemented by a geophysical survey carried out by the Commonwealth Bureau of Mineral Resources disclosed unfavourable foundation conditions at all sites, the depth of alluvium overlying sound rock exceeding 150 feet in all cases. In an endeavour to obtain more economical storages, investigations were extended to tributary streams and superficially suitable sites have been located on Pike Creek and the Mole River. A geophysical survey was made at each of these sites and preliminary comparative estimates prepared to determine the relative economy of providing one large storage at Mingoola or two smaller storages on the tributaries. Following exploratory drilling of the tributary sites, a report dealing with alternative storage proposals and possible amendments to the existing Agreement was submitted to the participating States. This report is at present under consideration.

The Irrigation and Water Supply Commission of Queensland is the constructing authority for the new weirs and regulators. The construction of Bonshaw and Cunningham Weirs on the Dumaresq River was completed in January, 1953 and June, 1954, respectively.

A weir and regulator has been constructed on the Barwon River at the offtake of the Boomi River. A low level weir to establish a pumping pool at Glenarbo on the Dumaresq River was also constructed. The existing Goondiwindi and Mungindi Weirs are being maintained, operated and controlled by the Queensland Irrigation and Water Supply Commission. Until a dam has been constructed, it is unlikely that any weirs, other than those referred to above, will be required.

The catchments for the border streams (2,000 square miles) extend to the granite areas in the vicinity of Tenterfield (New South Wales) and Stanthorpe (Queensland) and elevation rises to 3,000 feet. Average rainfall is 30 inches. The catchments and the areas suitable for irrigation are approximately equal in each State. Climatic conditions are such that it is necessary to supplement rainfall from April to October by irrigation to stabilize and increase production. The capacity of the area to grow lucerne and tobacco under irrigation has already been demonstrated. Other possible development of the area includes irrigation of cotton, root crops, cereals, and citrus fruit, and expansion of the fat stock industry.

**4. Snowy Mountains Hydro-electric Scheme.\***—Following a comprehensive investigation into both the water and power potential of the Snowy River waters by a Technical Committee representative of the Commonwealth and the States of New South Wales and Victoria in 1947 and 1948, and the submission by the committee of reports in 1948 and 1949, the Commonwealth Parliament in July, 1949, passed the Snowy Mountains Hydro-electric Power Act setting up an Authority to implement the proposals agreed upon.

\* See also Chapter VII.—Electric Power Generation and Distribution, p. 224. For more detailed information see special article by the Commissioner, Snowy Mountains Hydro-electric Authority (Sir William Hudson) which appeared in Chapter XXIX—Miscellaneous, of Official Year Book No. 42.



The basis of the proposals is to impound the Snowy River waters at high elevations and, by diverting them into tunnels passing under the Alps, to use their potential power for the generation of electricity and then to discharge them into the Murray and Murrumbidgee River systems for use in the irrigation areas.

The Scheme involves two main diversions, the diversion of the Eucumbene, a tributary of the Snowy, to the Upper Tumut River and the diversion of the main stream of the Snowy River at Island Bend and Jindabyne to the Swampy Plain River. In addition, works required to make use of the waters of the Upper Murrumbidgee, the Upper Tumut, the Upper Tooma and the Geehi Rivers for power generation also provide additional regulation of these streams and this makes more water available for irrigation. Details of the two trans-mountain diversions and the associated power works together with details of progress and construction are given in Chapter VII.—Electric Power Generation and Distribution (*see p. 225*).

Additional water is now available for irrigation in the Murrumbidgee Valley and it is expected that this will amount to 500,000 acre feet per annum by 1963. When all works are completed, it is estimated that the total gain to the Murrumbidgee by diversion and regulation will amount to 1,120,000 acre feet per annum and the total gain to the Murray will be 800,000 acre feet per annum. This additional water should be sufficient to provide irrigation for approximately 1,000 square miles of land which should result in a substantial increase in annual primary production.

## B. STATES AND TERRITORIES.

### § 1. Australian Local Pattern of Water Conservation and Use.

The foregoing sections deal with water conservation and irrigation in Australia generally and with national and interstate projects. The following survey indicates the local pattern of water resources and the steps taken by the State Governments to bring about their development. It will be seen that water policies in the various States tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales, major emphasis at present is on irrigation and stock development in the dry areas along the Murray and Murrumbidgee Rivers, though a substantial scheme of intensive irrigation is being conducted in the Murrumbidgee Irrigation Areas. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock, and the development of small irrigation schemes in sub-humid and humid areas, especially to stabilize sugar production.

Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with stock supplies and the safeguarding of long stock routes.

### § 2. New South Wales.

1. *General.*—(i) *Rainfall and History.* On page 1110 of Official Year Book No. 37, information is given on the pattern of rainfall and the history of irrigation in New South Wales. (*See also Chapter II.—Physiography, p. 45, of this issue.*)

(ii) *Administration.* The Water Conservation and Irrigation Commission of New South Wales consists of three members appointed by the Governor. The operations of the Commission cover water conservation, control of irrigation areas, the establishment, operation and maintenance of works for domestic and stock water supply, irrigation districts, flood control districts, sub-soil drainage districts, constitution of water trusts, the issue of licences for private irrigation, artesian and shallow boring, assistance under the provisions of the farm water supplies scheme, and river improvement works.

Under the Water Act, the right to the use and flow, and the control of water in all rivers and lakes which flow through, or past, or are situated within, the land of two or

more occupiers, is vested in the Commission for the benefit of the Crown. A system of licences operates for the protection of private works of water conservation, irrigation, water supply, drainage, and prevention of inundation.

For particulars of the New South Wales-Queensland Border Rivers Agreement ratified by Acts of both States in 1947, see page 257 of this chapter.

**2. Schemes Summarized.**—(i) *Location and Type.* The bulk of irrigated land is along the Murray and its tributary the Murrumbidgee. Smaller areas are served by the Wyangala Dam, Lake Cargelligo and Lake Brewster on the Lachlan (a tributary of the Murrumbidgee), by Glenbawn Dam on the Hunter River, by Keepit Dam on the Namoi River, and by the Menindee Lakes Storage on the Darling River. None of the other rivers is regulated by large head storages, though weirs and dams have been provided for town supplies, etc., in many places, and a head storage has been commenced on the Macquarie River. In addition, substantial use is made of artesian and sub-artesian water in pastoral areas.

New South Wales legislation provides for the constitution and control of various schemes having different characteristics and including irrigation areas, irrigation districts, water trust districts, flood control and irrigation districts, and river improvement districts. There are nine irrigation areas, although two of these, Yanco and Mirrool, are generally described under the one heading, namely, the Murrumbidgee Irrigation Areas. The Areas are:—The Murrumbidgee Irrigation Areas consisting of 451,189 acres served with water through a channel system stemming from the river at Berembed Weir; the Coomealla Irrigation Area of 34,672 acres, served by pumping from the Murray; the Curlwaa Irrigation Area of 10,393 acres, supplied from the Murray by pumping; the Hay Irrigation Area of 6,850 acres, supplied with water pumped from the Murrumbidgee; the Tullakool Irrigation Area of 18,006 acres supplied from the Edward River by diversion at Stevens Weir; the Buronga (8,693 acres) and Mallee Cliffs (1,900 acres) Irrigation Areas served by pumping from the Murray; and the Coleambally Irrigation Area (74,133 acres), served by diversion from the Murrumbidgee River. All these Areas are administered by the Commission and details of the various schemes are given in sub-section (iii) below.

(ii) *Works.* The capacities of the main storages (in acre feet) are:—

*Darling:*—Menindee Lakes Storages (2,000,000).

*Murray:*—Half share of Hume Reservoir, weirs and locks to Wentworth (1,361,420); Stevens Weir, Edward River (7,165).

*Murrumbidgee:*—Burrinjuck Dam (837,000); Berembed Weir (10,000); Redbank Weir (7,360); Maude Weir (6,740).

*Namoi:*—Keepit Dam (345,000).

*Lachlan:*—Wyangala Dam (temporary reduced level 245,000); Lake Brewster (123,900); Lake Cargelligo (29,435); Jemalong Weir (2,200).

*Hunter:*—Glenbawn Dam (185,000 acre feet irrigation storage; 108,000 acre feet flood mitigation storage).

Water from the Hume Reservoir is used for domestic and stock purposes, to provide bulk supplies for country towns, for the irrigation of vines, fruits and fodder in the Curlwaa and Coomealla Areas, for fruit, vegetables and dairy products in the Buronga Irrigation Area, for horticulture and mixed farming in the Mallee Cliffs Irrigation Area, for rice and other cereals and for pastures in the Tullakool Irrigation Area, for domestic and stock supply and irrigation in the Berriquin, Wakool, Deniboota and Denimein Districts, and for water trusts for domestic and stock purposes and/or irrigation.

The Wyangala Dam is 30 miles upstream from Cowra in the Central West. It has a catchment of 3,200 square miles. Water from the dam, supplemented by the unregulated flow of the Belubula River, provides for domestic and stock purposes along the full length of the downstream river (approximately 800 miles) and also for irrigation by land holders operating licensed pumps. The towns of Cowra, Forbes, Condobolin, Hillston and Booligal are supplied. Balance storages at Lake Cargelligo and at Lake Brewster conserve water during periods of high flow for release as required. Water from the Lachlan, diverted at Jemalong Weir, supplies the districts of Jemalong and Wylde's Plains, serving an area of approximately 225,000 acres.

The approximate total length of supply channels (including main canals) constructed by the Water Conservation and Irrigation Commission in New South Wales is 3,316 miles. The approximate length of drains and escape channels is 1,202 miles, and the total length of pipe lines is approximately 69 miles, making a grand total of 4,587 miles of channels and pipe lines, etc.

(iii) *Extent of Systems and Nature of Irrigated Culture.* The following table shows the areas of the various irrigation systems and particulars of the areas under irrigated culture in New South Wales during 1960-61.

AREAS OF SYSTEMS AND OF LAND IRRIGATED: NEW SOUTH WALES, 1960-61.

(Acres.)

System, etc.	Total Area.	Area Irrigated.									Total.	
		Rice.	Other Cereals Grown for Grain.	Lucerne.	Other Fodder Crops.	Pastures.		Vineyards.	Orchards. (a)	Vegetables.		Fallow Land and Miscellaneous.
						Sown.	Natural.					
<b>Irrigation Areas—</b>												
Murrumbidgee (within the Areas) .. .. .	451,189	26,993	14,257	4,496	2,599	76,511	1,740	5,362	15,346	3,091	22,023	172,418
Lands adjacent supplied under agreement .. .. .	(b)	..	299	..	6	49	1,560	2	83	10	..	2,009
Coomoalla .. .. .	34,672	..	..	6	..	..	..	4,323	1,093	..	..	5,422
Curlew .. .. .	10,393	..	..	..	35	..	..	427	1,149	..	..	1,611
Hay .. .. .	6,850	..	..	119	402	2,152	68	..	..	..	12	2,753
Tullakool .. .. .	18,006	982	150	30	135	6,093	..	..	..	..	203	7,593
Buronga .. .. .	8,693	..	..	..	..	..	..	..	..	..	..	..
Mallee Cliffs .. .. .	1,900	..	..	..	..	..	..	..	..	..	..	..
Coleambally .. .. .	74,153	1,559	388	50	64	310	139	..	..	..	3,995	6,505
<b>Total .. .. .</b>	<b>c 605,856</b>	<b>29,534</b>	<b>15,094</b>	<b>4,701</b>	<b>3,241</b>	<b>85,115</b>	<b>3,507</b>	<b>10,114</b>	<b>17,671</b>	<b>3,101</b>	<b>26,233</b>	<b>198,311</b>
<b>Irrigation Districts—</b>												
Beneerambah .. .. .	112,818	5,547	5,225	1,475	1,723	34,514	20	..	..	20	3,633	52,157
Tabbita .. .. .	32,330	353	670	240	255	3,405	300	..	..	..	257	5,480
Wah Wah .. .. .	575,716	..	2,950	1,240	1,445	5,200	200	..	..	..	3,070	14,105
Berriquin .. .. .	784,537	..	5,323	15,268	1,241	224,829	915	..	..	123	2,190	249,889
Wakool .. .. .	503,322	4,582	1,483	1,224	1,676	59,050	470	..	..	14	422	68,921
Denimein .. .. .	147,005	2,545	366	1,182	597	11,373	..	..	12	10	70	16,155
Jemalong and Wylde's Plains .. .. .	224,556	..	1,974	7,805	..	12,339	..	..	..	..	..	22,118
Gumly .. .. .	353	..	31	70	2	30	..	..	19	..	50	202
Deniboota .. .. .	337,252	3,555	320	1,745	310	22,505	..	..	..	..	310	28,745
<b>Total .. .. .</b>	<b>2,717,889</b>	<b>16,582</b>	<b>18,342</b>	<b>30,249</b>	<b>7,249</b>	<b>373,245</b>	<b>1,905</b>	<b>..</b>	<b>31</b>	<b>217</b>	<b>9,952</b>	<b>457,772</b>
<b>Flood Control Districts—</b>												
Lowbidgee .. .. .	375,000	..	..	..	..	..	(b)	..	..	..	..	(b)
Medgun .. .. .	272,800	..	..	..	..	..	(b)	..	..	..	..	(b)
<b>Total .. .. .</b>	<b>647,800</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>(b)</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>(b)</b>
<b>Irrigation Trusts—</b>												
Pomona .. .. .	1,580	..	..	..	..	..	..	770	130	..	..	900
Bringan .. .. .	4,933	..	..	..	..	..	..	..	..	..	..	(b)
Bungunyah-Koraleigh .. .. .	1,810	..	..	..	..	..	..	980	88	40	..	1,108
Glenview .. .. .	661	..	..	..	..	..	..	..	..	..	..	(b)
Goodnight .. .. .	1,104	..	..	..	..	..	..	524	42	4	10	580
Bama .. .. .	3,446	..	..	..	..	..	..	..	..	..	..	(b)
<b>Total .. .. .</b>	<b>13,534</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>2,274</b>	<b>260</b>	<b>44</b>	<b>10</b>	<b>(c) 2,588</b>
<b>Water Trusts—Domestic and Stock Supplies .. .. .</b>	<b>2,916,026</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>
<b>Grand Total(c) .. .. .</b>	<b>6,901,105</b>	<b>46,116</b>	<b>33,436</b>	<b>34,950</b>	<b>10,490</b>	<b>458,360</b>	<b>5,412</b>	<b>12,388</b>	<b>17,962</b>	<b>3,362</b>	<b>31,195</b>	<b>d658,671</b>

(a) Citrus and deciduous. Deciduous amounted to 8,500 acres, of which 8,288 acres were in the Murrumbidgee Irrigation Area. (b) Not available. (c) Incomplete. (d) Excludes some Irrigation Trusts and Licensed Diversions for which information is not available.

3. **Murrumbidgee Irrigation Areas.**—(i) *Description.* These areas, together with adjacent lands supplied under agreement, received 340,324 acre feet, or about a quarter, of the total water (1,316,949 acre feet) allocated within the State for stock, domestic supply and irrigation. They are served by the Burrinjuck Dam (capacity 837,000 acre feet), on the Murrumbidgee, 40 miles north-west of Canberra. The catchment above the dam is about 5,000 square miles. The river rises on the high plateau north of Mount Kosciusko where the average annual rainfall exceeds 60 inches. Flow for the irrigation areas and districts is supplemented by unregulated flow from the Tumut River below the dam. The dam also provides town supplies for Gundagai, Wagga, Narrandera, Hay, Balranald, and for towns served by the South-West Tablelands scheme.

Domestic and stock water and water for irrigation are supplied to the Irrigation Districts of Tabbita, Benerambah and Wah Wah, and the Flood Control and Irrigation District of Lowbidgee. Flood flows are relied on to serve the Lowbidgee district, and water is not released from the dam for that purpose. For the other undertakings, however, water is stored during the winter, fed by melting snows and spring freshets, and is released during the September-May irrigation season. It passes along the river channel to Berembred Weir, 240 miles westward, where it is diverted to the main canal with an off-take capacity of 1,600 cubic feet a second. The main canal has been completed to beyond Griffith, 96½ miles from the off-take. Reticulation channels aggregate approximately 879 miles and drainage channels 822 miles. In addition, approximately 448 miles of supply channels run through irrigation districts adjacent to the Murrumbidgee areas in which the water supply is operated and maintained by the Water Conservation and Irrigation Commission.

The land on which the Murrumbidgee Irrigation Areas are situated originally comprised large sheep stations and was sparsely populated, but at 30th June, 1961, its population was approximately 26,000, that of Leeton Shire being 10,351, and that of Wade Shire 15,883.

(ii) *Administration.* The Water Conservation and Irrigation Commission controls land transactions and water supplies for the Murrumbidgee Irrigation Areas only, and has no jurisdiction over land transactions in the adjacent irrigation districts, although it is responsible for the operation and maintenance of the water supply in these areas. Other local government services, including electricity and town water supply, are provided by Councils. Land is disposed of by the Commission under freehold or perpetual lease tenure or leased for short terms for grazing or cultivation. The area under occupation at 30th June, 1961, was 381,538 acres, including 36,775 held for short lease grazing, agriculture, etc.

(iii) *Production.* Since the inauguration of the scheme in 1912, the volume of production from the area has greatly increased. Numbers of new crops are grown, while the volume of the major products of the area prior to the scheme, such as wool and livestock for slaughtering, has expanded considerably. The principal products to-day are: wool, livestock for slaughtering, rice, citrus fruits, peaches and nectarines, grapes, tomatoes, peas, beans and root vegetables.

Rice growing was initiated on the Murrumbidgee Irrigation Areas in 1924 and has since become the most important crop grown in the area. In 1960-61, the total area sown was 26,993 acres, and the total quantity of water delivered for the rice crops was 149,011 acre feet. In a normal season, the water supplied for rice represents about one-half of the total delivered to the Murrumbidgee Irrigation Areas.

The co-operative system is a prominent feature in the Murrumbidgee Areas. Co-operative organizations in the Mirool section handle about 200,000 bushels of fruit a year (compared with 54,600 in 1927-28). The annual sales turnover of the Leeton cannery in recent years has approximated £2,000,000. Settlers and government agencies co-operate extensively in all matters relating to irrigation practice.

4. **Other Irrigation Areas.**—The Coomealla, Tullakool, Buronga, Mallee Cliffs, Hay, Curlwaa and Coleambally Irrigation Areas follow the same administrative pattern as the Murrumbidgee Areas—that is, land transactions are administered by the Water Conservation and Irrigation Commission which is responsible also for the operation and maintenance of works to supply water.

Coomoalla Area, 9 miles upstream from Curlwaa, comprises 34,672 acres of which 31,664 acres were occupied at 30th June, 1961. Production consists primarily of vine and citrus fruits. An extension of the Coomealla Irrigation Area was completed in recent years to provide irrigation farms for ex-servicemen.

Tullakool Area, formerly part of the Wakool Irrigation District, comprises 18,006 acres of which 14,394 acres are occupied. Main products are fat lambs, wheat and rice.

Buronga Area, on the Murray River, upstream from Wentworth, consists of 8,693 acres, of which 2,495 acres are occupied. Production is mainly fruit, vegetables and dairy products. Mallee Cliffs is also upstream from Wentworth, its area being 1,900 acres, of which 1,863 acres are occupied.

Hay Area, on the lower Murrumbidgee, consists of 6,850 acres, of which 6,401 acres are occupied. Production comprises dairy products, fat lambs, sheep, wool and fodders.

Curlwaa Area, on the Murray near Wentworth, consists of 10,393 acres of which 7,820 acres were occupied at 30th June, 1961. Production consists of dried vine fruits, deciduous fruits and fodder crops.

Coleambally area, a new area served by the Coleambally Canal off-taking from the Murrumbidgee River upstream from Gogeldrie Weir, has an area of 74,153 acres, of which 65,923 acres are occupied. Production is expected to be mainly fat lambs, wool, beef, citrus fruit and peaches, with rice growing being allowed in the initial stages.

**5. Irrigation Districts.**—These Districts are set up under the Water Act for (a) domestic and stock water supply and (b) irrigation. They differ from water trusts in that the cost of the works is not required to be repaid over a period, but annual charges are made by the State for water supplied to landholders. The following are the districts or provisional districts constituted and the areas of land benefited:—*Murray River*—Wakool District 503,322 acres, Berriquin Provisional District 784,537 acres, Deniboota Provisional District 337,252 acres, Denimein Provisional District 147,005 acres, Jernargo Provisional District (certain portions of which have been included in Berriquin District) 4,325 acres, Barramein Provisional District (domestic and stock supply only—works not yet commenced) 89,080 acres; *Murrumbidgee River*—Wah Wah District 575,716 acres, Benerembah District 112,818 acres, Tabbita District 32,330 acres, Gumly Provisional District 353 acres; *Lachlan River* (completed)—Jemalong and Wyldé's Plains Districts 224,556 acres.

Since the completion of the Hume Reservoir, several such districts have been established along the Murray to utilize the New South Wales share of the storage. Water is not available for the whole of the 5,000,000 acres adjacent to the Murray in New South Wales, and therefore the schemes are based on "extensive" irrigation, that is, water rights are allotted to holdings on the basis that only a portion of each holding (one acre in three, five or ten, according to the district, etc.) will be irrigated, but additional water, when available, may be obtained by landholders. "Water right" means right to such a quantity annually of water, 12 inches deep, as will cover an area of one acre.

Water to serve Berriquin, Deniboota and Denimein Districts is diverted through a main canal which will be 100 miles long when completed. Water for the Wakool Irrigation District and the Tullakool Irrigation Area is diverted from the Edward River at Stevens Weir, and a supplementary supply is also obtainable from Mulwala canal. At 30th June, 1961, the total length of completed canals and channels in Berriquin District was 981 miles, comprising Mulwala canal 75 miles, Berriquin channel 22 miles, subsidiary channels 778 miles, escape channels 96 miles and cross drainage channels 10 miles. Off-take capacity of the Mulwala canal is 5,000 acre feet a day.

Wakool, with 387 miles of channel, contains 306 holdings and the area developed by irrigation includes about one acre in eight of the total area. The total area irrigated in 1960-61 was 68,921 acres and water supplied was 187,657 acre feet. Crops comprised fodders, pastures, rice, cereals and vegetables, but sheep raising is the main industry.

Considerable subdivision has occurred within the Berriquin District and the proportion of the total area developed for irrigation is higher than in the case of Wakool. Total irrigated acreage was 249,889 at 30th June, 1961. Sheep and wheat growing are the main industries. The fat lamb industry is well developed and expanding. A dairying industry with an associated butter factory at Finley has been established.

In the Benerembah, Tabbita and Wah Wah Districts, supplied from the channels of the Murrumbidgee Irrigation Areas, the quantity of water supplied during the 1960-61 season for irrigation, etc., was 121,962 acre feet, and the area irrigated was 71,742 acres, including rice and other cereals, pastures, and fodder crops.

For the same season, 21,405 acre feet of water were supplied from the Lachlan River to irrigate a total area of 22,118 acres within the Jemalong and Wyldé's Plains Districts.

**6. Water Trust Districts, Irrigation Trusts and Flood Control and Irrigation Districts.**—The Water Act provides for the constitution of Trust Districts for domestic and stock water and irrigation and empowers the Commission to construct, acquire or utilize necessary works. When the works are completed, they are handed over to trustees to administer. The trustees are elected by the occupiers of the land and act with a representative of the Commission. They are empowered to levy and collect rates covering the cost of the works

repayable to the Crown by instalments and also the cost of operation and maintenance of the works. The rates are struck according to the area of land which benefits. The following water trusts—other than irrigation—have been constituted (the area in acres of each district is shown in parentheses)—*Murray River*—Little Murrumbidgee Creek (157,440), Tuppal Creek (78,080), Bullalale Creek (68,320), Poon Boon (34,300), Minnie Bend Flood Prevention (2,190); *Murrumbidgee River*—Yanco, Colombo and Billabong Creeks (1,007,780); *Lachlan River*—Marrowie Creek (292,640), Torrigan, Muggabah and Merrimajee Creeks (170,240), Ulonga (64,960), Micabil Weir (11,500), Condobolin West Weir (4,480); *Miscellaneous*—Great Anabranch of Darling River (967,339), Nidgerly Weir (46,880), Algudgerie Creek (9,760), Collarenebri town water supply (117)—making in all a total area of 2,916,026 acres. Thirteen of these trusts have been formed for the provision of water for domestic and stock purposes, one for a town supply and one for flood prevention.

Irrigation Trusts are established under the same Act and are administered by trustees in a similar way. The following are the Trust Districts (area in acres is shown in parentheses):—*Murray River*—Bringan (4,933), Bama (3,446), Goodnight (1,104), Bungunyah-Koraleigh (1,810), Glenview (661); *Darling River*—Pomona (1,580)—making in all a total area of 13,534 acres.

The Lowbidgee Provisional Flood Control and Irrigation District (375,000 acres), the first of its kind, was constituted in 1945. Its purpose is to provide flood irrigation for pasture lands on the lower Murrumbidgee by water diverted from the Maude and Redbank Weirs. Another district, Medgun (272,800 acres) near Moree in the north-west is also in operation. In this area, about 58,000 acres benefit from controlled floodings.

7. **River and Lake, and Farm Water Supplies.**—During recent years, the numbers of licences and permits issued to individuals to draw water from rivers and lakes for irrigation have increased substantially, especially along the coastal streams in sub-humid districts where the value of supplementary irrigation is becoming more recognized as a means of stabilizing production in dry months. There has also been a considerable increase along the Murrumbidgee and Lachlan.

The Farm Water Supplies Act was passed in 1946. Technical advice and assistance, and also financial assistance, are made available to help individual farmers and groups of farmers to provide and improve water supplies for domestic, stock and irrigation purposes by means of wells, bores, excavated tanks, weirs or dams, flood and spray irrigation systems.

8. **Underground Water.**—Extensive use is made of artesian, sub-artesian, and shallow underground water. Nearly eighty thousand square miles in the northern and western portions are covered by the Great Artesian Basin. Eighty-nine Bore Water Trusts and 12 Artesian Wells Districts have been constituted. The Bore Trusts are administered in the same way as Water Trusts, but in Artesian Wells Districts settlers maintain the drains. Bore Trusts and Artesian Districts cover over 5 million acres and water is distributed through approximately 8,000 miles of open earth drains. The number of artesian bores giving a flowing or pumping supply at 30th June, 1961, was 1,081 and the estimated total daily flow from approximately 600 flowing bores was 65 million gallons. The estimated flow in 1914–15 was 99 million gallons a day from 372 bores. The deepest bore is Boronga No. 2 (4,570 feet), which also has the greatest flow, about 1 million gallons a day.

Of other structural basins of sedimentary rocks, e.g. Murray, Cumberland (Sydney), Oxley and Clarence Basins, the Murray is the largest and also the most important in that it affords stock water supplies over an extensive area of the south-western section of the State. Only a few of these bores flow, the remainder being sub-artesian. Good supplies for stock and, in some instances, small scale irrigation, are obtained from porous sandstone in the Moss Vale-Picton area of the south-western lobe of the Cumberland Basin but the remainder has limited potential. Stock supplies are obtained from bores in the fringe zones of the Oxley Basin but the centre of this basin lies under the Liverpool Range. The Clarence Basin is relatively unimportant from a groundwater viewpoint.

In other parts of the State, the largest and best quality groundwater supplies are obtained from sands and gravels in the alluvium of the major rivers and their tributaries, particularly the western flowing rivers, e.g. Lachlan, Macquarie and Namoi. Supplies of up to 50,000 gallons an hour are obtained from wells and screened bores in these areas and are used for irrigation purposes. The Government is carrying out investigations to determine the groundwater potential of the alluvium of such valleys, particularly with regard to irrigation use, and a test-boring programme is in progress in the Lachlan Valley. Coastal river systems have a much more limited potential in this regard, the main exception being the Hunter.

Old sand dune areas along the coast provide large supplies of good quality water. However, since the soils of these areas are not suited to agricultural pursuits, exploitation has been largely confined to the Sydney and Newcastle areas. Initially a source of Sydney's water supply, the Botany sands are now utilized mainly by industry. The Tomago sands provide a considerable proportion of the Newcastle water supply.

The older rocks, which are mostly folded and jointed, are very variable in their groundwater potential and only rarely do they yield supplies sufficient and suitable for limited irrigation. Where suitable conditions obtain, they yield useful stock supplies, mostly at depths between 50 and 250 feet.

It is necessary under the 1955 amendments to the Water Act that all wells and bores be licensed and details of over 14,000 bores and wells in the State are recorded. When assessed in relation to the geologic and topographic conditions of any particular area, such records provide valuable evidence of the groundwater potential and are thus of considerable benefit to landholders.

Since 1912, the Government has assisted settlers in shallow boring operations for which repayments are required over a period. To 30th June, 1961, the number sunk by the Commission's plants was 5,236 and their average depth was 306 feet.

**9. Future Programme.**—The programme of post-war development already in hand includes the provision of additional dams and storages, diversion weirs, and flood mitigation and river protection works in various parts of the State. Construction of Burrendong Dam on the Macquarie River is in progress. Legislation has been passed authorizing the construction of a flood control and irrigation dam at Warkworth in the Hunter Valley and a storage dam at Blowering on the Tumut River. The Hunter River development, of which Glenbawn Dam is an integral part, concerns an exceptionally fertile coastal valley, forming the hinterland to Newcastle, where the annual rainfall is not heavy and variations from month to month are considerable. This is the first coastal scheme initiated in New South Wales. At 30th June, 1961, a diversion weir at Gogeldrie on the Murrumbidgee River was supplying water to a number of farms in a new irrigation area (Coleambally) on the south side of the river to comprise not less than 1,000 new irrigation farms. Later development will extend to a new area on the north side of the river. At Wyangala Dam, on the Lachlan River, the fixed crest of the dam spillway has been lowered temporarily to enlarge the spillway for passage of greater floods. A proposed new earth and rock fill dam will be built behind the present dam to give a storage of 1,000,000 acre feet.

**10. Hydro-electricity.**—A survey of the use of water for power generation in New South Wales may be found in the previous chapter (*see* p. 230).

### § 3. Victoria.

**1. General.**—(i) *Rainfall.* Particulars of the rainfall pattern of Victoria were given on page 1117 of Official Year Book No. 37. (*See also* Chapter II.—Physiography, p. 45, of this Year Book.)

(ii) *Administration.* The passing of the Irrigation Act of 1886 put the control of surface waters under the Crown, provided for the establishment of Irrigation Trusts and marked the beginning of irrigation development. In 1905, the Water Act established the State Rivers and Water Supply Commission and gave it control of all irrigation, rural domestic and stock supplies, town water supplies, and flood protection and drainage undertakings outside the Metropolitan area, with the exception of the irrigation area operated by the First Mildura Irrigation Trust and the town water supplies operated by locally constituted waterworks trusts or local governing bodies.

The operations of the First Mildura Irrigation Trust, the waterworks trusts and local governing bodies administering town water supplies, the river improvement and drainage trusts and the various sewerage authorities which control sewerage undertakings in country towns, are also subject to general supervision by the Commission.

**2. Works Summarized.**—In 1902, a great drought emphasized the need for a concerted attack on water problems. Subsequent to the establishment of the State Rivers and Water Supply Commission the total capacity of storages controlled by that Commission has increased from 172,000 to 4,263,618 acre feet at 30th June, 1961. In addition, Murray River

storages with a combined capacity of 2,722,840 acre feet are shared equally by New South Wales and Victoria under the River Murray Waters Agreement, subject to certain obligations to South Australia. The total storage capacity available to Victoria is thus some 5,625,038 acre feet. Most of the water from these storages is used for irrigation. The area actually irrigated has risen from 105,000 acres in 1906 to 1,007,180 acres in 1960-61 to which 1,373,717 acre feet of water were delivered. The Commission estimated the value of irrigated production in 1959-60 at £57,800,000 representing about one-sixth of the value of Victoria's total rural production.

Besides supplying water to its own irrigation districts, the Commission supervises the diversion of water for irrigation by private persons by means of licences and permits. In the last ten years, the area so licensed has doubled and private diverters now provide a fifth of total irrigation production.

A notable development in the post-war years has been Soldiers' Settlement Schemes based on irrigation. Altogether, more than one thousand holdings have been prepared for settlers, including 550 in the Murray Valley District, 250 at Robinvale and 125 in Gippsland.

Town water supply, sewerage works and land drainage, flood protection and river improvement works serve many thousands of people. A domestic and stock water supply is given to various rural areas throughout the State, but principally to the Wimmera and Mallee about which a detailed description is provided later in this chapter.

3. Storages.—The capacities of the main storages in the various systems (in acre feet) at 30th June, 1961, were as follows:—

*Goulburn System*:—Eildon Reservoir, 2,750,000; Waranga Reservoir, 333,400; Total, 3,104,100; *Murray-Loddon System*:—Half share of Murray River storages, 1,361,420; Cairn Curran, 120,600; Tullaroop, 60,000; Total, 1,690,230; *Wimmera-Mallee*:—Rocklands, 272,000; Total, 563,800; *Gippsland*:—Glenmaggie, 154,300; Total, 154,340; *Coliban*:—62,730; *Werribee-Bacchus Marsh*:—34,900; *Mornington Peninsula*:—5,800; *Otway*:—1,080; *Miscellaneous*:—8,058; *Grand Total*:—5,625,038.

4. Extent of Systems and Nature of Irrigated Culture.—The following table shows the areas of the various irrigation systems and the areas under irrigated culture during 1960-61.

AREAS OF SYSTEMS AND OF LAND IRRIGATED: VICTORIA, 1960-61.  
(Acres.)

System.	Total Area.	Area Irrigated.									Total.
		Cereals.	Lucerne.	Other Fodder Crops.	Pastures.		Vineyards.	Orchards.	Market Gardens.	Fallow and Miscellaneous.	
					Sown.	Natural.					
<i>Goulburn-Loddon</i> ..	1,288,880	2,551	16,461	4,487	358,661	18,934	218	21,662	3,923	5,310	432,207
<i>Murray—</i>											
<i>Torrumbarry</i> ..	377,384	3,669	4,590	3,090	180,715	33,435	5,192	983	951	5,723	238,348
<i>Murray Valley</i>	274,123	100	7,965	391	91,722	1,412	29	5,465	535	211	107,830
<i>Irrigation Area</i>	80,754	..	471	206	571	207	36,243	2,578	398	916	41,590
<i>Pumping(a)</i> ..											
<i>Total</i> ..	732,261	3,769	13,026	3,687	273,008	35,054	41,464	9,026	1,884	6,850	387,768
<i>Other Northern Systems(b)</i>	19,735	95	1,400	33	8,860	835	..	3,710	746	12	15,691
<i>Southern Systems</i> ..	147,260	57	1,403	601	51,548	3,123	..	587	5,584	390	63,293
<i>Private Diversions(c)</i> ..	(d)	1,468	7,582	1,431	62,246	9,068	3,135	5,289	9,598	8,404	108,221
<b>Grand Total</b> ..	<b>2,188,136</b>	<b>7,940</b>	<b>39,872</b>	<b>10,239</b>	<b>754,323</b>	<b>67,014</b>	<b>44,817</b>	<b>40,274</b>	<b>21,735</b>	<b>20,966</b>	<b>1,007,180</b>

(a) Includes First Mildura Irrigation Trust. (b) Area of Campaspe District only. (c) Excludes private diverters in the Torrumbarry System, but includes all other private diverters along the Murray River. (d) Not available. (e) Incomplete; excludes Private Diversions and part of other Northern Systems.



5. *Irrigation Systems.*—(i) *Goulburn.* The storage capacity for this system is provided principally by Eildon Reservoir. The enlargement of the storage capacity of this reservoir was completed in 1956, enabling 600,000 acres to be irrigated when the necessary distributary works are completed. Water from Eildon Reservoir flows down the Goulburn River to the Goulburn Weir, located near Nagambie. This raises the summer level of the river about 45 feet for the purpose of diversion. From this Weir, water is diverted via the East Goulburn Main Channel direct to the irrigation areas around Shepparton. The western main channels from the Weir convey water to the Waranga Reservoir near Murchison in addition to supplying part of the large Rodney Area directly.

Two main outlet channels issue from Waranga Reservoir. One serves the western section of Rodney Area while the other serves Irrigation Areas as far west as Boort, and continues into the Wimmera-Mallee Domestic and Stock System to provide a supplementary supply as far as Beulah East (*see* (iv), below).

Water is also supplied to part of the Goulburn System from Cairn Curran Reservoir on the Loddon River, and from Tullaroop Reservoir on one of its tributaries. Eildon itself may be used to supplement supply to the districts along the Murray River.

The main products of the Goulburn system are dairy produce, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the area is about two-thirds of Australia's total.

(ii) *Murray River System.* The waters of the Murray River are used to supply an area of approximately 750,000 acres between Yarrowonga and Merbein. The districts between Yarrowonga and Swan Hill, except Tresco near Swan Hill, are supplied by gravitation and those west of Swan Hill by pumping.

The Murray Valley Irrigation Area, which is served from Yarrowonga Weir, comprises 274,000 acres west of Yarrowonga between the Murray River and Broken Creek. Dairy products, fat lambs and canning fruit are the main items produced.

The gravitation system based on Torrumbarry Weir (52 miles downstream from Echuca) serves an area of about 378,000 acres around Cohuna, Kerang, Koondrook and Swan Hill. (Also included in the Torrumbarry System is the Tresco District supplied by pumping from Lake Boga.) Dairying and fat lamb raising are the major industries. Vine fruits and vegetables are grown around Swan Hill and tobacco growing is increasing in importance.

West of Swan Hill lie four Commission districts with a pumped supply—Nyah, Robinvale, Red Cliffs and Merbein. These contain about 1,500 holdings devoted mainly to dried vine fruit although citrus fruit and table and wine grapes are of some importance. The area around Mildura is controlled by the First Mildura Irrigation Trust, the only irrigation trust operating in Victoria. It serves an irrigated area about half the combined size of the four Commission districts and has similar major products.

(iii) *Southern Systems.* The most important southern system is an area of 130,000 acres around Maffra and Sale, mainly devoted to dairying. This is supplied from Glenmaggie Reservoir on the Macalister River and from the natural flow of the Thomson River when the flow is adequate. Other important irrigation districts are located quite close to Melbourne around Werribee and Bacchus Marsh. These districts are intensively developed for dairying and vegetable growing.

(iv) *Wimmera-Mallee Domestic and Stock Supply System.* This system serves an area of 11,000 square miles or nearly one-eighth of the State. Without the artificial supply of water, development in this area would be meagre and hazardous owing to the constant threat of drought. The main supply is drawn from the Grampians storages and can be supplemented by water drawn from the Goulburn and Loddon Rivers, via the Waranga Western Channel referred to previously. Works in progress will make the Wimmera and Mallee independent of supplies from the Goulburn and Loddon Rivers in the near future. In addition, certain areas in the north of the system are supplied direct from pumps on or near the Murray River.

As far as possible, water is distributed in the winter and spring to reduce evaporation losses in 6,500 miles of Commission channels and 3,000 miles of farm channels. It is the responsibility of the 7,000 farmers served to provide sufficient storage capacity on their farms to meet their domestic and stock needs for the year. In addition to meeting rural and domestic demand, together with stock requirements, the Grampians storages provide a water supply for more than 40,000 people in 47 towns and are used to irrigate a small area near Horsham.

6. **Town Water Supplies and Sewerage.**—Details of the operations of the State Rivers and Water Supply Commission which supervises water supplies and sewerage for country towns and local government authorities are given in § 5 of Chapter XIX., Local Government, of this Year Book.

7. **Drainage, Flood Protection and River Improvement.**—The largest work in this category undertaken by the State Rivers and Water Supply Commission is the Koo-wee-rup—Cardinia Flood Protection District embracing 80,000 acres of a continuous depression along the seaboard of Westernport. Once useless, indeed a hindrance to communication, this area now yields primary products worth over £3 million a year.

By the River Improvement Act of 1948, the formation of local river improvement and drainage trusts under the supervision of the Commission has been greatly facilitated and since 1950, 20 such trusts have been formed. The importance of river improvement work is expected to continue to grow.

8. **Finance.**—The capital liability of the Commission at 30th June, 1961, was £98,500,000. Of this amount, £69,000,000 was expended on irrigation and £7,000,000 on domestic and stock supply systems. Both these amounts were financed entirely by the State. The total liability for urban supply was £14,000,000 of which 51 per cent. was borne by the State and the remainder by the districts concerned.

9. **Underground Resources.**—The active investigation of a survey of these resources is being carried out by the Victorian Department of Mines. Their deep drilling plant has located suitable water for town supplies at Portland, Heywood, Port Fairy, Timboon and Petersborough in aquifers ranging to 4,500 feet in the Western Districts Basin. Other drilling plants are engaged in other parts of the State and up to date over 100 wells have been successfully completed.

The Murray Artesian Basin underlies an area of 107,000 square miles, of which 27,000 square miles are in Victoria, 28,000 square miles in South Australia and 52,000 square miles in New South Wales. The quality of the water varies, and is suitable for domestic purposes in much of the south-western part of the basin in Victoria, but elsewhere is suitable only for limited stock use. There are innumerable bores in Victoria ranging to 6,000 feet in depth. Some individual bores can yield up to 2,000,000 gallons a day. In the last few years, the Department of Mines has expanded considerably the work of exploration for underground water.

10. **Future Programme.**—The main work under construction is the enlargement of the channels of the Goulburn System to distribute the extra water now available from Eildon, Cairn Curran and Tullaroop Reservoirs. A considerable amount of this work has already been carried out. Other large projects under construction are the enlargement of Eppalock Reservoir on the Campaspe River to a capacity of 250,000 acre feet and important new works in the area known as Carrum Drainage District.

11. **Hydro-electricity.**—Details of hydro-electricity potential and utilization in Victoria may be found in the previous chapter (*see p. 232-4*).

#### § 4. Queensland.

1. **General.**—(i) *Rainfall.* Particulars of the rainfall pattern of Queensland are given in Official Year Book No. 37, page 1122. (*See also* Chapter II.—Physiography, page 45, of this Year Book.)

(ii) *Administration.* In Queensland, the right to the use and flow of non-tidal surface water contained in, or flowing through or past the land of two or more occupiers, and all artesian and sub-artesian water vests in the Crown. Subject to certain reservations for Local Authority and other purposes, such water is controlled by a Commissioner of Irrigation and Water Supply.

For a description of the development of the present administration, *see* Official Year Book No. 42 and earlier issues.

(iii) *Water Utilization.* In Queensland, private diversions from watercourses, artesian wells, and in certain declared areas, sub-artesian wells, are subject to licence by the Commissioner. Dams and weirs are constructed by the Commissioner to safeguard supplies in streams from which private pumping for irrigation takes place, and also to provide water for Irrigation Areas constructed by the Commissioner.

2. *Irrigation.*—(i) *General.* Irrigation as a means of stabilizing and increasing agricultural production continues to receive attention in Queensland. As a large portion of Queensland is tropical, the State's crops differ considerably from those of other States. Sugar cane is the greatest individual crop, representing in value approximately 46 per cent. of total agricultural production. Approximately 15 per cent. of the sugar cane acreage was irrigated in 1960-61, which represented some 40 per cent. of the total irrigated area in Queensland. Queensland is also Australia's major tobacco-producing State, and plans are in hand to increase greatly the annual production of this crop by means of development under irrigation. The area of tobacco irrigated during 1960-61 represented 96 per cent. of the total plantings of this crop in the State.

Most irrigation in Queensland is undertaken by private farmers operating under licence to obtain water by pumping from streams or from natural underground storages. There has been considerable development during recent years of individual water conservation projects (water harvesting) to provide storage for irrigation of pastures, fodder crops and small crops, and orchards. Where available, electricity is the most popular source of power for pumping and the principal areas supplied with electricity are the Burdekin Delta, the Lockyer Valley, and the Darling Downs.

It has been estimated that about two-thirds of the total area irrigated in Queensland is supplied from underground water. The main areas where these supplies have been developed extensively are the Burdekin Delta (Ayr-Home Hill Area), the Pioneer Valley, Callide Valley, Lower Burnett (Bundaberg Area), Lockyer Valley and Redland Bay. Similar development is taking place in other areas such as parts of the Darling Downs.

Furrow irrigation is used for cotton, sugar cane, most tobacco and some other crops. Spray irrigation is used widely on fruit, vegetables, fodder crops and a small part of the tobacco crop. Spraying is well suited for the application of water on deep soils by small pumping plants, particularly when the quantity of water available is limited. Use of the border check method in the irrigation of pasture and fodder crops has proved successful and is increasing.

The following table shows for each division of the State the number of irrigators and the areas irrigated for the year ended 31st March, 1961.

AREA OF LAND IRRIGATED: QUEENSLAND, 1960-61.

Division.	No. of Irrigators.	Area Irrigated (Acres).							Total.
		Vegetables.	Fruit.	Sugar-cane.	To-bacco.	Cot-ton.	Other Crops.	Pas-tures.	
Southern Queensland ..	5,518	24,313	4,686	17,309	3,218	721	42,367	11,876	104,490
Central Queensland ..	609	1,089	256	..	7	1,819	6,257	1,679	11,107
Northern Queensland ..	1,712	4,296	816	51,678	8,841	135	1,515	2,096	69,377
<b>Total .. ..</b>	<b>7,839</b>	<b>29,698</b>	<b>5,758</b>	<b>68,987</b>	<b>12,066</b>	<b>2,675</b>	<b>50,139</b>	<b>15,651</b>	<b>184,974</b>

The pattern of irrigation in Queensland is unlike that in southern States. The spring to autumn "irrigation season" of the temperate southern irrigated lands is not applicable, as round-the-year irrigation is required throughout most of the State, the timing and duration of the summer "wet" season being too variable to enable a definite non-irrigation season to be fixed.

Two of the more important areas of development by irrigation by private pumping are the Lockyer Valley and Burdekin River Delta.

(a) *Lockyer Valley.* West of Brisbane and within 30 miles of that metropolitan market is the Lockyer Valley, which is portion of the Brisbane River Basin. The valley comprises an extensive flood plain where heavy black alluvial soil thickly overlies gravels

and sands carrying water suitable for irrigation. Despite a mean annual rainfall of 30 inches, the variation is great, and irrigation is necessary for continuous agricultural production. Surveys suggest that of some 60,000 acres of land highly suitable for irrigation only about 30 per cent. is under irrigation. Most of the farmers operate electric pumps for irrigation purposes, and a special policy designed to encourage such development is fostered by the Southern Electric Authority of Queensland. The Irrigation and Water Supply Commission has constructed a number of small weirs on Lockyer Creek with a total storage of 1,370 acre feet. These also tend to augment and conserve underground supplies. The Irrigation Research Station established at Gatton has been converted to a Regional Experimental Farm under the control of the Department of Agriculture and Stock.

The Lockyer Valley produces a substantial proportion of Queensland's onions, potatoes, pumpkins, lucerne, hay, green fodder, maize and dairy products.

(b) *Burdekin River Delta.* The Burdekin River, which enters the sea between Townsville and Bowen, is a major factor in the life of North Queensland. In most years, heavy floods from a catchment twice the size of Tasmania cause extensive damage and traffic disruptions. On the other hand, the fertile delta area, with its underground water supplies at shallow depth, has contributed greatly to the agricultural prosperity of North Queensland. The average annual rainfall of this area is some 41 inches, but the major part falls in the months December to March. Consequently, sugar growers and other farmers have tapped the underground water resources of the delta to obtain supplies in the dry periods. Sugar is the main crop irrigated, though citrus fruits, pineapples, vegetables and tobacco are also irrigated. The irrigated area is in excess of 30,000 acres, up to 1,000 acre feet of water being drawn daily from underground sources.

In the Home Hill-Inkerman areas on the south side of the Burdekin, water is obtained from shallow wells by electric pumps supplied from a local power station controlled by the Townsville Regional Electricity Board. Around Ayr, on the north side of the river, electric power from the mains of the Townsville Regional Electricity Board is now being used in place of individual internal combustion engines. At both Home Hill and Ayr, water for domestic supply is raised by a windmill on each property.

In 1940, the Burdekin River Trust was formed to safeguard the sugar areas of the delta from erosion and floods. An irrigation research station studies the development of pastures and irrigated crops under local conditions.

(ii) *Government Projects.* The Irrigation and Water Supply Commission has constructed and operates two dams and forty-one weirs with a storage capacity of 452,776 acre feet. Water from these storages supplies four Irrigation Areas operated by the Commission and supplements numerous streams from which pumping for private irrigation takes place.

(a) *Mareeba-Dimbulah Irrigation Area.* The existence of large areas of sandy soils suitable for tobacco production in the valleys of the Walsh and Barron Rivers in the neighbourhood of Mareeba and Dimbulah led to large-scale investigations into the possibility of irrigation development in the area.

During 1952, a report on the utilization of waters of the Walsh and Barron Rivers was prepared, and the establishment of an irrigation undertaking approved by the Queensland Government. The projected undertaking provided for construction of a major storage at Tinaroo Falls on the Barron River to store 330,000 acre feet, and construction of irrigation works to serve 78,000 acres commanded by this storage, of which 49,000 acres on 910 tobacco farms and 180 mixed farms will be irrigated annually. Construction of Tinaroo Falls Dam has been completed, and work is progressing on the construction of irrigation works. Tobacco will be the basic crop, while peanuts, vegetables, maize, cotton and stock fattening also appear suitable. One hundred and four miles of channels have been constructed, and irrigation water from Tinaroo Falls Dam is available to 335 farms.

In 1960-61, the value of tobacco leaf sold was £4.8 million from 425 farms.

(b) *Burdekin River Irrigation Area.* A major multi-purpose scheme, involving irrigation, flood control and hydro-electric power generation, has been investigated by the various interested government departments under the general supervision of the Burdekin River Authority. The development envisaged includes a dam storing 6,584,000 acre feet, which would make water available for the irrigation of at least 250,000 acres. The principal industries anticipated are tobacco growing, dairying, and cattle-fattening, with sorghum, sun-flowers, peanuts, cotton and sugar-cane as other possible forms of production.

The Clare Irrigation Area, constituted in 1949, the Millaroo Irrigation Area, constituted in 1952, and the Dalbeg Irrigation Area, constituted in 1953, representing the first stage of the major Burdekin River Irrigation, Hydro-electric and Flood Mitigation Project, are at present predominantly used for tobacco production. Located from 25 to 65 miles upstream from the mouth of the Burdekin, these areas comprise 18,862 acres, and obtain irrigation waters from central pumping stations drawing on the flow of the Burdekin. A temporary storage of 7,670 acre feet capacity has been constructed about 79 miles upstream from the mouth of the Burdekin to augment supplies. At 30th June, 1961, 149 farms were occupied, and total production for 1960–61 was valued at £883,331. Construction of further stages of the scheme has been deferred indefinitely.

(c) *Dawson Valley Irrigation Area.* The Dawson River, a 392-mile long tributary of the Fitzroy River, rises in the Carnarvon Range and joins the Mackenzie River to form the Fitzroy River, 50 miles west of Rockhampton. Lands bordering the river in its northerly course of about 170 miles before its confluence with the Mackenzie River are commonly termed the Dawson Valley. A scheme for the development of the Dawson Valley providing for the irrigation of 70,000 acres was inaugurated in 1923. Storage for the scheme was to be provided by a dam of 2,500,000 acre feet capacity at Nathan Gorge. Much investigation and survey work on the scheme was carried out, but the general financial depression and limited loan funds brought about the cessation of this work. However, the initial step in construction has been completed, comprising a weir on the river at Theodore and irrigation works to serve an area of 3,500 acres supplied from a central pumping station. Two additional weirs have since been built, giving a total storage of 10,280 acre feet and covering some 61 farms in production, returning an estimated £350,000. Pasture, vegetables, cotton, fruit and dairy products are the principal produce. Recently, further attention has been given to the former plans for the valley, and earlier work has been under close scrutiny as a prelude to future development. Construction of works to serve some 2,400 acres at Gibber Gunyah, adjacent to the existing Theodore Area, has been completed, and 17 farms have been occupied.

(d) *St. George Irrigation Area.* The St. George Irrigation Area comprises 18 farms engaged mainly on raising fat lambs in conjunction with irrigated pastures. Water supply for the area is obtained by pumping from the combined weir and road bridge on the Balonne River at St. George.

(e) *Warrill Valley Project.* Moogerah Dam on Reynolds Creek (a tributary of Warrill Creek) is of double curvature thin arch construction 105 feet high to spillway crest level, and will serve some 11,000 acres of the Valley by private diversion of water released from its 73,000 acre feet storage into Reynolds and Warrill Creeks.

(f) *Mary Valley Project.* Township accommodation and facilities at Borumba Dam site have been completed by the commission and the construction of the Dam on Yabba Creek by contract is proceeding satisfactorily. This is a rockfill structure with an upstream impermeable concrete membrane 144 feet high above stream bed. In its initial stage, storage capacity will be 34,500 acre feet with provision for later increase to 80,000 acre feet. In its first stage, water released from the dam will be available to maintain the town water supply for Gympie, and will allow extension of the area irrigated by private diversion from the Mary River to some 18,000 acres.

(g) *Upper Condamine Project.* Work has commenced on the establishment of township accommodation and facilities at Leslie Dam Site. This will be a mass concrete gravity dam 95 feet above foundation level. In its initial stage, storage capacity will be 38,500 acre feet with provision for later increase to 87,000 acre feet. Water released from the dam will be available for irrigation of sections of the Darling Downs downstream the Condamine River as far as Cecil Plains. In addition, the City of Warwick will be supplied by pipeline from Leslie Dam.

(h) *Border Rivers Project.* The development of the rivers constituting portion of the border between Queensland and New South Wales is under the authority of the Dumaresq-Barwon Border Rivers Commission on which each State is represented. For information on the project see page 257.

3. **Great Artesian Basin.**—(i) *General.* Western Queensland, beyond the 20 inch rainfall belt, is predominantly pastoral and is mainly dependent for water supplies on artesian and sub-artesian bores, and where surface storage is not readily available, on excavated tanks. The Great Artesian Basin in Queensland corresponds approximately with the area lying west and south of the Great Dividing Range, excluding the Cloncurry Mineral Field and the Barkly Tableland. It comprises 430,000 square miles or about two-thirds of the total State area of 667,000 square miles.

(ii) *Artesian Water.* Although the number of bores has gradually increased over the years, the total flow of all bores has declined since the peak flow of 351 million gallons a day. This decline gave rise to the fear that supplies from the basin would eventually cease. As a result, in 1939, the Queensland Government appointed a committee to ascertain the nature and structure of the Great Artesian Basin, with particular reference to the problem of diminishing supply. The final report, which was presented in 1954, indicated that the majority of the Committee expected the output to continue its decline during the next sixty years, at which stage the flow from the remaining flowing bores would be of the order of 110 million gallons a day. The discharge from windmills, springs and other leakages, together with the underflow past the Queensland borders would then be about 20 million gallons a day. It was further expected that the total discharge, of the order of 130 million gallons a day, would be in equilibrium with the recharge of the basin.

It was anticipated that numbers of bores on higher ground would cease to flow during the next sixty years and the area served by the flowing bores would contract by perhaps twenty per cent.

Up to 30th June, 1961, 2,709 artesian bores had been drilled of which 1,816 were still flowing. The total depth drilled amounted to 3,816,910 feet and the estimated daily flow was 208 million gallons. Although very few bores exceed 2,000 feet in depth (the average depth is 1,408 feet) and a new bore greater than 3,000 feet deep is exceptional, the deepest bore recorded was sunk to 7,009 feet. Some bores which had been classified as "ceased" have been inspected and found to be still flowing, while other ceased bores have responded to deepening and have recommenced flowing. Both the pressure and flow of artesian bores is steadily diminishing, the rate of decrease varying widely throughout the basin. Present average rates of diminution are:—pressure 1–2 feet/head; total flow 2–3 per cent. per annum.

The greater part of the artesian discharge is distributed by open earth channels which total some 15,500 miles in length. A large proportion of the water flowing along these channels is lost by soakage and evaporation, less than 10 per cent. being actually used by stock. The amount of loss through soakage depends on several factors, including the permeability of the earth, the rate of evaporation (which varies from season to season), and the shape and maintenance of the drains. More effective utilization of this water could be obtained by the use of piping to overcome the loss by soakage and evaporation in the open earth channels.

Although artesian beds underlie a large area of the State, only 79,000 square miles are primarily watered by bore drains. The remaining area is watered by artesian bores (with small or no flow and limited drains), sub-artesian bores, excavated tanks, dams and natural waterholes. In many districts, artesian bores do not provide economical watering facilities because of depth, limited area to be watered, and difficult terrain for distribution of water by drains.

The quality of artesian water from the greater part of the basin is not suited for prolonged use for irrigation on most soils, nor are the supplies sufficient for both large scale irrigation and stockwatering. Practically the whole of the final steady-rate discharge from flowing bores will be needed for the watering of stock.

A programme of strict conservation, involving the restriction of bore flows and the improvement of bore drains, would result in smaller shrinkage of the area served by flowing bores. Such a scheme would actually cost less than the installation and maintenance of pumps or other watering facilities which would be required to provide alternative water supply as additional bores ceased to flow because of a policy of non-restriction. On the other hand, strict conservation would not increase the amount of water ultimately available as perennial flowing supply, and would in fact decrease the amount of water passed from intake beds to aquifers within the basin by flattening the hydraulic gradient. It is considered that the benefit from strict conservation was not sufficiently great, nor sufficiently concrete, to warrant implementation.

Shallow sub-artesian supplies, which come from beds unconnected with artesian beds, are of variable quality and volume. These supplies are available at depths of less than 1,000 feet over a large area of the basin. Some 9,740 sub-artesian bores, within the Great Artesian Basin, have been registered in Queensland. An essential practical consideration is that the main artesian beds are continuous and the sub-artesian beds are not continuous.

Detailed surveys of numerous other sources of underground water in the State, such as the smaller sedimentary basins, the Cainozoic alluvial deposits, recent coastal sands and fractured older rocks, still largely remain to be carried out.

(iii) *Bore Water Areas.* The constitution of Bore Water Areas was inaugurated in 1913 to aid pastoral settlement in districts where large flows were available at a cost beyond

individual capacity, and to conserve artesian supplies by fully utilizing flows from the existing bores on the land resumed for closer settlement. Bores and drains are constructed from loan funds repayable over a period of years. The areas are administered by Local Boards or by the Commissioner of Irrigation and Water Supply, acting as a Board. Rates are levied to meet interest, redemption, maintenance and administration costs. Statistics for the year 1960-61 are: Areas constituted, 72; administered by Commissioner, 54; administered by local boards, 6; number abolished, 12; area benefited, 3,842,297 acres; average rate per acre, 1.01d.; number of flowing bores, 58; total flow, 24,868,000 gallons a day; drains served, 2,627 miles.

4. **Other Basins.**—Two major areas bordering the Great Artesian Basin in Queensland carry artesian water. One is located on the western slopes of Cape York Peninsula and the other in the Dawson-Mackenzie River (Bowen) Basin. A small area in which flowing wells occur (the Gatton Basin) extends from Gatton to the coast.

Sub-artesian water supply from the Barkly Basin which extends into western Queensland from the Northern Territory, is referred to in the section dealing with the Northern Territory.

5. **Stock Watering.**—(i) *General.* A predominant interest in the field of water conservation has been the provision of stock and domestic water supplies in Queensland's great pastoral areas which contain more than 40 per cent. of the Commonwealth's cattle and about a seventh of the sheep. In addition to the stabilization of water supplies in the pastoral areas, the provision of water along stock routes for travelling stock has received much attention in recent years.

(ii) *Main Stock Routes.* During 1935, a scheme was inaugurated to water adequately stock routes in the western portion of the State including main trunk routes connecting Eromanga to Burketown, Charleville to Normanton, and Clermont to Einasleigh, with branches to railheads, a total distance of 3,117 miles. Watering facilities were also provided on subsidiary routes. Under the Stock Routes and Rural Lands Protection Act of 1944, a co-ordinating board was constituted, representative of Government departments and pastoral interests, under the direction of the Minister for Lands and with an officer of the Department as superintendent. His duty was, *inter alia*, to investigate and implement a long-range, co-ordinated plan for adequate watering of all stock routes throughout the State. Natural waters are being supplemented by artificial facilities at intervals of about 9 miles. Construction is supervised by the Irrigation and Water Supply Commission and by local authorities. On completion, facilities are vested in local authorities for control and maintenance. From 1935 to 30th June, 1961, 536 facilities had been completed, and at 30th June, 1961, 40 facilities were under construction or investigation.

(iii) *Channel Country Stock Routes.* Extensive investigations have been made of the Channel Country fed by inland rivers in the south-western corner of the State. This country is intersected by shallow and irregular flood channels through which huge volumes of flood waters pass in favourable seasons. Consequent on the flooding, a heavy growth of natural pastures is produced on the flooded lands, providing feed in quantities far in excess of that required for the normal stock population of the area. If flooding could be made more reliable by means of storages to create artificial floods, the pastoral resources of the area would be enormous. However, inquiries directed on these lines have revealed that little can be done to increase or stabilize the turn-off of fat cattle by artificial storage.

At 30th June, 1952, 41 watering facilities at an estimated cost of £300,000 had been proposed under a Commonwealth-State agreement for stock routes through, and in the approaches to, the Channel Country. By 30th June, 1961, 35 had been completed, while one sub-artesian bore and one excavated tank were under construction.

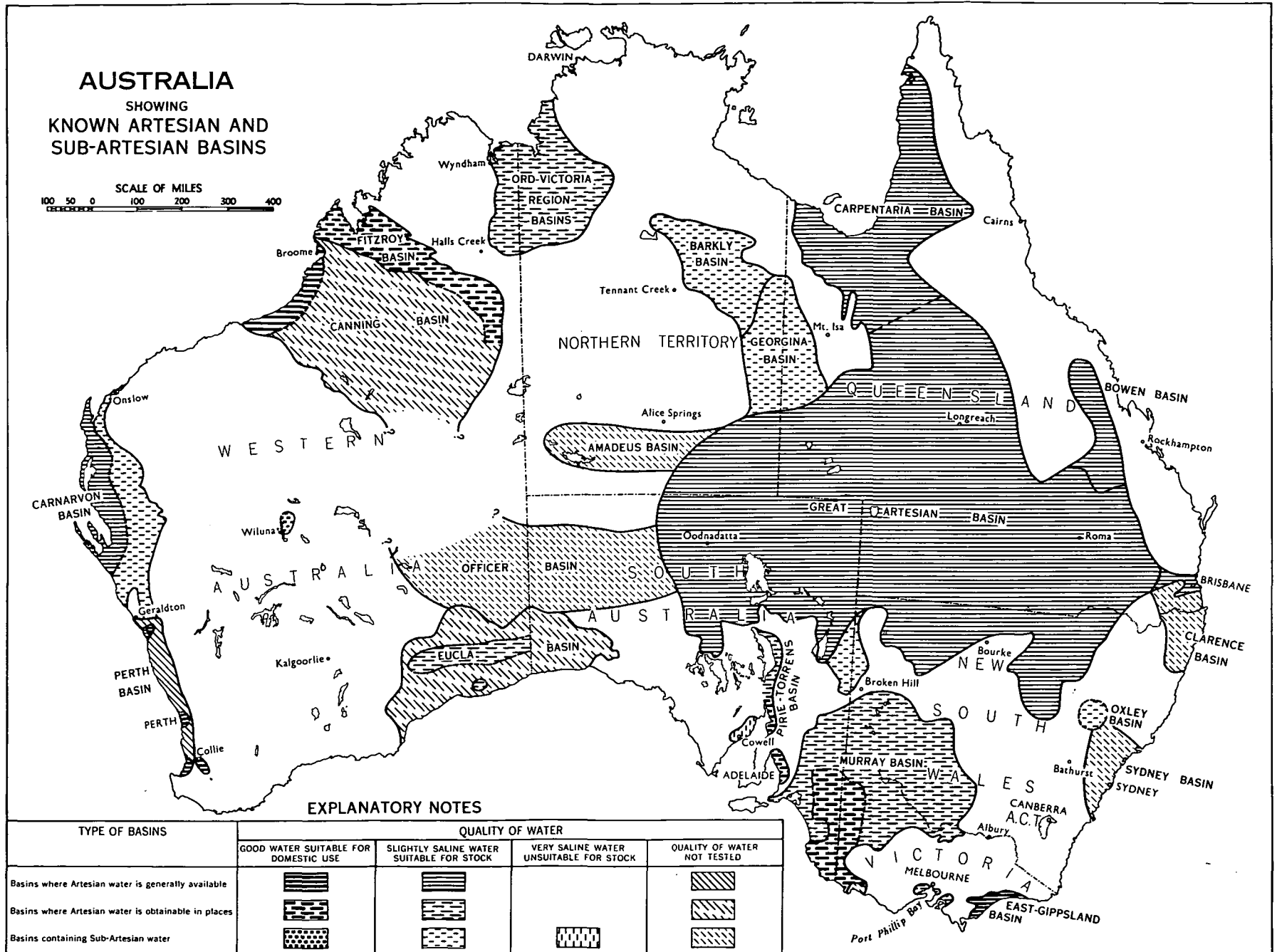
6. **Technical and Financial Assistance to Farmers.**—The year 1960-61 was the third year of operations under The Farm Water Supplies Assistance Act of 1958. The purpose of the Act is to:—

- (i) Improve the standard of stock and domestic water supply installations on individual holdings;
- (ii) Encourage greater development of individual irrigation schemes by—
  - (a) Modern methods of water conservation and water harvesting,
  - (b) Development and utilization of sub-surface supplies,
  - (c) Ensuring that such development is soundly planned, technically and economically;
- (iii) Provide greater stability of production and avoid losses in time of drought together with generally increasing production.

# AUSTRALIA

SHOWING  
KNOWN ARTESIAN AND  
SUB-ARTESIAN BASINS

SCALE OF MILES  
100 50 0 100 200 300 400



### EXPLANATORY NOTES

TYPE OF BASINS	QUALITY OF WATER			
	GOOD WATER SUITABLE FOR DOMESTIC USE	SLIGHTLY SALINE WATER SUITABLE FOR STOCK	VERY SALINE WATER UNSUITABLE FOR STOCK	QUALITY OF WATER NOT TESTED
Basins where Artesian water is generally available				
Basins where Artesian water is obtainable in places				
Basins containing Sub-Artesian water				

Compiled from map "Underground Water" (1953) of the Atlas of Australian Resources and later information.



To achieve this purpose the Act authorizes the provision of technical and financial assistance to landowners for the investigation, design and installation of approved works of farm water supply. All projects for which finance is provided under the Act are carried out under Commission supervision, and for the payment of a small charge the Commission will supervise the construction of works designed by its staff, but for which the landowners do not require financial assistance under the Act.

During 1960-61, 721 requests (463 for technical assistance only, and 258 for technical and financial assistance) were dealt with in addition to advice on a further 641 requests on groundwater supplies. An amount of £290,340 was approved for advances under the Act in 1960-61.

7. **Hydro-electricity.**—An outline of Hydro-electricity Schemes operating in Queensland is given in the previous chapter (*see* p. 236).

## § 5. South Australia.

1. **General.**—(i) *Rainfall.* Brief particulars of the climatic conditions in South Australia are given on page 1129 of Official Year Book No. 37. (*See also* Chapter II.—Physiography, page 45 of this Year Book.)

(ii) *Administration.* Water supplies, other than irrigation works, are under the control of the Engineering and Water Supply Department, which administers the Waterworks Act governing the supply of water through mains in water districts for townships and farm lands. The Water Conservation Act provides for the construction of storages in non-reticulated areas, and authorizes the Minister concerned to “divert and impound the water from any streams or springs or alter their courses, and take water therefrom, or any other waters as may be found in, under, or on, any land entered upon for the purpose of supplying water to the inhabitants of any water district”.

(iii) *Methods of Catchment and Conservation.* Early in the history of the State the rights to all running streams, springs and “soaks” were vested in the Crown. The Water Conservation Act was passed in 1886 and, up to 30th June, 1961, more than 550 dams, tanks and “rainsheds” had been built or acquired by the State, in addition to 460 wells and 340 bores, at a total cost of £1,774,888. The “rainsheds” are timber frameworks roofed with galvanized iron to catch precipitation which is delivered to storage tanks and is available for surrounding settlers and travellers. Rainshed catchments vary from a few hundred square feet to four acres, discharging into tanks ranging from 2,000 to 500,000 gallons. Over most of the State, extraordinary precautions are taken to counteract evaporation, and pipelines in preference to open channels and covered storages are used for this purpose. Meters are attached to practically all services to check usage by individual consumers.

2. **Irrigation.**—In South Australia, irrigation is almost exclusively confined to the Murray Valley. Except for that held in various lock pools, no water from the Murray is stored in South Australia. Water is either pumped onto the land or gravitated from the river. The upper Murray of South Australia and the Mildura area of Victoria formed the cradle of Australian irrigation. South Australian irrigation commenced with an agreement between the Government and the Chaffey brothers in 1887 whereby an area of land at Renmark was made available for the establishment of certain irrigation works. Including land allotted for War Service Land Settlement purposes, the Department of Lands administers in the Murray Valley an area of 32,933 acres of irrigable high land, together with 9,532 acres of reclaimed swamp and 166,870 acres of non-irrigable land in the irrigation areas, and 29,794 acres of land temporarily leased and reserved for commonage or other purposes amounting in all to 239,129 acres. In addition, the Renmark Irrigation Trust controls 20,557 acres, of which 9,300 are irrigated. Water used for irrigation purposes in 1960-61 in the high land irrigation areas controlled by the Department of Lands was approximately 100,000 acre feet and, in addition, approximately 41,000 acre feet were applied to the reclaimed areas. In the Renmark area, approximately 35,000 acre feet of water were used for irrigation in 1960-61. The production of the upper Murray areas is almost exclusively fruit and vines. Principal crops are sultanas, currants, leixias, apricots, peaches, nectarines, pears and figs (mainly for dried fruit), wine grapes, and citrus fruits. Before irrigation, these semi-arid lands were of little productive value.

Renmark Irrigation Trust is administered by a local board of management consisting of seven members. This area differs from other South Australian irrigation areas in that

the land is freehold instead of leasehold and is self-contained and self-controlled. Every settler is entitled to vote for the election of Trust members. The Trust maintains 100 miles of channel for reticulation to 9,300 acres.

The following table shows the acreage devoted to various crops in the government-controlled and Renmark Irrigation Trust areas on the upper Murray, and in the government-controlled reclaimed swamp districts near the mouth of the Murray, which are devoted to dairying. It should be noted that these acreages are exclusive of areas of land irrigated privately by landowners. In 1960-61, a total of 102,023 acres under irrigation was reported in the annual Agricultural and Pastoral Census, a figure which includes areas administered by the Department of Lands and the Renmark Irrigation Trust.

**LAND IRRIGATED IN AREAS ADMINISTERED BY THE DEPARTMENT OF LANDS  
AND THE RENMARK IRRIGATION TRUST, 1960-61.**

(Acres.)

Area.	Vine Fruits.	Tree Fruits.	Citrus Fruits.	Sown Pastures.	Total
<b>DEPARTMENT OF LANDS.</b>					
<i>Orchard Land—</i>					
Berri .. .. .	4,938	1,159	1,343	..	7,440
Cadell .. .. .	566	191	130	..	887
Waikerie .. .. .	1,829	624	1,399	..	3,852
Cobdogla .. .. .	4,022	220	290	..	4,532
Moorook .. .. .	320	165	259	..	744
Kingston .. .. .	204	77	256	..	537
Mypolonga .. .. .	..	274	494	..	768
Chaffey—Ral Ral Division .. .. .	782	206	14	..	1,002
<i>Total</i> .. .. .	<i>12,661</i>	<i>2,916</i>	<i>4,185</i>	<i>..</i>	<i>19,762</i>
<i>War Service Land Settlement—</i>					
Cooltong Division .. .. .	380	247	490	..	1,117
Loxton area .. .. .	3,059	1,108	2,205	113	6,485
Loveday Division .. .. .	224	36	21	..	281
<i>Total</i> .. .. .	<i>3,663</i>	<i>1,391</i>	<i>2,716</i>	<i>113</i>	<i>7,883</i>
<i>Reclaimed Swamp Land—</i>					
Monteith .. .. .	..	..	..	992	992
Mypolonga .. .. .	..	..	..	1,314	1,314
Wall .. .. .	..	..	..	487	487
Burdett .. .. .	..	..	..	109	109
Mobilong .. .. .	..	..	..	429	429
Long Flat .. .. .	..	..	..	338	338
Neeta .. .. .	..	..	..	561	561
Pompoota .. .. .	..	..	..	426	426
Cowirra .. .. .	..	..	..	571	571
Jervois .. .. .	..	..	..	3,636	3,636
<i>Total</i> .. .. .	<i>..</i>	<i>..</i>	<i>..</i>	<i>8,863</i>	<i>8,863</i>

IRRIGATION AREAS ADMINISTERED BY THE DEPARTMENT OF LANDS  
AND THE RENMARK IRRIGATION TRUST—*continued.*

(Acres.)

## RENMARK IRRIGATION TRUST.

Area.	Vine Fruits.	Tree Fruits.	Citrus Fruits.	Fodder and Vegetables.	Total.
<i>Renmark Irrigation Trust</i>	5,366	2,477	1,000	457	9,300

3. **Water Supply Schemes.**—(i) *Adelaide Metropolitan Water Supply.* Adelaide derives its water from five reservoirs in the nearby Mount Lofty Ranges, and by means of pumping stations and a pipeline from the Murray River at Mannum. The reservoirs have a storage capacity of 51,497 acre feet. At present Mount Bold Dam is being raised to store an additional 18,365 acre feet. Additional pumps have been installed to give the pipeline a capacity of 65,000 acre feet a year.

A concrete arch dam is nearing completion at Myponga, and this will impound 22,000 acre feet of water. This storage will supply development projects south of Adelaide. To the north, the new city of Elizabeth receives water from South Para Reservoir in the Barossa system and from the metropolitan storages. The consumption for the whole area for the year 1960-61 was 80,735 acre feet, equivalent to a consumption of 96 imperial gallons per head per day. The capital cost to 30th June, 1960 was £36,573,780.

(ii) *Country Reticulated Supplies.* Areas extending to a distance of 90 miles north of Adelaide are supplied from the Warren, Barossa, and South Para Reservoirs (50,350 acre feet) in the Barossa Ranges. Agricultural towns and areas further north are supplied from Beetaloo, Bundaleer and Baroota Reservoirs, and the Morgan-Whyalla Pipeline. There is a supplementary supply from the Mannum-Adelaide pipeline through the Warren Reservoir. The 223-mile pipeline from Morgan to Whyalla can remove up to 10,000 acre feet of water a year from the Murray River. Work is commencing on a second main of more than double the capacity. A large part of Eyre Peninsula is supplied from the 240-mile Tod River Main. The 104-mile East Coast main will obtain water from the Tod River reservoir (9,160 acre feet), the sand beds of the Uley-Wanilla Basin and the newly developed Lincoln Basin. Along the Murray River, all towns are supplied from the river. Water from the river is also reticulated through adjacent farmlands for up to 30 miles. Surface and underground resources have been developed to supply most rural centres not covered by the larger schemes.

Water conservation and distribution works in country districts have cost £36,675,924 (exclusive of river control and irrigation works on the Murray River) and contain 6,889 miles of water mains.

4. **Underground Water.**—The occupied portion of South Australia is, on the whole, well endowed with underground water, and the extent of the several artesian basins is reasonably well known. There are also considerable areas, notably in the south-east of the State, in which ground water occurs. Quality varies widely, but a great deal is at least useful for watering stock, and this is the major use to which it is put.

The deepest portion of the Great Artesian Basin (in the north-east) is not extensively developed because development costs are high in proportion to the carrying capacity of the arid land. However, deep boreholes have been drilled by the Government to provide watering places along stock routes, and pastoralists rely largely on supplies from non-pressure aquifers at shallower depths. Marree township is supplied from this source, its deepest bore being 575 feet.

The use of the waters of the Murray Basin is essential to settlement in the Murray Mallee country and in the south-east of the State, especially for farms and township supplies. Mount Gambier draws its water from Blue Lake, which is fed from the Basin. Bores are used to supply Naracoorte, Bordertown, Pinnaroo, Penola, La.neroo, Coonalpyn, Nangwarry, Mount Burr, Kingston (S.E.), Parilla and Karoonda. The deepest bore in this Basin is 1,805 feet. Other towns which are supplied from bores include Mount Barker, Peterborough (supplemental to supplies from the Morgan-Whyalla pipeline), Warooka, Willunga and Port Lincoln as part of the Eyre Peninsula supply system.

Pastoralists, farmers, market gardeners and others have been assisted with expert advice on drilling, and the Government maintains and operates 30 drilling plants which to date have developed an underground water supply potential in excess of 140 million gallons of water per diem throughout the State. The whole of the Murray River Basin has been examined critically to ascertain the extent of land which could be used for lucerne, and considerable tracts of previously undeveloped country in the upper south-east, Kangaroo Island and Yorke Peninsula have been found to have usable water and are now being opened up.

Ground water resources surveys are undertaken continually by departmental geologists, the results being published in various bulletins and reports issued from time to time. The *Groundwater Handbook* published in 1959 by the Department of Mines provides a comprehensive detailed review of the State's ground water resources.

5. **Farm Water Schemes.**—While the Department of Mines and the Engineering and Water Supply Department give assistance to individual farmers in the provision of supplies from underground sources, a great part of the farming areas is supplied with water under pressure from the extensive distribution systems connected to various reservoirs or the Murray River.

6. **South-Eastern Drainage.**—Nature has played an ironic prank in the south-east of South Australia where it has been necessary to construct costly drainage schemes to dispose of surplus water. The area comprises a series of valleys or flats separated by low ranges parallel to the coastline which prevent natural drainage. The highest "range" is approximately 50 feet above the adjacent flat and the most easterly flat, some 50 miles from the coast, is 200 feet above sea level. The ranges are generally of poor soil or stony but the flats are fertile.

The Millicent Drainage System, completed in 1885, reclaimed 100,000 acres. The South-Eastern Drainage Area System, which is controlled by the South-Eastern Drainage Board, comprises drains constructed by the Government at national cost, plus those undertaken by the Government in co-operation with the landholders. The area is bounded on the east by the State boundary, and on the west by the sea coast. It extends from about 55 miles north of Kingston southerly to near Millicent and Kalangadoo. Up to 1948, about 430 miles of drains had been provided at a cost of £720,876. These were of a developmental nature intended more to promote the rapid removal of floodwaters than to provide a complete system of drainage. Since 1948, the complete drainage of the Biscuit, Reedy Creek and Avenue Flats in the Western Division has been in progress. The southern section of 260,000 acres, involving an excavation of 8,100,000 cubic yards, has been completed. Work is in progress on the Northern Section of 140,000 acres where 23 miles of the main outlet drain, involving the excavation of nearly 2 million cubic yards of material, have been completed. In addition, work has commenced on the construction of the main outlet drain for the Eastern Division where an area of 727,000 acres of land will benefit by drainage.

The capital cost of drainage in the South-Eastern Drainage Area System to 30th June, 1961 was £5,728,886, and the length of drains constructed was 715 miles.

## § 6. Western Australia.

1. **General.**—(i) *Rainfall.* Brief particulars of the climatic conditions in Western Australia are given on page 1133 of Official Year Book No. 37. (*See also* Chapter II.—Physiography, page 45 of this Year Book.)

(ii) *Administration.* Natural water rights in the State, with few exceptions, are vested in the Crown. Irrigation districts are administered by the Minister for Water Supply, Sewerage and Drainage under the Rights in Water and Irrigation Act 1914–1954, and he is advised by an Irrigation Commission representing the local irrigationists and governmental technical and financial branches. Water supplies in country areas in Western Australia coming under the provisions of the Water Boards Act 1904–1954, and the Country Areas Water Supply Act 1947–1960 are controlled either by the local authority or by the Water Supply, Sewerage and Drainage Department. Those controlled by the Department (except for some local water supplies to country towns still under the provisions of the Water Boards Act) form the Country Areas Water Supply, consisting of the Goldfields and Agricultural Water Supply, the Great Southern Towns Water Supply and local water supplies to country towns and districts. The Department also controls individual water supplies serving isolated mines, stock routes, and agricultural areas.

2. Irrigation.—(i) *South-West*. The main irrigation areas are situated along the South-Western Railway between the towns of Waroona (70 miles from Perth) and Dardanup (116 miles from Perth).

The Water Supply, Sewerage and Drainage Department controls three irrigation districts—Waroona, Harvey and Collie River—the total area irrigated in these districts during 1960–61 being 22,603 acres and the total water used 88,600 acre feet. The total of acre waterings (that is, the number of acres watered multiplied by the average number of waterings) was 141,379. Investigations are being carried out with a view to irrigating a further 30,000 acres south of the Collie River Irrigation District.

The Waroona Irrigation District (3,417 rated acres) is supplied from Samson Brook Dam (7,437 acre feet capacity) and Drakes Brook Dam (1,855 acre feet), the Harvey Irrigation District (14,369 rated acres) from Stirling Dam (46,191 acre feet) and the Harvey Weir (8,372 acre feet), and the Collie River Irrigation District (9,269 rated acres) from the Wellington Dam (150,107 acre feet). The Logue Brook Dam (19,246 acre feet) within the Harvey Irrigation District is currently under construction.

The following table shows acre waterings supplied to crops in the irrigation districts of Harvey, Waroona and Collie River during the seasons 1956–57 to 1960–61.

IRRIGATION, WESTERN AUSTRALIA: ACRE WATERINGS(a).

Year.	Pasture.	Fodder.	Potatoes.	Other vegetables.	Orchards and Vineyards.	Flax, Broom Millet, and Miscellaneous.	All Crops.
1956–57 .. ..	129,502	3,757	3,995	3,317	1,024	119	141,714
1957–58 .. ..	133,634	5,384	3,299	2,947	972	..	146,236
1958–59 .. ..	136,940	6,324	1,858	2,495	1,014	1	148,632
1959–60 .. ..	112,193	4,774	1,351	1,978	729	844	121,869
1960–61 .. ..	133,185	3,886	1,780	1,964	507	57	141,379

(a) Number of acres watered multiplied by average number of waterings.

(ii) *General*. In 1960–61, the total area irrigated in Western Australia was 48,551 acres made up of pastures (24,652 acres), vegetables (9,076 acres), fruit (8,335 acres), vineyards (897 acres) and other crops (5,591 acres).

An area of approximately 650 acres of Gascoyne River flats adjacent to Carnarvon is under irrigated cultivation. The principal crops are bananas and beans, but others such as tomatoes are also grown. For this agriculture, some 130 acre feet of water a week are drawn from river underflow.

On the Liveringa flood plain, 65 miles south east of Derby, commercial production of rice has been achieved following successful experimental work. Irrigation water from the Fitzroy River is diverted through Uralla Creek, an anabranch, for 25 miles to the rice growing area where a natural storage of approximately 1,200 acre feet exists. During periods of low flow in the Fitzroy River, the supply of water is augmented by pumping. Further storage with a capacity of 4,500 acre feet has been provided by the construction of a dam on Uralla Creek 18 miles from the Fitzroy River. A weir which is under construction across the Fitzroy River will provide gravity flow to Uralla Creek while the Fitzroy River is flowing.

The Ord River in the Kimberley Division of Western Australia traverses a tropical area served with monsoonal rains of irregular incidence and quantity, varying from 20 inches in the south to 30 inches in the north. The hottest months (December to March) are also the months of highest rainfall. Communications and population are sparse. The Western Australian Government is considering a proposal to build a dam to conserve 3,500,000 acre feet of water, equipped with a hydro-electric plant, which might supply water for an area of some 200,000 acres agriculturally and topographically suitable for irrigation. Investigations show that the climate and soil conditions are suitable for the cultivation of sugar cane, rice, cotton, safflower and various oil seeds. The economic production of these and other crops, as well as the possible use of such irrigation areas for fattening cattle, is being examined at the Kimberley Research Station on the Ord River. Construction of a diversion dam at Bandicoot Bar, now in progress some 30 miles downstream from the main dam site, will enable a number of pilot irrigation farms to be established.

3. **Water Supply Schemes.**—(i) *Metropolitan.* Particulars relating to the Metropolitan Water Supply are given in § 5 of Chapter XIX., Local Government.

(ii) *Goldfields and Agricultural Water Supply.* Western Australia has one of Australia's most spectacular water supply schemes, and a brief account of its development will be found on page 1134 of Official Year Book No. 37. Mundaring Reservoir on the Helena River, 26 miles from Perth, is the source of water supplied to the Eastern Goldfields and has a capacity of 62,435 acre feet and a catchment of 569 square miles. The water passes through 346 miles of main pipeline, mostly steel and 30 inches in diameter, equipped with eight pumping stations.

Maximum pumping capacity from Mundaring Pumping Station is 13.3 million gallons a day with provision to increase this to 18.5 million gallons a day. The total capacity of all receiving, regulating, standby and service tanks along the main pipeline is 154 million gallons, which includes three standby reservoirs at Kalgoorlie having a combined capacity of 60 million gallons.

Hundreds of miles of branch pipelines have been laid to mining areas, agricultural areas and country towns, a notable one being the Norseman extension of 101 miles. The system serves some 83 towns and water is reticulated to 3,800,000 acres of mixed farming lands. The total length of pipelines is 3,528 miles and the number of services is 23,728. The total quantity of water pumped from Mundaring Reservoir in 1960-61 was 3,168 million gallons. The total cost of the scheme to the end of 1960-61 was £17,290,300, of which the Commonwealth Government contributed £3,318,400 under the terms of the Comprehensive Water Supply Scheme.

District water supply schemes established for the purpose of supplying certain country towns and mixed farming lands have been absorbed into the Goldfields and Agricultural Water Supply. For further particulars see Official Year Book No. 37, page 1135.

(iii) *Comprehensive Water Supply Scheme.* A comprehensive water supply scheme to supplement water supplies to the goldfields, agricultural areas, and country towns, authorized in 1947 as a joint work between the Commonwealth and State Governments and estimated to cost £10,200,000 is under construction in two main parts. The northern section is an enlargement and extension of the Goldfields and Agricultural Water Supply. The southern section is the Great Southern Towns Water Supply. Linked with Wellington Dam (initially an irrigation work on the Collie River) by 80 miles of 30-inch diameter pipe through three pumping stations to Narrogin, it now supplements the existing water supplies to country towns along the Great Southern Railway, north to Brookton and south to Katanning. The raising of the impounding wall of Wellington Dam to increase its storage to about 150,100 acre feet was completed in 1960. Expenditure on the Scheme to 30th June, 1961, amounted to £9,915,300.

(iv) *Local Water Supplies.* Local schemes other than as above comprise those in the remaining agricultural and mining areas, including the North-west and Kimberley Divisions. Seventy-six separate reticulated water supplies serve country towns and districts. Of these, seventy-two are controlled by the Water Supply, Sewerage and Drainage Department and the remainder by local authorities.

(v) *Commonwealth and State Government Railways.* Railways of the Commonwealth and State Governments make independent provision for supplies of water for their own purposes, although considerable additional quantities are consumed by the Railways from other sources, e.g., Public Works and Metropolitan Water Supply Departments.

(vi) *Catchments.* The water supplies to these country schemes come from stream flow, dams, tanks, wells and bores.

A total of 72 rated stream gauging stations is operating in the South-west, North-west and Kimberley Divisions. Three types of catchment peculiar to this State developed in connexion with local water supplies and deserving special mention are:—rock catchments, which consist mainly of clear granite out-cropping rock, from which the overall run-off from rain amounts to approximately 40 per cent.; bituminous catchments, which are areas which have been sealed with emulsified bitumen—some hundreds of acres have been so treated and yield a run-off of approximately 80 per cent. of the rainfall; and roaded catchments, where selected areas of a catchment are cleared, graded and formed into roads to assist in obtaining additional rainfall run-off.

4. **Underground Water.**—Individual farmers, orchardists, market gardeners and others pump groundwater from wells and bores, using windmills, engines or electric power. Water is also obtained from artesian and sub-artesian bores. Local artesian aquifers are utilized for town supplies at Bunbury and Busselton, while underground water is piped from the Wicherina Basin (in the Perth Basin) for the town supply at Geraldton. The Public Works Department hires out to local authorities boring plants which are then hired out to farmers to assist their boring operations. In addition, the department operates its own boring plants and contracts with private firms in connexion with water supply works.

Considerable advances in the knowledge of aquifers and quality of water in the main sedimentary basins have been made as a result of the extensive geological surveys in connexion with oil exploration during the past ten years and most of these results are now in the course of publication. The Geological Survey of Western Australia has established a Hydrological Division to investigate and advise on the underground water resources of the State. A detailed survey of the Perth Basin, extending from Northampton to Augusta, is in progress. The Mines Department Drilling Section, with its own plant and by separate contracts, drills the exploratory holes recommended by the Geological Survey.

## § 7. Tasmania.

1. **General.**—(i) *Rainfall.* Brief particulars of the rainfall pattern in Tasmania are given on page 1136 of Official Year Book No. 37. (*See also* Chapter II.—Physiography, page 45 of this Year Book.)

(ii) *Main Purposes of Conservation and Utilization.* Owing to the generally more adequate rainfall in Tasmania, scarcity of water is not such a problem as it is in most mainland areas, though not all streams are by any means permanently flowing. The only large scale conservation by reservoirs is for hydro-electric power generation, but there are some moderately sized dams built by mining interests, and by municipal authorities for town water supplies.

Until a few years ago, irrigated areas were negligible except for long-established hop fields, but there is a rapidly extending use of spray irrigation on orchards and pastures, and to some extent on potatoes and beans. Up to the present, there has been almost complete dependence on natural stream flows, but the need for some regulating storages is now apparent. A few farmers are constructing storages of their own, and the extension of this practice is foreseen as the logical solution in most areas, as valleys are narrow and steep sided. Single large reservoirs cannot economically serve large areas of suitable land, as nearly every valley is separated from others by pronounced hills, prohibiting the construction of cross-country channels.

Underground water is generally of poor quality through mineralization, but a small quantity, exploited to a minor degree by bores and pumps, exists over an area in the midlands, and on King Island.

(iii) *Administration.* Municipal water supply is primarily the responsibility of local Councils, subject to approval of plans and finance by the Rivers and Water Supply Commission. This body came into existence in September, 1958, taking over all functions of the old Water, Sewerage and Drainage Board as well as other duties and powers.

With regard to water, the Commission does not own the waters of streams and lakes, but is empowered to take them, or issue licences, subject to pre-existing statute and common law rights. These include water reserved for specific industries, municipal requirements, and ordinary riparian rights. The Commission is also concerned with Drainage Trusts' operations, river improvement, including repairs after flood damage, and stream gauging.

2. **Hydro-electricity.\***—With the exception of a small diesel plant at King Island, electricity generation in Tasmania has resulted entirely from the development of its plentiful waters, and on a world basis this State ranks second to Norway in electricity consumption per head of population. The Hydro-Electric Commission, the authority controlling the generation of electricity in Tasmania, conducts a continuous survey of the water power resources of the State assisted by modern methods such as aerial photography and geo-physical exploration.

\* *See also* Chapter VII.—Electric Power Generation and Distribution, p. 243.

Most of the water potential is located on the Central Plateau, with an area of about 1,500 square miles at an altitude of from 2,000 to 4,000 feet, and subject to rainfall of from 30 inches a year in the east to 80 inches on the western perimeter. On the plateau are a large number of lakes which provide the means for storage at low cost. These include Great Lake with an area of 58 square miles, Lake St. Clair and Lake Echo each more than 12 square miles, and others of smaller area.

The Derwent River and its tributaries, which flow south-easterly, carry off by far the greatest part of the water which falls on the plateau, and these rivers are therefore the most abundant source of power. They have been the cheapest to develop to date and most of the existing generating stations are located on them.

The three main rivers running westerly from the plateau—the Arthur, Pieman and Gordon—have only a small portion of their catchment areas at high level, but they run through regions of high rainfall and their power potentials are considerable. However, because of inaccessibility and climate, development of these rivers may be rather expensive and has been deferred so far in favour of more convenient schemes.

Rivers draining from the plateau towards the north and north-west coast, including the Emu, Forth and Mersey, have small catchments at high levels and no natural storages.

Two other important water power sources, independent of the Central Plateau, are the South Esk River in the north and the Huon River in the south. A power station at Trevallyn, near Launceston, utilizes water from the South Esk. The Huon has a large low-level catchment in the high-rainfall area near the west coast. Storage could be provided on this river at a reasonable cost and, because of its proximity to Hobart, a future power station would have considerable value for peak load development.

**3. Industrial.**—Three principal industrial schemes have been installed privately. Australian Newsprint Mills Ltd. pump approximately 10 million gallons a day from the Derwent River at Lawitta for the Boyer Mills. Associated Pulp and Paper Mills Ltd. pump several million gallons a day from the Emu River at Burnie, and Titan Products Pty. Ltd. reticulate water from Chasm Creek to their factory at Heybridge. In addition, the State Government has constructed a regional water scheme to serve the aluminium refinery at Bell Bay on the River Tamar and to supply several municipalities with bulk water for domestic and industrial purposes.

A second regional water scheme draws water from the River Derwent at Lawitta to provide domestic and industrial supplies in five southern municipalities. Potential sources capable of greater development without storage exist on the Derwent, South Esk, Huon, Lake, Mersey and Forth Rivers. There is also a great reserve of untapped permanent streams in the western half of the State which is largely unsettled. Diversion to the eastern side of the watersheds is not regarded as practicable.

**4. Irrigation.**—There are no State irrigation projects at present, but the Rivers and Water Supply Commission is investigating the possibility of establishing a storage for the Coal Valley. Preliminary investigations have also been made in the Jordan Valley. The Water Act 1957 provides for irrigation works to be undertaken by municipalities and by Trusts constituted for the purpose, but no such works have been undertaken to date. All systems operating are privately owned, and with one exception (at Bushy Park) are single-farm units. At Bushy Park, a small system serves a group of properties. The larger proportion of the area under irrigation is watered by gravitational systems and the remainder comprises areas devoted to vegetables and served by municipal water supplies or private spray systems. Irrigation in Tasmania was applied in 1960–61 to 18,934 acres devoted to: pastures (10,369 acres); fruit (3,311 acres); hops (1,364 acres); vegetables (2,103 acres); and other crops (1,787 acres).

## § 8. Northern Territory.

**1. Climate and Topography.**—Some particulars of the climate and main topographical features of the Northern Territory are given on page 1138 of Official Year Book No. 37, and in this issue information on climatic conditions will be found in Chapter II.—Physiography, and a brief outline of contour and physical characteristics in Chapter V.—The Territories of Australia.



2. **Administration.**—Under the Control of Waters Ordinance 1938-1959 of the Northern Territory, natural waters are vested in the Crown. Where a watercourse or lake forms a boundary of any land alienated by the Crown, the beds and banks are deemed to remain the property of the Crown (except in special cases) and diversion of water is prohibited except under prescribed conditions. There is a Water Resources Branch in the Northern Territory Administration under the control of a Director. The functions of the Branch include systematic stream gauging, collection of data on surface and underground water supplies, planning of water use for irrigation and town water supplies, and flood prevention and control.

Another function of the Branch, which is increasing in importance as it builds up a body of technical data and information about the Territory's water resources, is the dissemination of this knowledge by the provision of advice and assistance to the public and professional drillers.

3. **Underground Water.**—The marked seasonal rainfall over the whole of the Northern Territory is one of the basic factors affecting the pastoral industry which provides the bulk of the Territory's income. The inadequacy of surface water during the dry season emphasizes the importance of underground water supplies in the Territory, where most of the cattle population is dependent on underground supplies for three to five months each year.

Rainfall is one of the factors controlling cattle population, but geological features, controlling both soils and the storage of underground water, are equally important. In the northern-most portion of the Territory, which receives from 25 to 60 inches of seasonal rainfall a year, surface water supplies are, in general, adequate for the pastoral industry. Despite this, however, this area has a comparatively low carrying capacity for cattle, and the pastoral industry is concentrated more in inland areas where feed retains more nutritive value in the winter, despite dry conditions.

South from this well-watered northern-most portion, the Territory becomes progressively drier, with an average annual rainfall of only 5 inches at the margins of the Simpson Desert in the south-east corner. In the lower rainfall areas, the search for potable underground water becomes exacting, but in the Ord-Victoria Region and the Barkly Tablelands the best pastures are generally in areas where sub-surface conditions are suitable for the storage of underground water.

In the Ord-Victoria Region, the best grass lands overlie volcanic rocks and extend over some 10,000 square miles. Ground water is obtained in shallow bores averaging 70 to 80 feet in depth and producing small supplies which range up to 1,500 gallons an hour. For the most part, water is stored in joints, faults or cracks in the rocks, although in places sub-artesian conditions pertain, and, on the whole, selection of bore sites is difficult. There are also small sedimentary basins in the region, some of which yield sub-artesian, and in places artesian, water and provide areas of good pastures.

The Barkly Tablelands, which extend into Western Queensland, overlie flat-lying limestone, sandstone and shale of the Barkly Basin. In most places, underground water is under pressure (sub-artesian), but no flowing bores are known. Sandstones and beds of limestone with fractures and solution cavities provide a number of aquifers within the Basin. The hydraulic surface (to which pressure water will rise in bores) ranges between 500 and 600 feet above sea level and adequate supplies for the watering of stock are available at depths ranging from 150 to 400 feet from the surface. The water from over 90 per cent. of the bores is suitable for stock and over 50 per cent. of it is suitable for human consumption. Investigations by the Commonwealth Bureau of Mineral Resources indicate that underground water supplies will be more than sufficient for the future development of the pastoral industry on the Tablelands.

In the Alice Springs district, valuable pastures occur on a great variety of rock types, and from some of these very little underground water is available. Many shallow bores obtain water from alluvium near stream channels. There are also many successful bores in porous sands and limestone in Mesozoic and Cainozoic sedimentary basins and in some Upper Proterozoic and Palaeozoic limestones and sandstones. Boring in the metamorphic rocks and granite of the basement has, on the whole, met with little success. In many areas, the underground water is of poor quality.

Considerable research has been undertaken in recent years into increasing the Alice Springs water supply from alluvial basins and provision of a water supply for the mining town of Tennant Creek from the Cabbage Gum Basin, a small basin in deeply weathered Precambrian rocks, 15 miles south of the town.

Up to 30th June, 1961, 2,510 bores and wells had been registered in the Territory. Of these, 1,655 were on pastoral properties, 71 on agricultural properties, 122 served town and domestic water supplies, 20 were located on mining fields, 35 were being used as test-bores and 369 were used by Defence Departments during World War II. The number of registered stock route bores established by the Government is 238.

4. **Irrigation.**—There are no large-scale water conservation projects in the Territory with the exception of the Manton Dam (12,700 acre feet), which serves Darwin with a reticulated supply. Some water is drawn from the rising main between the Manton Dam and Darwin for irrigation purposes, but the trend is for properties in this area to develop their own water supplies, either by boring or by pumping from watercourses or lakes. Investigations for a further dam site to augment Darwin's water supply and to provide reticulated water to properties without natural waters are expected in the near future. Hydrological investigations are being carried out by the Administration to determine the supply of water and the best methods of control and use in the potential rice-growing areas of the Territory. One hundred and twenty gauging stations were in operation in the Territory at 30th June, 1961, under the control of the Administration's Water Resources Board. Of these, 68 are equipped with automatic water level recorders. The remaining 52 are staff gauges. Sixteen gauging stations are for recording changes in water level only, one of these being the Darwin Harbour Tide gauge, which is operated on behalf of the Harbour and Marine Branch. The other 15 gauges of this kind are scattered over the north sub-coastal plains and measure the depth of flooding over the plains. The information is required for future agricultural production in these areas, notably rice culture. Agricultural activity in the Territory is not extensive, being confined to the Darwin, Adelaide River, Coomalie Creek, Daly River, Katherine River and Alice Springs areas with only small acreages being utilized.

The Katherine River appears to offer irrigation potentialities on the level soil below the township. Approximately 14 properties in and around Katherine are at present drawing water from the Katherine River for irrigation purposes, vegetables and pastures being the usual crops grown. The Katherine River passes through a gorge upstream of the town under conditions which appear suitable for dam construction. The Administration and the Commonwealth Scientific and Industrial Research Organization are investigating the potentialities of the Katherine area for agricultural production.

## § 9. Papua and New Guinea.

1. **Rainfall.**—Rainfall in Papua and New Guinea varies considerably from approximately 250 inches near Lindenhafen (New Britain) and 231 inches at Kikori (Papua) to about 70 inches near Marienburg (New Guinea) and 40 inches at Port Moresby (Papua).

2. **General.**—For a general description of these territories *see* Chapter V.—The Territories of Australia, page 129, of this Year Book. Irrigation has not been developed on any organized basis owing to the availability of high rainfall and the nature of agricultural development.

The Territory of Papua and New Guinea is well served with large rivers deriving their water from heavy tropical rains and high mountains which rise to over 14,000 feet. However, complete data regarding water resources are not available.

The largest rivers in the Territory include the Fly (a description of which is given in Chapter XXVI. of Year Book No. 40), the Sepik (700 miles), the Ramu (450 miles), the Purari (300 miles) and the Markham (110 miles).

The main water conservation interest in New Guinea at present is the hydro-electric potential, which is extensive. An outline of schemes at present in operation is given in the previous chapter.

## CHAPTER IX.

### POPULATION.

At the time of preparation of this chapter the latest results available from the Census of 30th June, 1961, were those derived from the preliminary check of the Census schedules. These figures are subject to amendment on completion of tabulation. The summarized final results of the Census will be included in the Appendix to this Year Book. Population estimates shown in this chapter for the intercensal period 1954 to 1961 are revised figures which have been adjusted in accordance with preliminary results of the 1961 Census. They will be further revised when final Census figures are available.

In general, the remaining statistics in this chapter cover the year 1961. More detailed figures will be found in the annual bulletin, *Demography*, and current statistics are published in the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics*, and the *Australian Demographic Review* (a mimeograph series issued at intervals throughout the year on population and vital statistics).

Statistics of the population of the principal countries and continental groupings of the world are set out in § 15 of this chapter.

#### § 1. Population Statistics.

Population statistics for Australia or the component States and Territories at specific dates are of two types.

- (i) *Those ascertained by census enumeration.* These results attain a very high degree of accuracy and may generally be accepted without reservation.
- (ii) *Estimates derived by the application of vital and migration statistics to census data.* In general, three estimates are made for any specific date.
  - (a) Original estimates for dates subsequent to a census made before another census is taken. These estimates represent the population ascertained at the Census, plus natural increase and recorded net migration since the Census. As complete records of interstate migration are not available, the estimated State or Territory populations so derived are approximate, and are subject to revision when the actual population of each State or Territory is ascertained at the next Census. For some States such revisions are substantial.
  - (b) Two-stage revision of the original estimates for each newly completed intercensal period to adjust for the difference between the new census result and the comparable estimate. This is to bring intercensal estimates into line with the two census populations and thus effect adjustment for unrecorded movement of population in the intercensal period. The first revision is reconciled with preliminary census results and the second revision with final census results.

Final revised figures become the permanent population estimates. For purposes requiring a mean population for any twelve-month period, such mean is calculated as described in § 4. As populations at specific dates are used in these calculations, consequential revisions are made in mean populations when the estimates for specific dates are revised as described above.

In accordance with this policy, all Australian population statistics shown in this issue of the Official Year Book for dates up to 30th June, 1954, and all mean populations for calendar years up to 1953 and financial years up to 1953-54 are final. Population statistics for dates or years subsequent to these have been revised in accordance with preliminary results of the Census of 30th June, 1961. These figures will be further revised when the final results become available.

Since the establishment of the Commonwealth Bureau of Census and Statistics, the populations of the States and Territories have been estimated in a comparable manner and attention has been given to the improvement of the basic data from which the estimates are compiled. The principal source of error in early estimates lay in the migration records, both oversea and interstate, and efforts were directed towards their improvement. The 1911 Census disclosed an error in the pre-censal estimates equivalent to proportions of 14.5 per cent. and 10.0 per cent., respectively, of recorded male and female oversea departures from Australia. These proportions were used as adjusting factors to recorded oversea departures during the intercensal period 1911-21. These adjusting factors were

reduced after the 1921 Census to 1 per cent. for males and 4.5 per cent. for females and were discontinued altogether after the 1933 Census. Since then, the accuracy of the records of oversea migration has been such that little adjustment to recorded figures is now necessary for Australia as a whole.

It is improbable that the same degree of accuracy as has been attained in the record of oversea migration can be reached in the case of interstate movements. Records are made of interstate passengers by sea, rail and air, but it has not been practical, with occasional important exceptions, to record the movements by road.

## § 2. The Census.

1. **Census-taking.**—Although “musters” of the population were carried out at least annually from 1788 to 1825, the first regular census in Australia was not taken until 1828, when a count of the population of the Colony of New South Wales was made. Subsequent censuses were taken sporadically in the various colonies until 1881, when a census was taken on the same date throughout Australia.

In 1891 and 1901, census-taking was still in the hands of the Government Statisticians of the States, but, in 1911, under the provisions of the Commonwealth Census and Statistics Act, which provides for the enumeration to be made from one centre instead of by each State as formerly, the Commonwealth Statistician undertook the first census of the Commonwealth of Australia. The second was taken in 1921, the third in 1933, the fourth in 1947, the fifth in 1954, and the sixth in 1961.

2. **Population recorded at Censuses.**—State and Territorial populations recorded at the Australia-wide censuses taken over the period 1881 to 1961 are shown in the following table. The figures relate to the political boundaries of the several States (or Colonies) and Territories as they existed at the date of each census, except that the Northern Territory has been shown separately from South Australia for the censuses prior to its transfer from that State. The years of formation of the separate Colonies and transfer of the Territories are shown in Chapter 1, § 4 and § 5. The total populations recorded at the censuses taken in the Colonies from 1828 to 1881 were shown in Official Year Book No. 40, page 326.

### POPULATION: AUSTRALIAN CENSUSES, 1881 TO 1961.

Census.	Population Enumerated (excluding Full-blood Aborigines).								
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T. (a)	Aust.
<b>MALES.</b>									
3rd April, 1881 ..	410,211	451,623	125,325	146,183	17,062	61,162	3,347	..	1,214,913
5th April, 1891 ..	609,666	598,222	223,779	162,241	29,807	77,560	4,560	..	1,705,835
31st March, 1901 ..	710,005	603,720	277,003	180,485	112,875	89,624	4,216	..	1,977,928
3rd April, 1911 ..	857,698	655,591	329,506	207,358	161,565	97,591	2,734	992	2,313,035
4th April, 1921 ..	1,071,501	754,724	398,969	248,267	177,278	107,743	2,821	1,567	2,762,870
30th June, 1933 ..	1,318,471	903,244	497,217	290,962	233,937	115,097	3,378	4,805	3,367,111
30th June, 1947 ..	1,492,211	1,013,867	567,471	320,031	258,076	129,244	7,378	9,092	3,797,370
30th June, 1954 ..	1,720,860	1,231,099	676,252	403,903	330,358	157,129	10,288	16,229	4,546,118
30th June, 1961(b)	1,972,936	1,474,530	774,448	490,186	375,452	177,622	16,252	30,858	5,312,284
<b>FEMALES.</b>									
3rd April, 1881 ..	339,614	409,943	88,200	130,231	12,646	54,543	104	..	1,035,281
5th April, 1891 ..	517,471	541,866	169,939	153,292	19,975	69,107	338	..	1,471,988
31st March, 1901 ..	644,841	597,350	221,126	177,861	71,249	82,851	595	..	1,795,873
3rd April, 1911 ..	789,036	659,960	276,307	201,200	120,549	93,620	576	722	2,141,970
4th April, 1921 ..	1,028,870	776,556	357,003	246,893	155,454	106,037	1,046	1,005	2,672,864
30th June, 1933 ..	1,282,376	917,017	450,317	289,987	204,915	112,502	1,472	4,142	3,262,728
30th June, 1947 ..	1,492,627	1,040,834	538,944	326,042	244,404	127,834	3,490	7,813	3,781,988
30th June, 1954 ..	1,702,669	1,221,242	642,007	393,191	309,413	151,623	6,181	14,086	4,440,412
30th June, 1961(b)	1,943,971	1,455,714	744,411	479,072	361,172	172,710	10,887	27,970	5,195,907
<b>PERSONS</b>									
3rd April, 1881 ..	749,825	861,566	213,525	276,414	29,708	115,705	3,451	..	2,250,194
5th April, 1891 ..	1,127,137	1,140,088	393,718	315,533	49,782	146,667	4,898	..	3,177,823
31st March, 1901 ..	1,354,846	1,201,070	498,129	358,346	184,124	172,475	4,811	..	3,773,801
3rd April, 1911 ..	1,646,734	1,315,551	605,813	408,558	282,114	191,211	3,810	1,714	4,455,005
4th April, 1921 ..	2,100,371	1,531,280	755,972	495,160	332,732	213,780	3,867	2,572	5,435,734
30th June, 1933 ..	2,600,847	1,820,261	947,534	580,949	438,852	227,599	4,850	8,947	6,629,839
30th June, 1947 ..	2,984,838	2,054,701	1,106,415	646,073	502,480	257,078	10,868	16,905	7,579,358
30th June, 1954 ..	3,423,529	2,452,341	1,318,259	797,094	639,771	308,752	16,469	30,315	8,986,530
30th June, 1961(b)	3,916,907	2,930,244	1,518,859	969,258	736,624	350,332	27,139	58,828	10,508,191

(a) Part of New South Wales prior to 1911.

(b) Preliminary results.

The results of the 1954 and 1961 Censuses of the Australian External Territories are shown in § 13 of this chapter.

3. Increase since 1891 Census.—The increases in the populations of the several States and Territories and of Australia as a whole during the last seven intercensal periods are shown in the following table, which distinguishes the numerical increases, the proportional increases (which do not allow for the differences in the length of the intercensal periods) and the average annual rates of increase.

POPULATION: INTERCENSAL INCREASES.  
(EXCLUDING FULL-BLOOD ABORIGINALS.)

State or Territory.	1891-1901 (10 years).	1901-1911 (10 years).	1911-1921 (10 years).	1921-1933 (12½ years).	1933-1947 (14 years).	1947-1954 (7 years).	1954-1961 (7 years). (a)
NUMERICAL INCREASE.							
New South Wales(b)	227,709	293,602	453,637	500,476	383,991	438,691	493,378
Victoria ..	60,982	114,481	215,729	288,981	234,440	397,640	477,903
Queensland ..	104,411	107,684	150,159	191,562	158,881	211,844	200,600
South Australia ..	42,813	50,212	86,602	85,789	65,124	151,021	172,164
Western Australia ..	134,342	97,990	50,618	106,120	63,628	137,291	96,853
Tasmania ..	25,808	18,736	22,569	13,119	29,479	51,674	41,580
Northern Territory ..	-87	-1,501	557	983	6,018	5,601	10,670
Aust. Cap. Terr.(c)	..	..	858	6,375	7,958	13,410	28,513
Australia ..	595,978	681,204	980,729	1,194,105	949,519	1,407,172	1,521,661

PROPORTIONAL INCREASE—PER CENT.

New South Wales(b)	20.20	21.67	27.55	23.83	14.76	14.70	14.41
Victoria ..	5.35	9.53	16.40	18.87	12.88	19.35	19.49
Queensland ..	26.52	21.62	24.79	25.34	16.77	19.15	15.22
South Australia ..	13.57	14.01	21.20	17.33	11.21	23.38	21.60
Western Australia ..	269.86	53.22	17.94	31.89	14.50	27.32	15.14
Tasmania ..	17.60	10.86	11.80	6.46	12.95	20.10	13.47
Northern Territory ..	-1.78	-31.20	16.83	25.42	124.08	51.54	64.79
Aust. Cap. Terr.(c)	..	..	50.06	247.86	88.95	79.33	94.06
Australia ..	18.75	18.05	22.01	21.97	14.32	18.57	16.93

AVERAGE ANNUAL RATE OF INCREASE—PER CENT.

New South Wales(b)	1.86	1.97	2.46	1.76	0.99	1.98	1.94
Victoria ..	0.52	0.91	1.53	1.42	0.87	2.56	2.58
Queensland ..	2.38	1.98	2.24	1.86	1.11	2.53	2.04
South Australia ..	1.28	1.32	1.94	1.31	0.76	3.05	2.83
Western Australia ..	13.97	4.36	1.66	2.29	0.97	3.51	2.03
Tasmania ..	1.63	1.04	1.12	0.51	0.87	2.65	1.82
Northern Territory ..	-0.18	-3.67	1.57	1.87	5.93	6.12	7.40
Aust. Cap. Terr.(c)	..	..	4.14	10.71	4.65	8.70	9.93
Australia ..	1.73	1.67	2.01	1.63	0.96	2.46	2.26

(a) Based on preliminary results of the Census of 30th June, 1961. These figures will be revised when the final results become available. (b) Includes Australian Capital Territory prior to 1911. (c) Part of New South Wales prior to 1911.

NOTE.—Minus sign (-) denotes decrease.

§ 3. Growth and Distribution of Population.

1. Growth of Population.—The table which follows shows the growth in the population of each sex in the various States and Territories as measured by the estimated population at 31st December in 1900 and thereafter at decennial intervals to 1960. Each year from 1957 to 1961 is included in order to show recent growth in greater detail.

ESTIMATED POPULATION: 1900 TO 1961.  
(EXCLUDING FULL-BLOOD ABORIGINALS.)

At 31st Dec.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T. (a)	Australia.
MALES.									
1900	716,047	601,773	274,684	180,349	110,088	89,763	4,288	..	1,976,992
1910	858,181	646,482	325,513	206,557	157,971	98,866	2,738	..	2,296,308
1920	1,067,945	753,803	396,555	245,300	176,895	107,259	2,911	1,062	2,751,730
1930	1,294,419	892,422	481,559	288,618	232,868	113,505	3,599	4,732	3,311,722
1940b	1,402,297	947,037	536,712	297,885	248,734	123,650	6,337	7,856	3,570,508
1950	1,627,618	1,114,497	620,329	364,705	294,758	147,103	9,414	13,021	4,191,445
1960c	1,951,907	1,455,696	766,448	483,802	372,665	178,630	14,785	29,140	5,253,073
1957c	1,845,075	1,350,935	726,623	448,411	356,195	169,602	12,499	20,820	4,930,160
1958c	1,875,863	1,382,585	740,017	458,401	361,441	171,737	13,094	22,957	5,026,095
1959c	1,908,062	1,416,347	753,906	471,868	366,253	175,285	14,256	26,386	5,132,363
1960c	1,951,907	1,455,696	766,448	483,802	372,665	178,630	14,785	29,140	5,253,073
1961	1,986,467	1,482,449	776,344	495,043	380,420	185,655	15,636	32,577	5,354,591

For footnotes see next page.

ESTIMATED POPULATION: 1900 TO 1961—*continued.*

(EXCLUDING FULL-BLOOD ABORIGINALS.)

At 31st Dec.—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T. (a)	Australia.
FEMALES.									
1900	644,258	594,440	219,163	176,901	69,879	83,137	569	..	1,788,347
1910	785,674	654,926	273,503	200,311	118,861	94,937	563	..	2,128,775
1920	1,023,777	774,106	354,069	245,706	154,428	105,493	1,078	910	2,659,567
1930	1,251,934	900,183	435,177	285,849	198,742	111,792	1,365	3,987	3,189,029
1940 <sup>b</sup>	1,388,651	967,881	494,740	301,171	225,342	120,352	2,637	6,304	3,507,078
1950	1,613,439	1,122,685	585,089	358,138	277,891	143,230	5,006	10,558	4,116,036
1960 <sup>c</sup>	1,925,354	1,432,594	735,838	473,220	358,368	177,339	10,002	26,132	5,138,847
1957 <sup>c</sup>	1,817,829	1,329,620	693,878	437,841	339,039	169,205	8,221	18,294	4,813,927
1958 <sup>c</sup>	1,852,937	1,362,580	709,320	449,652	345,755	172,161	8,862	19,996	4,921,263
1959 <sup>c</sup>	1,886,015	1,395,082	723,255	462,629	352,438	176,064	9,558	23,564	5,028,605
1960 <sup>c</sup>	1,925,354	1,432,594	735,838	473,220	358,368	177,339	10,002	26,132	5,138,847
1961	1,967,169	1,467,399	745,985	484,683	365,749	178,471	10,375	29,514	5,249,345

## PERSONS.

1900	1,360,305	1,196,213	493,847	357,250	179,967	172,900	4,857	..	3,765,339
1910	1,643,855	1,301,408	599,016	406,868	276,832	193,803	3,301	..	4,425,083
1920	2,091,722	1,527,909	750,624	491,006	331,323	212,752	3,989	1,972	5,411,297
1930	2,546,353	1,792,605	916,736	574,467	431,610	225,297	4,964	8,719	6,500,751
1940 <sup>b</sup>	2,790,948	1,914,918	1,031,452	599,056	474,076	244,002	8,974	14,160	7,077,586
1950	3,241,057	2,237,182	1,205,418	722,843	572,649	290,333	14,420	23,579	8,307,481
1960 <sup>c</sup>	3,877,261	2,888,290	1,502,286	957,022	731,033	355,969	24,787	55,272	10,391,920
1957 <sup>c</sup>	3,662,904	2,680,555	1,420,501	886,252	695,234	338,807	20,720	39,114	9,744,087
1958 <sup>c</sup>	3,728,800	2,745,165	1,449,337	908,053	707,196	343,898	21,956	42,953	9,947,358
1959 <sup>c</sup>	3,794,077	2,811,429	1,477,161	934,497	718,691	351,349	23,814	49,950	10,160,968
1960 <sup>c</sup>	3,877,261	2,888,290	1,502,286	957,022	731,033	355,969	24,787	55,272	10,391,920
1961	3,953,636	2,949,848	1,522,329	979,726	746,169	364,126	26,011	62,091	10,603,936

(a) Part of New South Wales prior to 1911. (b) Includes all defence personnel enlisted in Australia irrespective of movements subsequent to enlistment. (c) Revised figures based on the preliminary results of the Census of 30th June, 1961. These figures will be further revised when the final results become available.

Estimates of population for intercensal years are obtained in the manner outlined in § 1.

The estimated population at 31st December each year from 1788 to 1946 was shown in *Demography*, Bulletin No. 67, 1949, and for the period 1881 to 1960 in *Demography*, Bulletin No. 78. A graph illustrating the growth of the population of Australia and of each State and Territory appears on page 307.

2. **Present Numbers.**—The population of Australia at 31st December, 1961, was estimated at 10,603,936 persons, of whom 5,354,591, or 50.50 per per cent., were males and 5,249,345, or 49.50 per cent., were females. The increase during 1961 was 212,016, equal to 2.04 per cent., males having increased by 101,518, or 1.93 per cent., and females by 110,498, or 2.15 per cent.

3. **Proportion of Area and Population, Density and Masculinity.**—The previous table shows the estimated number of persons in each of the States and Territories, at 31st December, 1961. In the following table, the proportions of the total area and of the total population represented by each State and Territory are given, together with the density and the masculinity of the population.

## DENSITY AND MASCULINITY OF POPULATION, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

State or Territory.	Proportion of Total Area. (Per cent.)	Proportion of Estimated Population, 31st December, 1961. (Per cent.)			Density. (a)	Masculinity. (b)
		Males.	Females.	Persons.		
New South Wales .. ..	10.42	37.10	37.48	37.28	12.78	100.98
Victoria .. ..	2.96	27.69	27.95	27.82	33.57	101.03
Queensland .. ..	22.45	14.50	14.21	14.36	2.28	104.07
South Australia .. ..	12.79	9.24	9.23	9.24	2.58	102.14
Western Australia .. ..	32.85	7.10	6.97	7.04	0.76	104.01
Tasmania .. ..	0.88	3.47	3.40	3.43	13.89	104.03
Northern Territory .. ..	17.62	0.29	0.20	0.24	0.05	150.71
Australian Capital Territory .. ..	0.03	0.61	0.56	0.59	66.12	110.38
<b>Australia .. ..</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>3.57</b>	<b>102.00</b>

(a) Number of persons per square mile.

(b) Number of males per 100 females.

Additional information regarding density and masculinity of population appears in later sections of this chapter.

4. **Urban and Rural Distribution.**—A table showing the distribution of the population between metropolitan urban, other urban, and rural areas in each State and Territory at the Census of 30th June, 1954, was included in earlier issues of the Official Year Book (see No. 47, p. 291). Particulars for the 1961 Census may be found in the Appendix to this issue.

5. **Capital Cities: Australia and Other Countries.**—The following table presents a comparison of the populations of the capital cities of the Australian Commonwealth and States with the capitals of various other countries. Unless otherwise indicated populations, of urban agglomerations are shown.

POPULATION OF CAPITAL CITIES: AUSTRALIA AND OTHER COUNTRIES.  
(‘000.)

State or Country.	Metropolis.	Year.	Metro- politan Popu- lation.	Country.	Metropolis.	Year.	Metro- politan Popu- lation.
Australia ..	Canberra ..	1961	(a) 56	Denmark ..	Copenhagen	1958	1,243
New South Wales	Sydney ..	1961	(a) 2,183	Egypt ..	Cairo ..	1959	2,993
Victoria ..	Melbourne ..	1961	(a) 1,912	France ..	Paris ..	1954	4,823
Queensland ..	Brisbane ..	1961	(a) 622	Germany Fed.	Bonn(b) ..	1959	144
South Australia ..	Adelaide ..	1961	(a) 588	Rep. ..			
Western Australia	Perth ..	1961	(a) 420	Greece ..	Athens ..	1951	1,379
Tasmania ..	Hobart ..	1961	(a) 116	Hungary ..	Budapest ..	1960	1,807
England ..	London ..	1959	8,205	Italy ..	Rome ..	1960	2,012
Scotland ..	Edinburgh(b)	1959	469	Japan ..	Tokyo ..	1960	9,505
Northern Ireland	Belfast(b) ..	1958	436	Netherlands ..	Amsterdam ..	1959	917
Ireland, Republic of	Dublin ..	1956	649	Norway ..	Oslo(b) ..	1960	473
Canada ..	Ottawa ..	1956	345	Poland ..	Warsaw ..	1960	1,136
New Zealand ..	Wellington ..	1960	142	Portugal ..	Lisbon(b) ..	1959	860
South Africa ..	Capetown ..	1960	731	Spain ..	Madrid ..	1960	1,966
Argentina ..	Buenos Aires	1958	3,768	Sweden ..	Stockholm ..	1960	1,126
Belgium ..	Brussels ..	1958	1,004	U.S.A. ..	Washington	1960	1,968
Brazil ..	Brasilia(b) ..	1961	131	U.S.S.R. ..	Moscow ..	1959	5,032
Czechoslovakia ..	Prague(b) ..	1959	989				

(a) Excludes full-blood aboriginals.

(b) City proper.

6. **Principal Urban Areas.**—The following table shows the population of the principal cities and towns (population 6,000 or more) in each State and Territory of Australia at 30th June, 1961.

**POPULATION OF PRINCIPAL CITIES AND TOWNS: AUSTRALIA, CENSUS,  
30th JUNE, 1961.**

(EXCLUDING FULL-BLOOD ABORIGINALS.)

City or Town.	Popu- lation.	City or Town.	Popu- lation.	City or Town.	Popu- lation.
<b>New South Wales.</b>		<b>Victoria.</b>		<b>South Australia.</b>	
Sydney and Suburbs(a) ..	2,183,231	Melbourne .. and		Adelaide and Suburbs(a)	587,957
Newcastle and Suburbs(b)	208,641	Suburbs(a) ..	1,912,055	Elizabeth(c) .. ..	23,326
Greater Wollongong ..	131,764	Geelong and Suburbs(b)	91,790	Mount Gambier .. ..	15,388
Greater Cessnock ..	35,282	Ballarat and Suburbs (b)	54,771	Port Pirie .. ..	14,003
Penrith .. ..	31,977	Latrobe Valley (Urban)	49,470	Whyalla .. ..	13,711
Broken Hill .. ..	31,267	Bendigo and Suburbs(b)	40,335	Port Augusta .. ..	9,711
Blue Mountains .. ..	28,119	Warrnambool .. ..	15,702	Salisbury(c) .. ..	9,349
Maitland .. ..	27,351	Wangaratta .. ..	13,783	Port Lincoln .. ..	7,508
Wagga Wagga .. ..	22,087	Shepparton .. ..	13,579		
Goulburn .. ..	20,544	Mildura .. ..	12,279		
Tamworth .. ..	18,984	Hamilton .. ..	9,498		
Orange .. ..	18,978	Colac .. ..	9,257		
Lismore .. ..	18,931	Horsham .. ..	9,241		
Campbelltown .. ..	18,701	Benalla .. ..	8,259		
Albury .. ..	18,621	Ararat .. ..	7,934	<b>Western Australia.</b>	
Bathurst .. ..	16,939	Sale .. ..	7,899	Perth and Suburbs(a) ..	420,133
Grafton .. ..	15,526	Wodonga(c) .. ..	7,501	Kalgoorlie and Sub- urbs(b) .. ..	21,773
Lithgow .. ..	14,230	Bairnsdale(c) .. ..	7,428	Bunbury .. ..	13,186
Dubbo .. ..	14,121	Maryborough .. ..	7,235	Geraldton .. ..	10,894
Shellharbour .. ..	13,392	Castlemaine .. ..	7,217	Albany .. ..	10,526
Armidale .. ..	12,877	Echuca .. ..	6,443	Collie(c) .. ..	7,547
Woy Woy-Ettalong(c) ..	12,205	Warragul(c) .. ..	6,404	Northam .. ..	7,200
Windsor .. ..	12,047	Swan Hill .. ..	6,185		
Taree .. ..	10,050	Portland .. ..	6,014		
Queanbeyan .. ..	9,447				
Cooma .. ..	8,717				
Toronto(c) .. ..	8,517				
Parkes .. ..	8,223	<b>Queensland.</b>			
Inverell .. ..	8,208	Brisbane and Suburbs(a)	621,550	Hobart and Suburbs(a) ..	115,932
Casino .. ..	8,091	Townsville .. ..	51,143	Launceston and Sub- urbs(b) .. ..	56,721
Kempsey .. ..	8,016	Toowoomba .. ..	50,134	Burnie(c) .. ..	14,201
Griffith(c) .. ..	7,700	Ipswich .. ..	48,679	Devonport(c) .. ..	13,068
Gosford(c) .. ..	7,317	Rockhampton .. ..	44,128		
Coff's Harbour(c) .. ..	7,185	Gold Coast .. ..	33,716		
Murwillumbah(c) .. ..	7,153	Cairns .. ..	25,204		
Forbes .. ..	6,826	Bundaberg .. ..	22,799		
Moree .. ..	6,795	Maryborough .. ..	19,126		
Gunnedah .. ..	6,546	Mackay .. ..	16,809	<b>Northern Territory.</b>	
Cowra .. ..	6,289	Mount Isa(c) .. ..	13,358	Darwin .. ..	12,335
Nowra(c) .. ..	6,221	Gympie .. ..	11,094		
The Entrance-Long Jetty(c) .. ..	6,006	Warwick .. ..	9,843		
		Ayr(c) .. ..	8,010		
		Charters Towers .. ..	7,633		
		Dalby .. ..	7,400	<b>Australian Capital Territory.</b>	
		Gladstone .. ..	7,181	Canberra(a) .. ..	56,449
		Innisfail(c) .. ..	6,917		

(a) Metropolitan Area. (b) Entire Urban Area. (c) Non-municipal town, i.e., a town not separately incorporated for purpose of local government.

7. Urban Areas Outside Metropolitan Areas.—The proportion of the total population of each State which was located in incorporated urban provincial areas at the 1933 and 1947 Censuses was shown in Official Year Book No. 39, pages 522-3. In Official Year Book No. 40, page 334, a table was given showing aggregate population at the 1947 Census of all cities and towns outside the metropolitan area of each State with 2,000 or more and 3,000 or more inhabitants, irrespective of whether such centres were incorporated separately or not. In addition, the proportion of the aggregate population of these cities and towns to the total population of the State was shown. Similar particulars for the 1954 Census were included in earlier issues of Official Year Book (see No. 47, p. 295). Particulars for the 1961 Census may be found in the Appendix to this issue.



8. Principal Cities in the World.—The following table shows the population of the world's largest cities at the latest available date:—

POPULATION OF THE WORLD'S LARGEST CITIES.

(Source: United Nations Demographic Yearbook, 1960.)

(Details for Commonwealth countries are printed in italics.)

City.	Country.	Year.	City Population. ('000).a	City.	Country.	Year.	City Population. ('000).a
New York ..	U.S.A. ..	1960	10,695	Seoul(b) ..	Korea ..	1958	1,646
Tokyo ..	Japan ..	1960	9,505	Montreal ..	Canada ..	1956	1,621
London ..	England ..	1959	8,205	Hyderabad ..	India ..	1960	1,619
Shanghai(b) ..	China ..	1957	6,900	Harbin(b) ..	China ..	1957	1,552
Los Angeles ..	U.S.A. ..	1960	6,743	Port Arthur and Dairen(b) ..	China ..	1957	1,508
Chicago ..	U.S.A. ..	1960	6,221	Barcelona ..	Spain ..	1960	1,503
Calcutta ..	India ..	1960	5,909	Nagoya(b) ..	Japan ..	1959	1,502
Moscow(b) ..	U.S.S.R. ..	1959	5,032	Minneapolis ..	U.S.A. ..	1960	1,474
Bombay(b) ..	India ..	1960	4,941	Milan ..	Italy ..	1959	1,450
Paris ..	France ..	1954	4,823	Nanking(b) ..	China ..	1957	1,419
Philadelphia ..	U.S.A. ..	1960	4,343	Liverpool ..	England ..	1959	1,384
Peking(b) ..	China ..	1957	4,010	Saigon(b) ..	Viet Nam ..	1959	1,383
Buenos Aires(b) ..	Argentina ..	1958	3,768	Athens ..	Greece ..	1951	1,379
Detroit ..	U.S.A. ..	1960	3,762	Toronto ..	Canada ..	1956	1,358
Sao Paulo(b) ..	Brazil ..	1960	3,674	Caracas ..	Venezuela ..	1959	1,356
Leningrad ..	U.S.S.R. ..	1959	3,300	Alexandria ..	Egypt ..	1959	1,350
Berlin(b)(c) ..	Germany ..	1959	3,296	Bangkok ..	Thailand ..	1960	1,330
Tientsin(b) ..	China ..	1957	3,220	Ankara ..	Turkey ..	1960	1,317
Rio de Janeiro(b) ..	Brazil ..	1959	3,124	Sian(b) ..	China ..	1957	1,310
Cairo ..	Egypt ..	1959	2,993	Buffalo ..	U.S.A. ..	1960	1,307
Osaka(b) ..	Japan ..	1959	2,887	Yokohama(b) ..	Japan ..	1959	1,302
Djakarta(b) ..	Indonesia ..	1959	2,814	Bucharest ..	Romania ..	1959	1,291
San Francisco ..	U.S.A. ..	1960	2,783	Bangalore(b) ..	India ..	1960	1,269
Mexico City (b) ..	Mexico ..	1960	2,698	Lima(b) ..	Peru ..	1960	1,262
Boston ..	U.S.A. ..	1960	2,589	Kyoto(b) ..	Japan ..	1959	1,254
Manchester ..	England ..	1959	2,419	Copenhagen ..	Denmark ..	1958	1,243
Mukden(b) ..	China ..	1957	2,411	Houston ..	U.S.A. ..	1960	1,243
Delhi ..	India ..	1960	2,409	Havana ..	Cuba ..	1953	1,218
Pittsburgh ..	U.S.A. ..	1960	2,405	Milwaukee ..	U.S.A. ..	1960	1,185
Birmingham ..	England ..	1959	2,292	Paterson ..	U.S.A. ..	1960	1,184
Madras(b) ..	India ..	1960	2,208	Surabaya(b) ..	Indonesia ..	1959	1,147
Sydney ..	Australia ..	1961	2,183	Manilla(b) ..	Philippines ..	1960	1,146
Wuhan(b) ..	China ..	1957	2,146	Naples ..	Italy ..	1959	1,141
Chungking(b) ..	China ..	1957	2,121	Warsaw(b) ..	Poland ..	1960	1,136
St. Louis ..	U.S.A. ..	1960	2,060	Stockholm ..	Sweden ..	1959	1,126
Rome ..	Italy ..	1960	2,012	Bogota(b) ..	Colombia ..	1959	1,124
Washington ..	U.S.A. ..	1960	1,968	Tsingtao(b) ..	China ..	1957	1,121
Madrid ..	Spain ..	1960	1,966	Chengtu(b) ..	China ..	1957	1,107
Istanbul ..	Turkey ..	1960	1,925	Seattle ..	U.S.A. ..	1960	1,099
Karachi(b) ..	Pakistan ..	1961	1,916	Johannesburg ..	South Africa ..	1960	1,097
Melbourne ..	Australia ..	1961	1,912	Pusan(b) ..	Korea ..	1958	1,097
Canton(b) ..	China ..	1957	1,840	Kobe(b) ..	Japan ..	1959	1,086
Teheran(b) ..	Iran ..	1960	1,839	Dallas ..	U.S.A. ..	1960	1,084
Hamburg(b) ..	Germany ..	1959	1,815	Cincinnati ..	U.S.A. ..	1960	1,068
Budapest(b) ..	Hungary ..	1960	1,807	Munich ..	Germany ..	1959	1,048
Glasgow ..	Scotland ..	1958	1,791	Ahmedabad ..	India ..	1960	1,047
Cleveland ..	U.S.A. ..	1960	1,787	Kansas City (Mo.) ..	U.S.A. ..	1960	1,039
Baltimore ..	U.S.A. ..	1960	1,707	San Diego ..	U.S.A. ..	1960	1,033
Santiago ..	Chile ..	1960	1,700	Taiyuan ..	China ..	1957	1,020
Leeds ..	England ..	1959	1,693	Atlanta ..	U.S.A. ..	1960	1,011
Newark ..	U.S.A. ..	1960	1,683	Brussels ..	Belgium ..	1958	1,004
Vienna(b) ..	Austria ..	1959	1,656				

(a) Urban agglomeration unless otherwise indicated. (b) City proper. (c) East Berlin, 1,085,000 and West Berlin, 2,211,000.

§ 4. Mean Population.

1. General.—Mean populations are calculated for twelve-month periods to provide a satisfactory average basis for calculations requiring allowance for the continuous change in population figures during such periods.

2. Method of Calculation.—From 1901 onwards the mean population for any year has been calculated by the formula:—

$$\text{Mean Population} = \frac{a + 4b + 2c + 4d + e}{12}$$

where a, b, c, d and e, respectively, are the populations at the end of the quarter immediately

preceding the year and at the end of each of the four succeeding quarters; e.g., in the case of a calendar year, 31st December of the preceding year and 31st March, 30th June, 30th September and 31st December of the year under consideration. This formula gives a close approximation to the mean of a theoretical population progressing smoothly through the five values *a*, *b*, *c*, *d*, *e*.

3. Results.—(i) *Calendar Years*. The following table shows the mean population of each State and Territory for the calendar years 1952 to 1961.

MEAN POPULATION: CALENDAR YEARS.  
(EXCLUDING FULL-BLOOD ABORIGINALS.)

Year ended 31st Dec.—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia
1952 ..	3,341,476	2,343,610	1,255,896	755,042	600,615	298,361	15,087	26,570	8,636,657
1953 ..	3,386,556	2,395,851	1,287,231	776,355	621,034	306,318	15,534	28,724	8,817,603
1954(a) ..	3,428,549	2,452,741	1,313,738	796,364	639,963	311,055	16,293	30,424	8,989,127
1955(a) ..	3,492,799	2,520,481	1,344,445	820,161	657,323	315,565	17,670	32,738	9,201,182
1956(a) ..	3,556,672	2,592,670	1,377,393	848,563	674,459	321,039	19,155	35,352	9,425,303
1957(a) ..	3,624,311	2,656,363	1,408,732	874,201	687,448	328,435	20,620	37,999	9,638,109
1958(a) ..	3,696,049	2,717,371	1,436,156	896,987	699,915	335,382	21,746	41,110	9,844,716
1959(a) ..	3,762,339	2,783,951	1,464,469	921,106	711,737	341,423	23,623	46,618	10,055,266
1960(a) ..	3,834,085	2,857,032	1,491,114	944,861	722,900	346,913	25,107	52,562	10,274,574
1961 ..	3,915,706	2,919,044	1,514,759	969,359	737,367	353,609	26,457	58,792	10,495,093

(a) Recalculated from population estimates revised in accordance with the preliminary results of the Census of 30th June, 1961.

(ii) *Financial Years*. The following table shows the mean population of each State and Territory for the years ended 30th June, 1952 to 1961.

MEAN POPULATION: FINANCIAL YEARS.  
(EXCLUDING FULL-BLOOD ABORIGINALS.)

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia
1952 ..	3,311,840	2,309,708	1,239,868	743,310	589,887	293,340	15,131	25,545	8,528,629
1953 ..	3,366,358	2,372,366	1,272,244	766,538	611,191	302,529	15,241	27,721	8,734,188
1954 ..	3,405,414	2,422,839	1,300,464	785,981	630,705	309,416	15,930	29,595	8,900,344
1955(a) ..	3,459,755	2,485,222	1,328,064	807,510	648,222	312,694	16,853	31,411	9,089,731
1956(a) ..	3,524,991	2,556,148	1,360,801	834,489	666,898	318,309	18,419	34,132	9,314,187
1957(a) ..	3,589,128	2,625,609	1,394,088	861,410	680,949	324,666	19,915	36,749	9,532,514
1958(a) ..	3,660,738	2,687,115	1,422,349	886,021	693,568	332,046	21,239	39,283	9,742,359
1959(a) ..	3,729,030	2,749,994	1,450,535	908,354	705,869	338,628	22,507	43,429	9,948,346
1960(a) ..	3,796,452	2,819,650	1,478,129	933,619	717,316	344,111	24,573	50,013	10,163,863
1961 ..	3,875,912	2,893,427	1,503,706	957,129	729,769	350,077	25,677	55,232	10,390,929

(a) Recalculated from population estimates revised in accordance with the preliminary results of the Census of 30th June, 1961.

## § 5. Elements of Increase.

1. General.—The two factors which contribute to the growth of a population are the "natural increase", i.e., the excess of births over deaths, and the "net migration", i.e., the excess of arrivals over departures. The "total increase" of the population is obtained by combining natural increase with the increase by net migration. However, comparison of the total increase so obtained with that derived by subtracting the population recorded at one Census from that recorded at the next Census reveals differences which can be attributed partly to differences in the coverage of the Census enumerations, and partly to deficiencies in the records of the elements of increase. The principal source of error in the elements of increase in earlier years lay in migration records, oversea as well as interstate, and adjustments were made to these records for the intercensal periods. With the gradual improvement of records of oversea migration it was considered that from July, 1933, it was no longer possible to attribute the much smaller differences solely to records of oversea migration, and since that date the differences, when ascertained for the intercensal period, have been shown as a separate item, with the elements of increase left as recorded. However, it has not been possible to effect a similar improvement in the records of interstate migration, and much of the difference between the figures for particular States may be attributed to deficiencies in this factor.

2. Elements of Increase, 1936-1961, Australia.—In the following tables, particulars are given of the elements of increase for each five-year period from 1936 to 1960 and for each of the years 1954 to 1961. The numbers of males, females and persons are shown in the first table. In the second table the rates of natural increase, net migration and population growth for persons are shown.

## POPULATION: ELEMENTS OF INCREASE.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Period.	Natural Increase.(a)	Net Migration.(b)	Intercensal Adjustment.(c)	Total Increase.
MALES.				
1936-40	(a)123,262	20,873	3,335	147,470
1941-45	(a)142,605	5,325	3,428	151,358
1946-50	(a)255,335	217,728	-3,484	469,579
1951-55	287,685	240,481	-5,794	522,372
1956-60	328,616	214,210	-3,570	539,256
1954..	57,768	37,528	-907	94,389
1955..	60,262	56,658	-770	116,150
1956..	61,397	54,395	-763	115,029
1957..	65,578	36,406	-670	101,314
1958..	66,907	29,663	-635	95,935
1959..	65,948	41,024	-704	106,268
1960..	68,786	52,722	-798	120,710
1961..	72,864	29,055	-401	101,518
FEMALES.				
1936-40	(a)148,995	22,255	3,204	174,454
1941-45	(a)195,073	2,484	3,696	201,253
1946-50	(a)274,112	135,356	-1,763	407,705
1951-55	312,017	173,343	-3,388	481,972
1956-60	351,241	190,812	-1,214	540,839
1954..	62,683	30,679	-501	92,861
1955..	65,379	40,597	-237	105,739
1956..	64,648	39,603	-234	104,017
1957..	69,827	42,326	-251	111,902
1958..	71,874	35,703	-241	107,336
1959..	71,816	35,767	-241	107,342
1960..	73,076	37,413	-247	110,242
1961..	78,161	32,468	-131	110,498
PERSONS.				
1936-40	(a)272,257	43,128	6,539	321,924
1941-45	(a)337,678	7,809	7,124	352,611
1946-50	(a)529,447	353,084	-5,247	877,284
1951-55	599,702	413,824	-9,182	1,004,344
1956-60	679,857	405,022	-4,784	1,080,095
1954..	120,451	68,207	-1,408	187,250
1955..	125,641	97,255	-1,007	221,889
1956..	126,045	93,998	-997	219,046
1957..	135,405	78,732	-921	213,216
1958..	138,781	65,366	-876	203,271
1959..	137,764	76,791	-945	213,610
1960..	141,862	90,135	-1,045	230,952
1961..	151,025	61,523	-532	212,016

(a) Excess of births over deaths. For the period September, 1939, to June, 1947, the following deaths of defence personnel, whether overseas or in Australia, have been included: 1936-40, males 461 (includes 272 male deaths of defence personnel registered in civil registers in 1940), female 1, persons 462; 1941-45, males 36,348 (includes 418 male deaths of defence personnel registered in civil registers in 1941), females 144, persons 36,492; 1946-50, males 716, females 13, persons 729. (b) Excess of arrivals over departures. Excludes troop movements for the period September, 1939, to June, 1947. (c) Adjustment of population on the basis of the final results of the 1947 and 1954 Censuses and the preliminary results of the 1961 Census. For periods subsequent to the Census of 30th June, 1961, the intercensal adjustment will not be known until after the next Census has been taken.

## POPULATION: RATES OF INCREASE, AUSTRALIA.

(Persons.)

Period.	Rate of Natural Increase.(a)	Rate of Net Migration.(b)	Rate of Population Growth.(c)
			Per cent.
1936-40 .. .. .	(a) 7.89	1.25	0.94
1941-45 .. .. .	(a) 10.32	0.22	0.99
1946-50 .. .. .	13.65	9.09	2.26
1951-55 .. .. .	13.61	9.39	2.32
1956-60 .. .. .	13.81	8.23	2.23
1954.. .. .	13.40	7.59	2.10
1955.. .. .	13.65	10.57	2.44
1956.. .. .	13.37	9.97	2.35
1957.. .. .	14.05	8.17	2.24
1958.. .. .	14.10	6.64	2.09
1959.. .. .	13.70	7.64	2.15
1960.. .. .	13.81	8.77	2.27
1961.. .. .	14.39	5.86	2.04

(a) Excess of births over deaths per 1,000 of mean population. Excess of births over civilian deaths for the period September, 1939, to June, 1947. In calculation of these rates the following deaths of defence personnel registered in civil registers, 1940 males 272, and 1941, males 418, have been included. (b) Excess of oversea arrivals over departures per 1,000 of mean population. (c) Total increase in population during the period expressed as a proportion (per cent.) of the population at the end of the previous period.

3. Analysis of Intercensal Increase, 30th June, 1954, to 30th June, 1961.—In the following table, particulars are given for States and Territories of the recorded elements of increase and the intercensal adjustment for the whole of the seven-year intercensal period from 30th June, 1954, to 30th June, 1961.

As stated in § 1. of this chapter (see p. 285), complete records of interstate migration are not available. For this reason, the differences between the estimated populations and those recorded at the Census of 30th June, 1961, i.e., the intercensal adjustment were substantial for some States. The figures shown in the following table for the Census of 30th June, 1961, are preliminary and subject to revision when the final results become available. Any such revision will affect the figures of intercensal adjustment.

## POPULATION: ANALYSIS OF INTERCENSAL INCREASE, 30th JUNE, 1954, TO 30th JUNE, 1961.

State or Territory.	Population at 30th June, 1954.(a)	Natural Increase.(b)	Net Migration.(c)	Total Recorded Increase.	Intercensal Adjustment.(d)	Population at 30th June, 1961.(e)
MALFS.						
New South Wales ..	1,720,860	150,250	86,499	236,749	15,327	1,972,936
Victoria ..	1,231,099	127,005	135,628	262,633	-19,202	1,474,530
Queensland ..	676,252	73,227	8,072	81,299	16,897	774,448
South Australia ..	403,903	41,607	46,432	88,039	- 1,756	490,186
Western Australia ..	330,358	38,000	14,723	52,723	- 7,629	375,452
Tasmania ..	157,129	19,946	13,120	33,066	-12,573	177,622
Northern Territory ..	10,288	1,753	463	2,216	3,748	16,252
Aust. Capital Territory..	16,229	3,732	10,792	14,524	105	30,858
<b>Australia ..</b>	<b>4,546,118</b>	<b>455,520</b>	<b>315,729</b>	<b>771,249</b>	<b>- 5,083</b>	<b>5,312,284</b>

For footnotes see next page.

POPULATION: ANALYSIS OF INTERCENSAL INCREASE, 30th JUNE, 1954, TO 30th JUNE, 1961—*continued.*

State or Territory.	Population at 30th June, 1954.(a)	Natural Increase.(b)	Net Migration.(c)	Total Recorded Increase.	Intercensal Adjustment.(d)	Population at 30th June, 1961.(e)
FEMALES.						
New South Wales ..	1,702,669	165,876	86,193	252,069	-10,767	1,943,971
Victoria ..	1,221,242	129,415	126,020	255,435	-20,963	1,455,714
Queensland ..	642,007	80,840	342	81,182	21,222	744,411
South Australia ..	393,191	44,156	39,892	84,048	1,833	479,072
Western Australia ..	309,413	41,432	12,615	54,047	-2,288	361,172
Tasmania ..	151,623	20,705	-8,077	12,628	8,459	172,710
Northern Territory ..	6,181	2,118	1,941	4,059	647	10,887
Aust. Capital Territory ..	14,086	3,627	10,099	13,726	158	27,970
Australia ..	4,440,412	488,169	269,025	757,194	-1,699	5,195,907
PERSONS.						
New South Wales ..	3,423,529	316,126	172,692	488,818	4,560	3,916,907
Victoria ..	2,452,341	256,420	261,648	518,068	-40,165	2,930,244
Queensland ..	1,318,259	154,067	8,414	162,481	38,119	1,518,859
South Australia ..	797,094	85,763	86,324	172,087	77	969,258
Western Australia ..	639,771	79,432	27,338	106,770	-9,917	736,624
Tasmania ..	308,752	40,651	5,043	45,694	-4,114	350,332
Northern Territory ..	16,469	3,871	2,404	6,275	4,395	27,139
Aust. Capital Territory ..	30,315	7,359	20,891	28,250	263	58,828
Australia ..	8,986,530	943,689	584,754	1,528,443	-6,782	10,508,191

(a) Census. (b) Excess of births over deaths. (c) Excess of arrivals over departures for recorded interstate and overseas migration. (d) Adjustment of population on the basis of the preliminary results of the Census of 30th June, 1961. Subject to further revision when final Census results are available. (e) Preliminary results of the Census of 30th June, 1961.

4. Rate of Population Growth.—(i) *Australia.* The annual percentage rate of population growth is computed by the compound interest formula. The formula is as follows:—

$$P_1 = P_0 (1+r)^t$$

where  $P_0$  and  $P_1$  are the populations at the beginning and end of the period respectively,  $t$  is the number of years intervening and  $r$  is the annual rate of growth.

The annual rates of growth per cent., of population in Australia during each of the years 1952 to 1961 were as follows:—1952, 2.48; 1953, 1.87; 1954, 2.10; 1955, 2.44; 1956, 2.35; 1957, 2.24; 1958, 2.09; 1959, 2.15; 1960, 2.27; and 1961, 2.04.

The annual rate of population growth during the present century has been 1.71 per cent., but the results from year to year have deviated widely from this figure. In the following table, the period 1st January, 1901, to 31st December, 1961, has been arranged into certain defined groups of years according to the occurrence of influences markedly affecting the growth of population.

## POPULATION: PERIODICAL RATES OF GROWTH.

Period.	Interval (Years.)	Total Increase. ('000.)	Average Annual Numerical Increase. ('000.)	Annual Rate of Population Growth. (Per cent.)		
				Natural Increase.	Net Migration.	Total.
1901 to 1913 ..	13	1,128	87	1.59	0.53	2.04
1914 to 1923 ..	10	862	86	1.50	0.15	1.64
1924 to 1929 ..	6	680	113	1.28	0.64	1.88
1930 to 1939(a) ..	10	569	57	0.82	0.03	0.85
1940 to 1946(a) ..	7	513	73	1.05	0.01	1.01
1947 to 1952(a) ..	6	1,222	204	1.41	1.23	2.54
1953 to 1961 ..	9	1,864	207	1.44	0.83	2.17

(a) For the period September, 1939, to June, 1947, overseas movements of Australian defence forces have been excluded and deaths of members of these forces, whether occurring in Australia or overseas, have been included.

Up to 1913, the rate of natural increase was rising, and this factor, coupled with the impetus given to immigration from 1911 onwards by increased governmental assistance, was responsible for the comparatively high annual rate of 2.04 per cent. during this period. The 1914–18 War was a dominating influence in the decade 1914–23, and its effects can be seen in the reduction of the rate from 2.04 to 1.64 per cent. From 1924 to 1929, more settled and prosperous conditions were experienced; encouraged migration was resumed on a large scale and, despite a further decline in the rate of natural increase owing to the persistent fall in the birth rate, the annual rate of growth rose to 1.88 per cent. After 1929 came the economic depression and immigration ceased—in fact, Australia actually lost people through an excess of departures over arrivals in 1930, 1931, 1932 and 1935. The rate of natural increase also fell, and the annual rate of growth of the population fell to 0.85 per cent. With the outbreak of war in 1939, Australia entered a new phase in her demographic history. The immediate effect of the war was to increase the number of marriages and to reverse the downward trend in fertility. The number of births increased each war year from 1940 to 1945, and these increases more than offset the rise in deaths due to war casualties and higher civilian death rates. As might be expected, migration over these years was negligible. The period 1947 to 1961 was marked by a continued high natural increase and a resumption of immigration, the latter resulting in very high net gains in each of the four years 1949 to 1952. The annual rate of growth for the period 1947 to 1952 was 2.54 per cent., and from 1953 to 1961 2.17 per cent.

Rates of population growth from 1881 are shown for each State and Territory of Australia in the annual bulletin, *Demography*.

(ii) *Comparison with Other Countries.* Estimated rates of growth of the population of Australia in comparison with those for other countries of the world for the years 1953–1959 are shown in the table in § 15. International Statistics.

## § 6. Density.

1. **General.**—From certain aspects, population may be less significant in respect of its absolute amount than in its relation to the area of the country. Australia, with an area of 2,971,081 square miles and an estimated population at 31st December, 1961, of 10,603,936 excluding full-blood aborigines, has a density of only 3.57 persons to the square mile, and is, therefore, the most sparsely populated of the civilized countries of the world. For the other continents and sub-continents, the densities in 1959 were approximately as follows:—Europe (excluding U.S.S.R.), 221; Asia (excluding U.S.S.R.), 156; U.S.S.R., 24; Africa, 20; Northern and Middle America, 28; and South America, 20. The population density of Australia in 1959 was 3.4; about one-sixth of that of South America and of Africa; about one-seventh of that of U.S.S.R.; about one-eighth of that of Northern and Middle America; about one-forty-sixth of that of Asia (excluding U.S.S.R.); and about one sixty-sixth of that of Europe (excluding U.S.S.R.).

On account of the large area of Australia and the unsuitability for settlement of much of the country, the density of population must necessarily increase slowly. In Australia as a whole, the figure has increased from 1.29 per square mile in 1901 to 3.57 in 1961. The rise in density from 1901 to 1961 in each State and Territory was:—New South Wales 4.45 to 12.78, Victoria 13.77 to 33.57, Queensland 0.76 to 2.28, South Australia 0.95 to 2.58, Western Australia 0.20 to 0.76, Tasmania 6.68 to 13.89, Northern Territory 0.01 to 0.05, and Australian Capital Territory 2.05 (in 1911) to 66.12. When comparing the density of population of the several States, consideration should be given to the average annual rainfall distribution in each State as an indication of the climatic influence upon probable population numbers. The proportion of the area of Australia receiving less than 10 inches of rainfall is 38 per cent.; that of the various States is:—New South Wales, 20 per cent.; Victoria, nil; Queensland, 13 per cent.; South Australia, 83 per cent.; Western Australia, 58 per cent.; and Tasmania, nil.

2. **Main Countries of the World.**—The number and density of population of the principal countries and continental groupings of the world are shown in the table in § 15. International Statistics.

## § 7. General Characteristics.

1. Sex Distribution.—(i) States. The number of males to each hundred females has been adopted as a measure of the "masculinity" of the population. The masculinity of the population of each of the States may be obtained for each year from 1796 to 1900 from the table on pages 163–5 of Official Year Book No. 2 and for the years 1901 to 1910 from the table on page 123 of issue No. 5.

With the exception of some dislocation arising from the two World Wars, there was a continuous diminution of the masculinity of the population until 1945. This resulted from the increasing proportion of the population in the higher age groups, in which females preponderate owing to their greater longevity, and from the general long-term fall in the birth rate. At the 1947 Census, the numbers of the sexes were practically equal, but there has since been an increase in masculinity owing to the greater number of males as compared with females in net overseas migration, which offsets the femininity of natural increase.

The following table shows the masculinity of the population at ten-year intervals from 1900 to 1960 and for each of the years 1957 to 1961.

## POPULATION: MASCULINITY, 1900 TO 1961.

(NUMBER OF MALES PER 100 FEMALES.)

At 31st December—	N.S.W.	Victoria.	Q'land.	S. Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Aust.
1900 .. ..	111.14	101.23	125.33	101.95	157.54	107.97	753.60		110.55
1910 .. ..	109.23	98.71	119.02	103.12	132.90	104.14	486.32	(a)	107.87
1920 .. ..	104.31	97.38	112.00	99.83	114.55	101.67	270.04	116.70	103.47
1930 .. ..	103.39	99.14	110.66	100.97	117.17	101.53	263.66	118.69	103.85
1940 .. ..	100.98	97.85	108.48	98.91	110.38	102.74	240.31	124.62	101.81
1950 .. ..	100.88	99.27	106.02	101.83	106.07	102.70	188.05	123.33	101.83
1960(b) ..	101.38	101.61	104.16	102.24	103.99	100.73	147.82	111.51	102.22
1957(b) ..	101.50	101.60	104.72	102.41	105.06	100.23	152.04	113.81	102.41
1958(b) ..	101.24	101.47	104.33	101.95	104.54	99.75	147.75	114.81	102.13
1959(b) ..	101.17	101.52	104.24	102.00	103.92	99.56	149.15	111.98	102.06
1960(b) ..	101.38	101.61	104.16	102.24	103.99	100.73	147.82	111.51	102.22
1961 .. ..	100.98	101.03	104.07	102.14	104.01	104.03	150.71	110.38	102.00

(a) Part of New South Wales prior to 1911.

(b) Based on preliminary results of the Census, 30th June, 1961.

(ii) Comparison with other Countries. The masculinity of the population in the principal countries of the world is shown in the table in § 15. International Statistics.

2. Age Distribution.—The age distribution of the population is obtained only at a census, but estimates, based on the census distribution and on births, recorded ages at death and recorded ages of migrants, are made for intercensal years. Particulars of ages ascertained at the Census of 30th June, 1961, may be found in the Appendix to this issue.

The next table shows the change which has taken place in the age constitution of the population of Australia since 1871. Up to the 1954 Census, each successive census except that of 1921 had revealed a larger percentage of the population 15 years of age and over than had been recorded at the previous census. In 1954, however, the proportion of this age group dropped sharply to a level (71.5 per cent.) slightly below that of 1933, the proportion under 15 years showing a corresponding increase to 28.5 per cent. of the total population. The proportions at 30th June, 1960, were estimated to be 69.9 per cent. and 30.1 per cent. respectively.

## POPULATION: PROPORTIONAL AGE DISTRIBUTION, AUSTRALIA, 1871 TO 1960.

(Per cent.)

Census.	Males.				Females.				Persons.			
	Under 15 years.	15 and under 65.	65 and over.	Total	Under 15 years.	15 and under 65.	65 and over.	Total.	Under 15 years.	15 and under 65.	65 and over.	Total.
1871..	38.84	59.11	2.05	100	46.02	52.60	1.38	100	42.09	56.17	1.74	100
1881..	36.36	60.81	2.83	100	41.86	56.03	2.11	100	38.89	58.61	2.50	100
1891..	34.80	62.01	3.19	100	39.38	58.09	2.53	100	36.92	60.19	2.89	100
1901..	33.89	61.80	4.31	100	36.51	59.88	3.61	100	35.14	60.88	3.98	100
1911..	30.84	64.82	4.34	100	32.52	63.28	4.20	100	31.65	64.08	4.27	100
1921..	31.64	63.88	4.48	100	31.79	63.83	4.38	100	31.71	63.86	4.43	100
1933..	27.53	66.09	6.38	100	27.42	65.99	6.59	100	27.48	66.04	6.48	100
1947..	25.49	67.08	7.43	100	24.62	66.71	8.67	100	25.06	66.89	8.05	100
1954..	28.81	63.82	7.37	100	28.23	62.52	9.25	100	28.52	63.18	8.30	100
1960(a)	30.50	62.30	7.20	100	29.72	60.55	9.73	100	30.11	61.43	8.46	100

(a) Estimate 30th June.

3. Other General Characteristics.—Details of the conjugal condition, birthplace, period of residence, nationality, religion, industry, occupational status, race, and other general characteristics of the Australian population are obtained only at a population census. Tables showing particulars as at the Censuses of 30th June, 1947, and 1954, were included in earlier issues of the Official Year Book (see No. 47, pp. 305–16). Particulars available for the Census of 30th June, 1961, may be found in the Appendix to this issue.

## § 8. Oversea Migration.

1. Oversea Migration during the Present Century.—Earlier issues of the Official Year Book contain, in summary form, tables showing the increase of population by net migration from 1861 to the latest date, while information for individual years from 1881 is published in the annual bulletin, *Demography*. The following table shows, for Australia, arrivals and departures and net migration since 1936, and refers to total movement irrespective of length of stay. A graph showing arrivals and departures from 1921 to 1961 appears on page 308.

## OVERSEA MIGRATION: AUSTRALIA.

Period.	Arrivals.			Departures.			Excess of Arrivals over Departures.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
1936–40(a)	161,774	159,538	321,312	140,901	137,283	278,184	20,873	22,255	43,128
1941–45(a)	35,422	28,503	63,925	30,097	26,019	56,116	5,325	2,484	7,809
1946–50(a)	398,507	303,413	701,920	180,779	168,057	348,836	217,728	135,356	353,084
1951–55..	581,300	446,566	1,027,866	340,819	273,223	614,042	240,481	173,343	413,824
1956–60..	695,445	568,652	1,264,097	481,235	377,840	859,075	214,210	190,812	405,022
1957 ..	123,487	109,841	233,328	87,081	67,515	154,596	36,406	42,326	78,732
1958 ..	121,030	109,234	230,264	91,367	73,531	164,898	29,663	35,703	65,366
1959 ..	139,941	113,955	253,896	98,917	78,188	177,105	41,024	35,767	76,791
1960 ..	169,579	129,582	299,161	116,857	92,169	209,026	52,722	37,413	90,135
1961 ..	170,404	142,686	313,090	141,349	110,218	251,567	29,055	32,468	61,523

(a) Excludes movements of defence personnel from September, 1939 to June, 1947.



2. **Classification of Arrivals and Departures.**—Since 1st July, 1924, overseas travellers have been classified according to declared intention in regard to residence. Certain of the headings previously used in this classification were changed, as from 1957, to ensure more accurate definition and to assist in interpretation of the figures. The figures themselves, however, are exactly comparable with those published in issues of the Official Year Book prior to No. 44.

“Long Term and Permanent Movement” (formerly described as “Permanent Movement”) relates to *persons arriving* who state that they intend to reside in Australia for a period of one year or more; and to *persons departing* who state that they intend to reside abroad for a period of one year or more.

“Short Term Movement” (formerly described as “Temporary Movement”) relates to *persons arriving* who state that they intend to reside in Australia for a period of less than one year; and to *persons departing* who state that they intend to reside abroad for a period of less than one year. Since 1st July, 1947, it also includes Australian defence personnel irrespective of intended length of residence. Although considerable in number, the short term movement is of little significance from the point of view of population growth, as it represents principally the movement of people travelling on business or for pleasure.

These definitions are in accordance with international usage and do not purport to represent permanent migration as such. For various reasons, the intentions of travellers are subject to subsequent modification and the classification headings used must therefore be accepted as indicating intention only. The numbers so classified since 1st January, 1936, are as follows.

**ARRIVALS AND DEPARTURES CLASSIFIED ACCORDING TO INTENDED RESIDENCE: AUSTRALIA.**

Period.	Arrivals.				Departures.			
	Long Term and Permanent Movement.(a)	Short Term Movement.(a)		Total.	Long Term and Permanent Movement.(a)	Short Term Movement.(a)		Total.
		Australian Residents Returning.	Visitors Arriving.			Australian Residents Departing.	Visitors Departing.	
1936-40 ..	(b)88,712	104,870	127,730	321,312	51,006	94,650	132,528	278,184
1941-45 ..	(b)32,624	11,150	20,151	63,925	22,399	9,163	24,554	56,116
1946-50 ..	457,988	108,736	135,196	701,920	105,968	101,787	141,081	348,836
1951-55 ..	570,090	216,949	240,827	1,027,866	155,509	212,978	245,555	614,042
1956-60 ..	615,767	309,611	338,719	1,264,097	210,807	306,118	342,150	859,075
1957 ..	118,695	56,017	58,616	233,328	41,073	53,438	60,085	154,596
1958 ..	109,857	59,065	61,342	230,264	44,978	58,888	61,032	164,898
1959 ..	124,022	61,754	68,120	253,896	40,444	64,631	72,030	177,105
1960 ..	139,371	75,167	84,623	299,161	46,595	77,761	84,670	209,026
1961 ..	127,586	86,208	99,296	313,090	59,147	89,880	102,540	251,567

(a) For definitions of long term and permanent and short term movement see letterpress above.

(b) Includes evacuees arriving in Australia during the war years as follows:—1936-40, 4,543; 1941-45, 12,586.

3. **Country of Origin or Destination.**—Since 1st January, 1945, the journeys undertaken by passengers have been recorded for Australian overseas migration statistics in two ways: (a) according to country of embarkation or disembarkation and (b) according to country of last or intended future residence. Details are published in the annual bulletin, *Demography*.

## 4. Nationality.—The principal nationalities for the years 1960 and 1961 are as follows.

## NATIONALITY OF ARRIVALS AND DEPARTURES: AUSTRALIA.

Nationality.	Arrivals.		Departures.		Excess of Arrivals over Departures.	
	1960.	1961.	1960.	1961.	1960.	1961.
British(a) ..	202,027	225,678	172,124	202,773	29,903	22,905
American(U.S.) ..	12,783	15,973	11,729	14,681	1,054	1,292
Austrian ..	2,328	1,444	805	1,131	1,523	313
Chinese ..	1,722	2,230	865	1,110	857	1,120
Czechoslovak ..	150	160	151	167	-1	-7
Dutch ..	12,236	9,506	5,251	7,242	6,985	2,264
Estonian ..	28	15	10	10	18	5
French ..	2,121	2,869	1,998	2,760	123	109
German ..	13,678	7,303	3,415	5,230	10,263	2,073
Greek ..	9,187	8,381	956	1,378	8,231	7,003
Hungarian ..	326	317	162	186	164	131
Italian ..	22,123	19,183	4,812	5,937	17,311	13,246
Latvian ..	25	36	36	21	-11	15
Lithuanian ..	15	12	58	24	-43	-12
Polish(b) ..	1,417	1,563	187	239	1,230	1,324
Russian(c) ..	606	1,524	214	401	392	1,123
Ukrainian ..	17	10	38	11	-21	-1
Yugoslav ..	1,929	2,980	297	398	1,632	2,582
Stateless (so described) ..	5,478	2,176	329	263	5,149	1,913
Stateless (other(d)) ..	288	196	7	9	281	187
Other ..	10,677	11,534	5,582	7,596	5,095	3,938
<b>Total ..</b>	<b>299,161</b>	<b>313,090</b>	<b>209,026</b>	<b>251,567</b>	<b>90,135</b>	<b>61,523</b>

(a) For the purpose of this table "British" includes "Irish" and "South African" (so described).  
 (b) Includes "Stateless" who were formerly Polish. (c) Includes "Stateless" who were formerly Russian.  
 (d) Stateless, with former nationality stated but other than Polish or Russian.

NOTE.—Minus sign (-) indicates excess of departures over arrivals.

5. Age Distribution and Conjugal Condition.—A summary of the age distribution and conjugal condition of arrivals and departures during 1961 is as follows. The figures shown refer to total movement, irrespective of length of stay.

## AGE DISTRIBUTION AND CONJUGAL CONDITION OF ARRIVALS AND DEPARTURES, AUSTRALIA, 1961.

Age Group (Years).	Arrivals.			Departures.			Excess of Arrivals over Departures.		
	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.
AGE DISTRIBUTION.									
0-14 ..	25,710	24,177	49,887	15,349	14,582	29,931	10,361	9,595	19,956
15-44 ..	96,652	72,850	169,502	79,950	53,775	133,725	16,702	19,075	35,777
45-64 ..	38,250	34,556	72,806	36,631	31,675	68,306	1,619	2,881	4,500
65 and over ..	9,792	11,103	20,895	9,419	10,186	19,605	373	917	1,290
<b>Total ..</b>	<b>170,404</b>	<b>142,686</b>	<b>313,090</b>	<b>141,349</b>	<b>110,218</b>	<b>251,567</b>	<b>29,055</b>	<b>32,468</b>	<b>61,523</b>
CONJUGAL CONDITION.									
Never Married—									
Under 15 ..	25,710	24,177	49,887	15,349	14,582	29,931	10,361	9,595	19,956
15 and over ..	50,915	37,977	88,892	43,403	29,649	73,052	7,512	8,328	15,840
Married ..	89,178	67,401	156,579	78,002	53,917	131,919	11,176	13,484	24,660
Widowed ..	3,141	11,293	14,434	3,204	10,459	13,663	-63	834	771
Divorced ..	1,460	1,838	3,298	1,391	1,611	3,002	69	227	296
<b>Total ..</b>	<b>170,404</b>	<b>142,686</b>	<b>313,090</b>	<b>141,349</b>	<b>110,218</b>	<b>251,567</b>	<b>29,055</b>	<b>32,468</b>	<b>61,523</b>

NOTE.—Minus Sign (-) indicates excess of departures over arrivals.

6. **Occupation.**—A summary of the main occupational groupings of arrivals and departures classified to long-term and permanent movement (*see* para. 2, p. 299) during 1961 is as follows.

**LONG-TERM AND PERMANENT MOVEMENT: OCCUPATION OF OVERSEA ARRIVALS AND DEPARTURES, AUSTRALIA, 1961.**

Occupation Group.	Arrivals.	Departures.	Excess of Arrivals over Departures.
Professional, Technical and Related Workers ..	8,511	6,791	1,720
Administrative, Executive and Managerial Workers .. .. .	2,521	1,484	1,037
Clerical Workers .. .. .	6,720	5,778	942
Sales Workers .. .. .	2,480	1,687	793
Farmers, Fishermen, Hunters, Timbergetters and Related Workers .. .. .	3,640	955	2,685
Miners, Quarrymen and Related Workers ..	600	238	362
Workers in Transport and Communication ..	2,633	1,268	1,365
Craftsmen and Production Process Workers ..	17,800	8,986	8,814
Labourers .. .. .	6,973	3,571	3,402
Service (Protective and Other), Sport and Recreation Workers .. .. .	9,401	2,062	7,339
Occupation inadequately described or not stated	2,545	618	1,927
Persons not in Work Force—			
Children and Students .. .. .	37,867	14,111	23,756
Others .. .. .	25,895	11,598	14,297
<b>Total .. .. .</b>	<b>127,586</b>	<b>59,147</b>	<b>68,439</b>

**§ 9. Assisted Migration into Australia.**

1. **General.**—Particulars are shown in the following table of the total numbers of persons who were assisted to come to Australia by the Australian Government under all assisted passage schemes during the period 1936 to 1961.

**“ ASSISTED ” MIGRATION: AUSTRALIA.**

Period.	Nominated and Selected (“ Assisted ”) Arrivals.
1936-40 .. .. .	3,828
1941-45 .. .. .	..
1946-50 .. .. .	273,195
1951-55 .. .. .	275,241
1956-60 .. .. .	305,517
1956 .. .. .	54,957
1957 .. .. .	62,361
1958 .. .. .	55,799
1959 .. .. .	64,146
1960 .. .. .	68,254
1961 .. .. .	55,685

2. **Joint Commonwealth and States Scheme.**—Details of the joint scheme of assisted immigration arrived at by agreement between the Commonwealth and State Governments, which operated from 1920 to 1939, were published in earlier issues of the Official Year Book (*see* No. 38, p. 576). After the outbreak of hostilities in 1939, it was decided to discontinue the grant of assisted passages for the duration of the war.

3. **United Kingdom Migration.**—(i) *General.* Resumption of migration was the subject of negotiations between the Commonwealth and United Kingdom Governments towards the end of 1945 and two agreements were signed in March, 1946. These agreements, which came into operation on 31st March, 1947, provided for free and assisted passages to be granted to British residents desirous of settling in Australia. The Free Passage Agreement, which applied to British ex-servicemen and their dependants, was terminated on 28th February, 1955. From 1st April, 1949, the Assisted Passage Agreement continued in operation under renewal from time to time and was again renewed as from 1st April, 1957. It is due for renewal again as from 1st April, 1962.

(ii) *Assisted Passages.* Under the existing financial arrangements, the United Kingdom Government's contribution towards the Assisted Passage Scheme is agreed upon when the agreement is extended, and for the five years from 1st April, 1957, was fixed at a maximum amount of £150,000 sterling a year.

The Assisted Passage Agreement covers five main groups of migrants (and their families), namely, personal nominees, group nominees, Commonwealth nominees, "Bring out a Briton" campaign families, and unnominated migrants. *Personal nominees* are migrants sponsored by residents of Australia able to provide suitable accommodation for them (any adult resident of Australia may nominate friends or relatives in the United Kingdom who are eligible to be considered for assisted passages under this agreement). *Group nominees* are recruited on a trade-qualification basis to meet applications lodged by employers and State Governments, who undertake to provide employment and accommodation for those selected; *Commonwealth nominees* comprise workers selected against known and assessed employment demands in Australia. Migrants in this group can live in hostels established by the Commonwealth Government for up to two years while they are seeking to obtain private accommodation. The Commonwealth nominee scheme was introduced in 1950 in order to reinforce the personal and group nomination schemes. "Bring out a Briton" campaign families are selected to fill employment and accommodation vacancies located by special voluntary committees formed by community effort to stimulate the flow of British migrants who are otherwise unable to obtain sponsorship. *Unnominated migrants* may also be granted assisted passages, even though they are unable to arrange personal nominations and are not occupationally qualified for approval under other existing assisted passage selection schemes. Unnominated families must possess a minimum of £500 sterling for transfer to Australia and must be prepared to make their own accommodation arrangements after arrival. Unnominated single persons must possess £25 sterling, and married couples without children £50 sterling.

Although the Commonwealth is not generally prepared to accept single persons or married persons without children if they have reached their forty-sixth birthday before the date of sailing, the parents or close relatives of intending migrants or of persons established in Australia may, if otherwise acceptable under the scheme, be granted passages irrespective

of age. Each migrant of 19 years of age and over is required to contribute £10 sterling towards the cost of his or her passage, while persons under 19 years travel free. Apart from this contribution and that made annually by the United Kingdom Government, the cost of the passages is borne by the Commonwealth Government.

(iii) *Number of Arrivals.* The numbers of British migrants who came to Australia under the Free and Assisted Passage Agreement during the years January, 1947, to June, 1961, are given in the following table.

**UNITED KINGDOM FREE AND ASSISTED PASSAGE AGREEMENT: NUMBER OF MIGRANTS.(a)**

Period.	N.S.W.	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	A.C.T.	Commonwealth Nominations.	Total.
1956-57 ..	4,169	5,018	2,730	1,713	1,715	700	175	7,356	23,576
1957-58 ..	6,069	6,402	4,040	3,446	2,406	976	233	6,397	29,969
1958-59 ..	4,375	4,931	2,449	2,912	1,853	706	210	11,070	28,506
1959-60 ..	6,341	6,324	2,862	3,988	1,442	873	277	11,790	33,897
1960-61 ..	6,313	6,186	2,579	3,308	1,613	637	234	13,830	34,700
<b>Total, January, 1947 to June, 1961 ..</b>	<b>82,679</b>	<b>93,936</b>	<b>43,334</b>	<b>32,753</b>	<b>33,295</b>	<b>11,974</b>	<b>3,910</b>	<b>98,987</b>	<b>400,868</b>

(a) Includes child migrants as shown in para. 4 (iii) below.

4. *Child Migration from the United Kingdom.*—(i) *General.* Since the commencement of the assisted passage schemes in 1947, the migration of unaccompanied children and youths from the United Kingdom has been encouraged under the auspices of approved voluntary organizations. The organizations at present introducing child migrants include the Fairbridge Farm Schools, Dr. Barnardo's Homes, the Big Brother Movements of New South Wales and Tasmania, and the Northcote Children's Emigration Fund. All the principal religious denominations are also participating in the scheme. There are 34 approved homes in Australia caring for approximately 800 child migrants.

(ii) *Financial Assistance.* The United Kingdom Government contributes 12s. 6d. a week for each child and in addition the respective State Governments contribute amounts varying from 7s. a week in New South Wales to £1 3s. 3d. in Western Australia. The Commonwealth Government pays the normal child endowment of 10s. a week. In addition, the Commonwealth Government and the State Government concerned have contributed towards the capital expenditure on accommodation for child migrants.

(iii) *Number of Arrivals.* From the beginning of 1947 to 30th June, 1961, a total of 6,037 British children and youths arrived under the sponsorship of voluntary organizations. New South Wales took 3,761, Western Australia 1,309, Victoria 531, and the other three States 436. These children were brought to Australia under the United Kingdom Free and Assisted Passage Scheme and are included in the figures shown in the table above.

5. *Maltese Migration.*—On 31st May, 1948, the Commonwealth Government and the Government of Malta entered into an agreement under which both Governments grant financial assistance towards the passage costs of selected Maltese migrants. The Commonwealth contribution is £30 sterling per adult, with proportionate amounts for children,

and the Government of Malta contributes an amount at least equal to this sum. This agreement has been extended from time to time. On 13th August, 1957, a new agreement, which was acknowledged to have come into effect as from 1st July, 1956, was signed between the two Governments. This agreement, which was to be of 2 years' duration, was extended to 30th June, 1959, and subsequently to 30th June, 1962.

From its inception until 30th June, 1961, a total of 26,512 Maltese had arrived under this scheme. Up to the end of June, 1961, 241 Maltese children had been brought out to approved institutions in Australia. These are included in the number shown above.

**6. Netherlands Migration.**—A migration agreement outlining the terms and conditions under which Netherlands nationals may be selected in the Netherlands and assisted with their passage costs to enable them to settle in Australia was concluded between the Commonwealth and Netherlands Governments in February, 1951, and came into operation on 1st April of that year. The agreement was extended for a period of 5 years as from 1st April, 1956, and subsequently until 1st April, 1962. This superseded an earlier arrangement in 1946, between the Commonwealth and the Netherlands Emigration Foundation (*see* Official Year Book No. 39, p. 567).

The migrant is required to contribute towards his passage costs in accordance with a formula devised by the Netherlands Government. The balance is met by the Commonwealth and Netherlands Governments and the Intergovernmental Committee for European Migration. The Commonwealth Government's contribution is now equivalent to \$118 a head.

The provision of shipping is the responsibility of the Netherlands Government. The Commonwealth arranges for the reception of migrants and their after-care and assists in the securing of employment. Families who have not obtained private accommodation prior to arrival may be temporarily accommodated in an Immigration Centre. When the breadwinner is placed in employment, he proceeds either to employer-found accommodation or to a Commonwealth Hostel. These arrangements continue until the family can secure its own accommodation, or vacancies enable a family to be united in a hostel.

Up to the end of June, 1961, 61,948 Dutch migrants had settled here under the Netherlands-Australia Migration Agreement.

**7. Italian Migration.**—On 29th March, 1951, the Commonwealth and Italian Governments entered into a migration agreement effective for a period of 5 years, under which certain selected Italian migrants were assisted to Australia. The agreement came into force on 1st August, 1951.

The agreement was temporarily suspended at the end of 1952, but in March, 1954, provision was made for assisted passages to be granted to certain relatives and fiancées of migrants who had previously settled in Australia under the agreement. On 1st December, 1954, the agreement proper was re-opened and was extended to 31st July, 1959. It has since been further extended to 31st July, 1962. At present, the Commonwealth contributes the equivalent of \$100 towards the fare of each migrant. The balance of passage costs is contributed by the migrants themselves, the Italian Government, and the Intergovernmental Committee for European Migration. Up to 30th June, 1961, arrivals under this agreement totalled 43,938 persons.

**8. German Migration.**—On 29th August, 1952, a migration agreement was signed between the Commonwealth Government and the Government of the Federal Republic of Germany. This was somewhat similar to the agreements concluded with the Netherlands and Italy and was effective for a period of 5 years. The agreement was renewed on 27th August, 1958, to be effective from 29th August, 1957. The Commonwealth Government's contribution towards passage costs is the equivalent of \$100 a head. The migrants may be required to pay a small contribution and the balance of passage costs is paid by the Intergovernmental Committee for European Migration. The ICEM payment is derived in part from a lump sum contribution which the Government of the Federal Republic of Germany makes annually to the Committee. Arrivals of German assisted migrants numbered 65,613 to the end of June, 1961.

9. **Austrian Migration.**—Late in 1952, arrangements were made with the Intergovernmental Committee for European Migration for the migration to Australia of a small number of selected rural and other workers and their families from Austria. Later, these arrangements were extended to cover greater numbers and wider categories of migrants. The Commonwealth contributes an amount equivalent to \$100 a head towards the passage costs of Austrian migrants. The Austrian Government, the Intergovernmental Committee for European Migration and the migrants themselves also contribute towards passage costs. Reception arrangements, temporary accommodation, after-care and placement in employment are undertaken by the Commonwealth. Under these arrangements, 16,523 Austrians arrived in Australia up to 30th June, 1961.

10. **Greek Migration.**—An arrangement similar to the Austrian one was made with the Intergovernmental Committee for European Migration late in 1952. The Commonwealth's contribution and the arrangements for reception, accommodation, employment and after-care are the same as for Austrian migrants. Under this arrangement, 28,796 Greek assisted migrants had settled in Australia up to 30th June, 1961.

11. **Refugee Migration.**—On 21st July, 1947, the Commonwealth Government entered into an agreement with the International Refugee Organization to settle displaced persons in Australia. Although the International Refugee Organization concluded its activities in 1951, the Commonwealth agreed to receive those displaced persons already accepted for migration, but whose passages had still to be arranged. A total of 170,700 persons settled in Australia under this scheme. Following the cessation of the Displaced Persons Scheme in 1951, Australia has accepted for permanent resettlement under assisted passage arrangements 29,850 refugees of European origin to 30th June, 1961. Included in this figure are 14,060 Hungarians who have been granted asylum in Australia since the uprising in October, 1956. The Commonwealth Government granted a total of £A130,000 for the relief of Hungarian refugees and, in addition, contributed the equivalent of \$100 a head to the passage costs of those refugees who were granted assisted passages.

Australia continues to accept refugees under assisted passage and full-fare arrangements. In recent years, a special assisted passage quota has been established with application mainly in Italy and Austria. In the post-war period to 30th June, 1961, 261,399 refugees arrived as assisted passage or full-fare migrants.

12. **General Assisted Passage Scheme.**—To encourage the migration of persons from the United States of America, Switzerland, Denmark, Norway, Sweden and Finland, the Commonwealth Government on 10th September, 1954, introduced an assisted passage scheme for nationals of these countries. Later, the scheme was extended to cover certain British subjects living in a number of countries other than the United Kingdom and to nationals of Eire, Belgium and France. (As from 1st February, 1961, new arrangements have operated for Belgium. *See* para. 14 following.) Up to 31st December, 1958, the Commonwealth made a contribution of £37 10s. sterling per adult and *pro rata* amounts for children according to the fare paid, but this was increased to £57 2s. 10d. sterling (\$160) per adult and *pro rata* for children in respect of migrants approved on and after 1st January, 1959. To the end of June, 1961, 16,080 migrants had arrived in Australia under this scheme.

13. **Spanish Migration.**—Negotiations were finalized in 1958 with the Spanish Government and the Intergovernmental Committee for European Migration under which selected rural workers suitable for sugar-cane cutting were offered assisted passages to Australia. Later this arrangement was extended to include other occupational groups, recruitment being handled by the Chief Migration Officer, Rome.

The Commonwealth contributes £A.44 12s. 9d. (\$100) towards the passage costs of each approved migrant while the Spanish Government, the migrant, and the Intergovernmental Committee for European Migration contribute the balance.

Reception arrangements, temporary accommodation and initial placement in employment are the responsibility of the Commonwealth. Under these arrangements 2,005 Spanish nationals arrived in Australia up to 30th June, 1961.

14. **Belgian Migration.**—On 1st February, the General Assisted Passage Scheme, which had covered Belgian nationals, ceased to operate in Belgium and arrangements similar to those operating in Greece and Austria were introduced following negotiations with the Belgian Government and with the Intergovernmental Committee for European Migration.

The Commonwealth contribution and the arrangements for reception, accommodation, employment and after-care are the same as for Austrian migrants. Under these arrangements 232 Belgian assisted migrants arrived in Australia up to 30th June, 1961.

15. **Other Assisted Migration Schemes.**—The Displaced Persons Scheme, the Empire and Allied Ex-Servicemen's Scheme, the Triestian Scheme and the Eire Assisted Passage Scheme have now lapsed. Details of these schemes were published in earlier issues of the Official Year Book (see No. 47, p. 320).

16. **Summary of Arrivals of Assisted Migrants.**—The following table shows the number of assisted migrants who arrived in Australia in each of the last five financial years and since January, 1947.

#### ARRIVALS UNDER ASSISTED MIGRATION SCHEMES.

Assisted Migration Scheme.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.	January, 1947 to June, 1961.
Austrian .. .. .	2,333	1,007	1,289	1,841	1,494	16,523
Belgian .. .. .	..	..	..	..	232	232
General Assisted Passage <sup>(a)</sup> ..	2,459	1,511	3,275	4,176	3,527	16,080
German .. .. .	4,701	4,218	6,541	9,514	10,151	65,613
Greek .. .. .	3,059	1,907	2,099	2,191	2,086	28,796
Italian .. .. .	4,805	2,781	3,014	3,006	3,013	43,938
Maltese .. .. .	475	729	1,005	1,028	1,099	26,512
Netherlands .. .. .	7,773	5,402	7,222	8,842	5,728	61,948
Refugee .. .. .	11,070	6,759	4,118	3,969	3,413	200,550
Spanish .. .. .	..	..	328	447	1,230	2,005
United Kingdom .. .. .	23,576	29,969	28,506	33,897	34,700	400,868
Other Schemes .. .. .	292	376	623	406	323	28,098
<b>Total .. .. .</b>	<b>60,543</b>	<b>54,659</b>	<b>58,020</b>	<b>69,317</b>	<b>66,996</b>	<b>891,163</b>

(a) Mostly Scandinavians and U.S. Americans, but includes some British nationals from countries other than the United Kingdom.

NOTE.—(i) All arrivals indicated in this table have obtained some financial assistance from the Australian Government towards payment of their passage money. Transport to Australia for the migrants concerned has been arranged on (1) ships under charter to the Department of Immigration, (2) ships and aircraft under charter to the Intergovernmental Committee for European Migration and (3) normal commercial shipping and airlines.

(ii) The arrivals under these schemes include a small number of nationals of countries other than those referred to, and stateless persons.

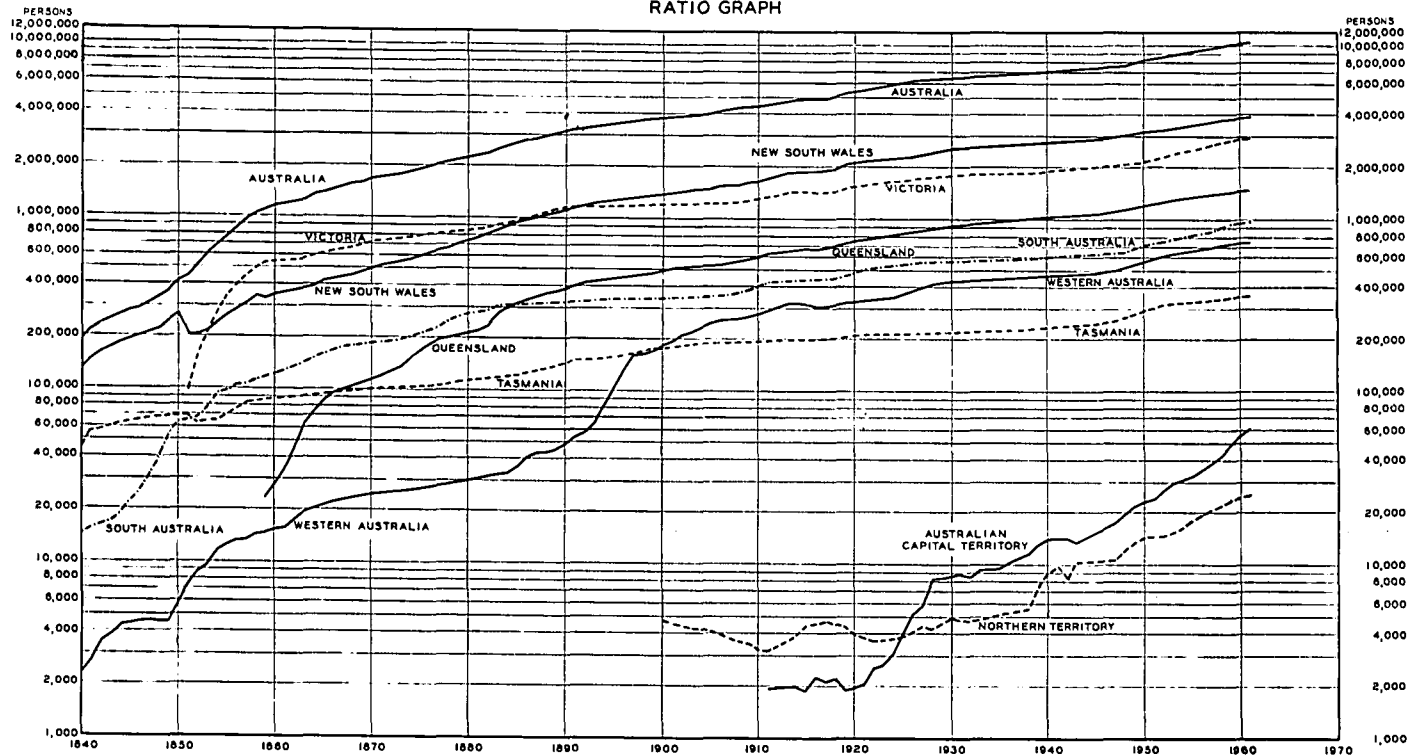
### § 10. The Regulation of Immigration into Australia.

1. **Powers and Legislation of the Commonwealth.**—(i) *Constitutional.* Under section 51 (xxvii.) and (xxviii.) of the Commonwealth Constitution, the Parliament of the Commonwealth is empowered to make laws with respect to immigration, emigration, aliens, and the influx of criminals.



# POPULATION OF AUSTRALIA, 1840 to 1961

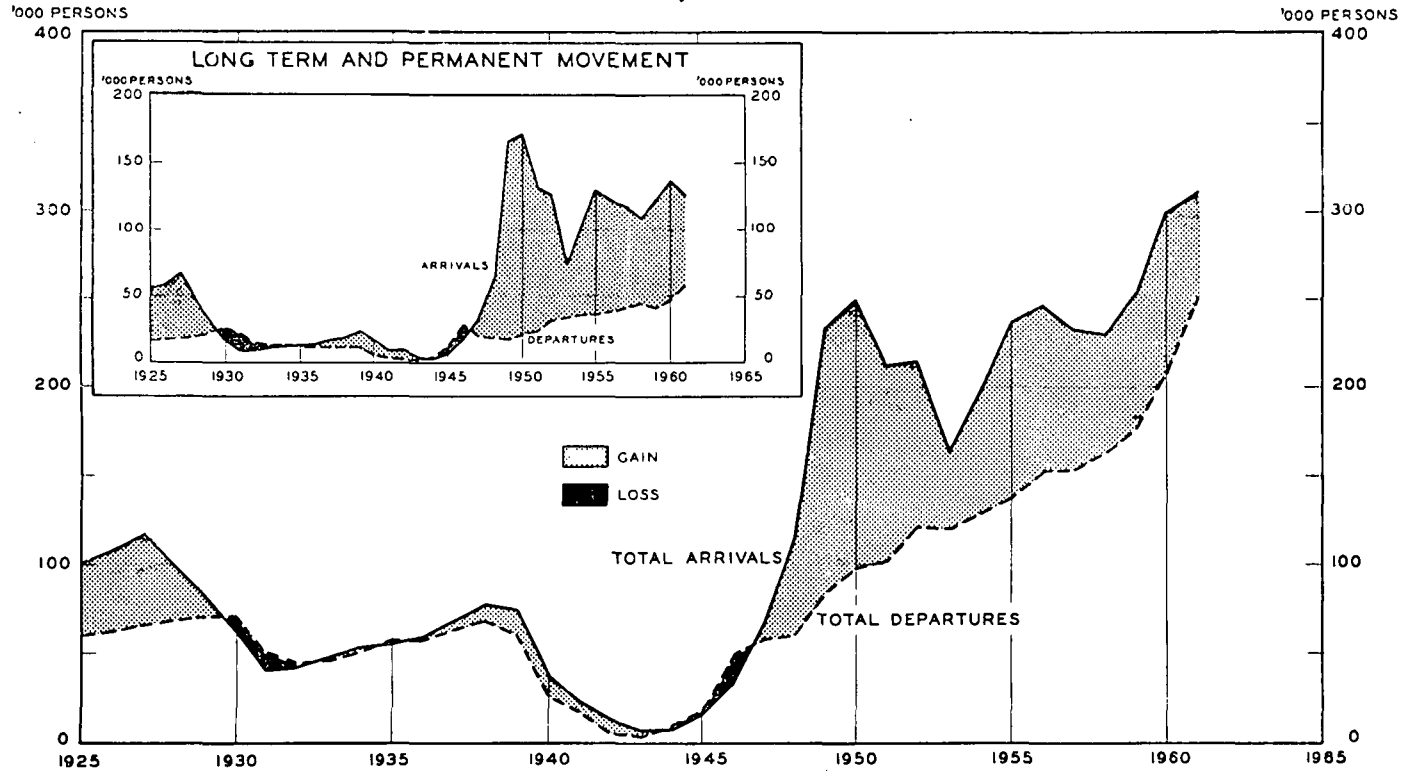
## RATIO GRAPH



NOTE - THE VERTICAL SCALE IS LOGARITHMIC, AND THE CURVES RISE AND FALL ACCORDING TO THE RATE OF INCREASE OR DECREASE; ACTUAL NUMBERS ARE INDICATED BY THE SCALE

# OVERSEA ARRIVALS AND DEPARTURES

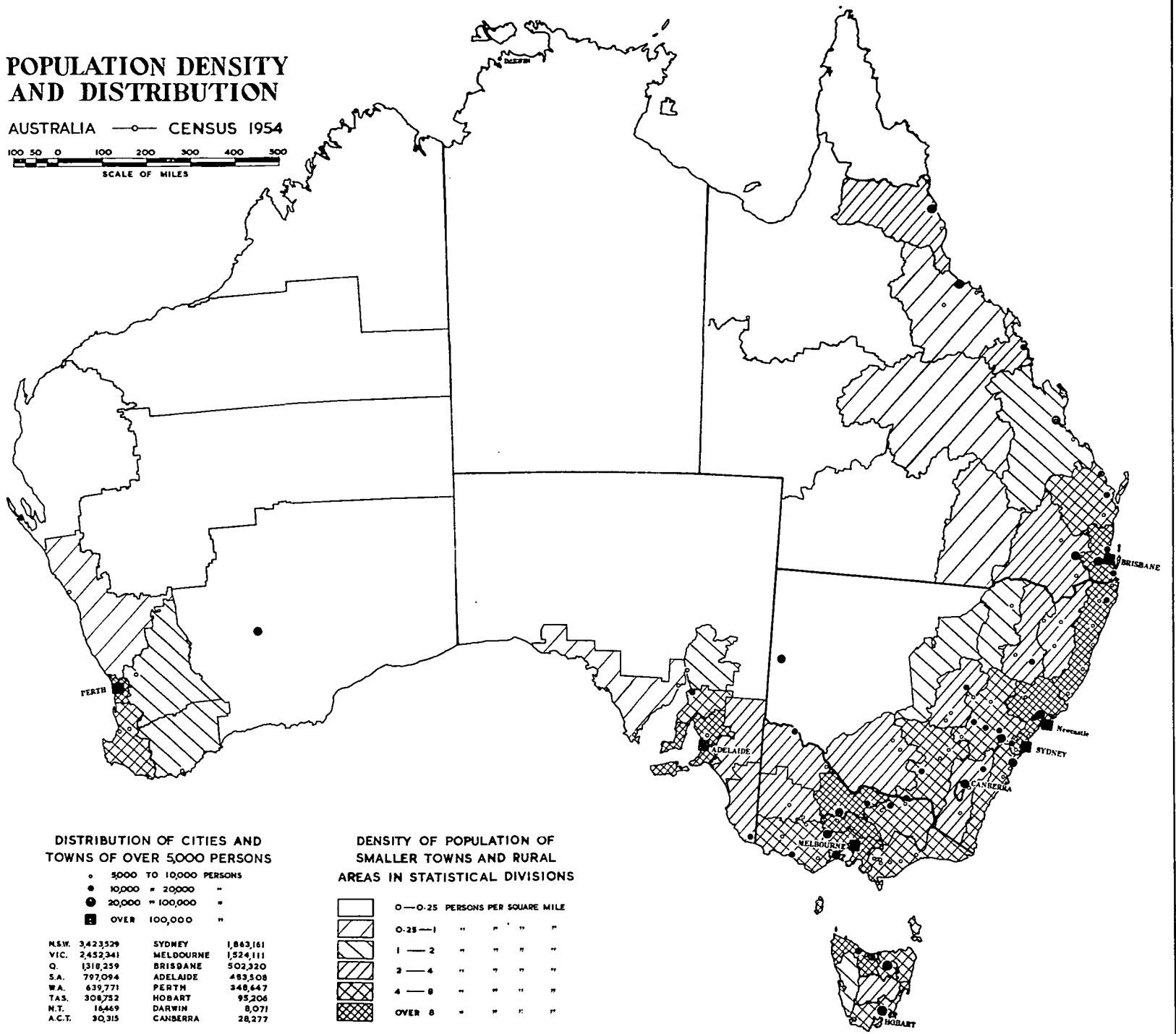
## AUSTRALIA, 1925 TO 1961



# POPULATION DENSITY AND DISTRIBUTION

AUSTRALIA —○— CENSUS 1954

100 50 0 100 200 300 400 500  
SCALE OF MILES





(ii) *Legislation.* Immigration into the Commonwealth is regulated by the Migration Act 1958 which came into force on 1st June, 1959, and repealed the Immigration Act 1901-1949 and Aliens Deportation Act 1948.

Any immigrant entering Australia after the commencement of the Act without having been granted an "entry permit" and without being within an exempted class, is a prohibited immigrant. Exempted persons include diplomatic, consular and trade representatives of other countries and seamen whose ships are in Australian ports. "Immigrant" includes persons entering for temporary stay.

Entry permits are normally granted at ports of entry by means of stamps in travellers' passports or equivalent documents, without any form of application having to be completed. Temporary entry permits are granted to persons who have been authorized to enter for a limited period only. Persons eligible to enter for permanent residence are granted permits of unrestricted validity. Persons who are refused entry permits must be kept on board the ship on which they arrive; otherwise, the shipping company is liable to a fine of £500.

The Act abolishes the "Dictation Test" as a means of excluding or deporting ineligible persons. Other deportation powers which were contained in the repealed legislation were largely re-enacted, though with some revision.

The Act also revises the law relating to the emigration of aborigines and children, repealing the Emigration Act 1910.

The new Act does *not* affect passport or visa requirements for entry to Australia. All persons who, prior to the 1958 Act, had been required before embarkation to obtain visas, or other kinds of provisional authority to proceed to Australia, still have to obtain them. Likewise, persons who have *not* had to produce prior authority to enter Australia, before being given passages to Australia, do *not* have to obtain them solely as a result of the new Act. Persons previously allowed to enter Australia without production of passports—notably British people arriving from New Zealand—are still able to do so.

The Immigration (Guardianship of Children) Act 1946-1952 provides that the Minister for Immigration becomes the legal guardian of every person under the age of 21 years who enters Australia other than in the charge of, or for the purpose of living in the care of, a parent or adult relative. It is primarily administered through the child welfare authorities in each State who, as the Minister's delegates under the Act, supervise the welfare of each "immigrant child".

The Aliens Act 1947-1959 provides that a register of aliens shall be maintained for every State and mainland Territory of the Commonwealth. Unless exempted, aliens 16 years of age and over are required to register with the Department of Immigration and to notify the Department of any change of address, occupation or employment, and of their marriage. The Act also provides that consent must be obtained before an alien may change his surname.

2. *Conditions of Immigration into Australia.*—(i) *Persons of Non-European Race.* In pursuance of established policy, the general practice is not to permit persons of non-European descent to enter Australia for the purpose of settling permanently, but exceptions are made in favour of the spouses and minor unmarried children of Australian citizens and other British subjects permanently resident in Australia. Special provision exists for the temporary admission of non-Europeans who are highly qualified or of special distinction or who are bona fide merchants, students, tourists or of numerous other categories. They are permitted to enter and remain in Australia under temporary entry permits while they retain their status. Such persons must obtain prior authority to enter Australia.

(ii) *Persons of European Race.* Maltese, Cypriots and aliens of European race desiring to settle permanently in Australia are required to obtain authority for admission from the Department of Immigration or an Australian Oversea Post. Their admission under the present policy is subject to their compliance with the Commonwealth's requirements in regard to health, character, freedom from security risk and general suitability as settlers.

(iii) *General Information.* General information as to conditions of entry into Australia may be obtained from the following officers:—

- (a) In Australia—The Secretary, Department of Immigration, Canberra, Australian Capital Territory, and Commonwealth Migration Officers in the capital cities of the various States;
- (b) In Great Britain—the Chief Migration Officer, High Commissioner's Office, Australia House, Strand, London;
- (c) In other British Commonwealth countries—The High Commissioner for Australia;
- (d) In Holland, Italy, Germany, Greece, Austria, Sweden, Switzerland and Hong Kong—the Chief Migration Officer or Migration Officer in the capital city of each of those countries;
- (e) In other countries where Australia is represented—the Secretary, Australian Embassy, Legation or Consulate.

For details of Australian representatives in the British Commonwealth and other countries *see* the section entitled " Australian Representation Abroad: Oversea Representation in Australia " in Chapter XXX.

3. **Nationality of Persons Arriving.**—For details of the nationality of persons who arrived in Australia during the years 1960 and 1961, *see* page 300.

### § 11. Passports.

Australian passports are issued, under the Passports Act 1938–1948 and Passport Regulations, to Australian citizens.

Diplomatic passports are issued to persons travelling on official missions of a diplomatic character. Official passports are granted persons travelling on the official business of the Commonwealth or a State Government.

Australian passports are obtainable on application at offices of the Commonwealth Department of Immigration in each State of Australia or from overseas offices of that Department, from any Australian diplomatic or consular mission abroad, or from the office of any Australian Government Trade Commissioner overseas.

Applicants for passports must furnish evidence of their identity and nationality and pay a fee of £1.

Approximately 47,000 Australian passports are issued each year in Australia and abroad.

### § 12. Citizenship and Naturalization.

1. **Commonwealth Legislation.**—The Nationality and Citizenship Act 1948 commenced on Australia Day (26th January), 1949, and repealed all previous Commonwealth legislation on this subject. The most significant effect of the Act was the creation for the first time of the status of " Australian Citizen ". In this respect, the Act was complementary to citizenship legislation passed or about to be passed by other countries of the British Commonwealth. All Australian citizens, and the citizens of other countries of the British Commonwealth, are declared to be British subjects. For details of the Act, *see* Official Year Book No. 42, page 619.

2. Certificates Granted.—(i) *Australia*. The following tables show the number of certificates granted during 1960 and the number of persons affected by these certificates. The certificate covers the person being naturalized and his/her children under the Nationality and Citizenship Act 1948–1958.

## NATURALIZATION: CERTIFICATES GRANTED, AUSTRALIA, 1960.

## PREVIOUS NATIONALITIES OF RECIPIENTS.

Nationality.	No. of Certificates Granted.	Persons Affected by Certificates.	Nationality.	No. of Certificates Granted.	Persons Affected by Certificates.	Nationality.	No. of Certificates Granted.	Persons Affected by Certificates.
Albanian ..	66	77	Estonian ..	414	461	Norwegian ..	72	81
American (U.S.) ..	52	62	Ecuadorian ..	1	1	Panamanian ..	2	2
Argentinian ..	4	4	Filipino ..	4	4	Polish ..	4,974	6,395
Australian Protected Person ..	174	279	Finnish ..	62	74	Portuguese ..	27	34
Austrian ..	488	616	French ..	146	162	Romanian ..	166	218
Belgian ..	32	48	German ..	4,476	5,958	Russian ..	441	493
Bolivian ..	3	3	Greek ..	3,298	4,101	Spanish ..	55	60
Brazilian ..	3	3	Hungarian ..	945	1,052	Swedish ..	35	37
British Protected Persons ..	10	10	Iranian ..	1	1	Swiss ..	117	131
Bulgarian ..	70	79	Iraqi ..	2	2	Syrian ..	3	3
Burmese ..	1	1	Israeli ..	325	429	Turkish ..	18	18
Byelorussian ..	92	114	Italian ..	9,834	12,457	Ukrainian ..	1,798	2,285
Chinese ..	421	522	Icelandic ..	1	1	Venezuelan ..	1	1
Cuban ..	1	1	Indonesian ..	20	26	Vietnamese ..	1	1
Czechoslovak ..	460	524	Jordanian ..	4	4	Yugoslav ..	2,158	2,538
Danish ..	74	78	Japanese ..	85	89	Stateless ..	610	703
Dutch ..	5,418	7,531	Latvian ..	1,276	1,433			
Egyptian ..	9	13	Lebanese ..	276	340			
			Lithuanian ..	622	707			
			Moroccan ..	1	1			
						<b>Total ..</b>	<b>39,649</b>	<b>50,268</b>

COUNTRIES IN WHICH RECIPIENTS<sup>(a)</sup> ORDINARILY RESIDED IMMEDIATELY BEFORE ENTERING AUSTRALIA OR EXTERNAL TERRITORIES.

Country.	Certificates Granted.	Country.	Certificates Granted.	Country.	Certificates Granted.	Country.	Certificates Granted.
Albania ..	23	Finland ..	60	Latvia ..	24	Singapore ..	20
Argentina ..	23	France ..	402	Lebanon ..	287	Solomons ..	19
Austria ..	1,479	Formosa ..	2	Libya ..	2	South Africa ..	31
Belgium ..	156	French West Africa ..	1	Lithuania ..	9	Spain ..	38
Bolivia ..	3	Germany ..	13,668	Malaya ..	8	Sweden ..	73
Brazil ..	25	Greece ..	2,891	Malta ..	1	Switzerland ..	199
Bulgaria ..	9	Holland ..	5,140	Mauritius ..	1	Syria ..	4
Burma ..	8	Hong Kong ..	70	New Caledonia ..	16	Tanganyika ..	88
Canada ..	25	Hungary ..	220	New Guinea ..	189	Thailand ..	1
Ceylon ..	3	Iceland ..	2	New Hebrides ..	4	Trieste ..	3
Chile ..	5	India ..	28	New Zealand ..	41	Turkey ..	38
China ..	621	Indonesia ..	261	Norway ..	68	Uganda ..	6
Cuba ..	1	Iran ..	12	Pakistan ..	3	Ukraine ..	21
Cyprus ..	14	Iraq ..	6	Palestine ..	3	United Kingdom ..	392
Czechoslovakia ..	40	Ireland ..	5	Panama ..	31	U.S.A. ..	93
Denmark ..	126	Israel ..	415	Philippines ..	3	Venezuela ..	5
Ecuador ..	2	Italy ..	10,733	Poland ..	136	Vietnam ..	1
Egypt ..	607	Japan ..	94	Portugal ..	18	Yugoslavia ..	519
Eritrea ..	2	Jordan ..	1	Romania ..	18		
Estonia ..	17	Kenya ..	1	Russia ..	26		
Ethiopia ..	2	Korea ..	1	Samoa ..	1		
Fiji ..	4			Sarawak ..	1		
						<b>Total ..</b>	<b>39,649</b>

(a) Excludes children affected by grant of certificates.

(ii) *States.* The number of persons affected by certificates granted in 1960 in respect of residents of the various States and Territories was as follows:—New South Wales, 15,493; Victoria, 19,273; Queensland, 3,224; South Australia, 5,795; Western Australia, 4,664; Tasmania, 807; Northern Territory, 186; Australian Capital Territory, 357; External Territories 469; Total, 50,268.

### § 13. Population of External Territories.

Ordinances of the individual external territories under the control of Australia provide for a Census of the population to be taken on the day prescribed for the taking of a Census in the Commonwealth of Australia.

The following table shows the population of the Territories of Christmas Island, Cocos (Keeling) Islands, Norfolk Island, Papua, the Trust Territory of New Guinea and the Trust Territory of Nauru at the Census of 30th June, 1961, in comparison with the population at the Census of 30th June, 1954.

#### POPULATION: EXTERNAL TERRITORIES.

Territory.	Census, 30th June, 1954.			Census, 30th June, 1961.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
Christmas Island .. ..	(a)	(a)	(a)	1,963	1,136	3,099
Cocos (Keeling) Islands .. ..	(a)	(a)	(a)	333	273	606
Norfolk Island .. ..	478	464	942	421	423	844
Papua .. ..	(b)3,867	(b)2,446	(b)6,313	(b)5,490	(b)4,304	(b)9,794
Trust Territory of New Guinea .. ..	(b)7,201	(b)4,241	b 11,442	(b)9,158	(b)6,378	b 15,536
Trust Territory of Nauru .. ..	(b)1,269	(b) 376	(b)1,645	3,019	1,594	4,613

(a) Not available.

(b) Non-indigenous population only.

Particulars concerning the indigenous populations of the territories will be found in Chapter V.—The Territories of Australia.

### § 14. The Aboriginal Population of Australia.

In Official Year Book No. 17, pages 951–61, a brief account was given of the Australian aboriginal population, its origin, its numbers as estimated from time to time, and the steps taken for its protection. On pages 914–6 of Official Year Book No. 22, particulars were shown for each of the States and Territories of Australia at successive periods, while a special article dealing with the estimated number and distribution of the native population at the date of first settlement of the white race in the continent appeared on pages 687–96 of Official Year Book No. 23.



The aboriginals are scattered over the whole of the mainland, but are mostly in Western Australia, Queensland and the Northern Territory. Particulars of the number in each State and Territory at the Census of 30th June, 1954, are shown in the following table. Full-blood aboriginals in employment or living in proximity to settlements were enumerated at the census, while estimates of the total numbers, including those living in the nomadic state, were furnished by the authorities responsible for native welfare. Half-caste aboriginals are included in the numbers of the population and are of course enumerated at the census. The figures shown for Queensland are exclusive of Torres Strait Islanders.

ABORIGINAL POPULATION, 30th JUNE, 1954.

State or Territory.	Full-blood.				Half-caste. (Enumerated at the Census.)			Total, Full- blood and Half- caste.
	In Employment or Living in Proximity to Settlements.(a)			Esti- mate of Total Num- ber.(b)	Males.	Females.	Persons.	
	Males.	Females.	Persons.					
New South Wales ..	769	634	1,403	a 1,403	5,509	5,301	10,810	12,213
Victoria ..	73	68	141	a 141	618	636	1,254	1,395
Queensland ..	3,921	3,347	7,268	c 9,579	4,447	4,434	8,881	18,460
South Australia ..	396	344	740	c 2,500	1,279	1,193	2,472	4,972
Western Australia ..	3,540	3,139	6,679	d 10,195	3,024	2,996	6,020	16,215
Tasmania ..	..	..	..	..	50	43	93	93
Northern Territory ..	5,167	4,964	10,131	c 15,500	823	834	1,657	17,157
Aust. Cap. Territory ..	1	..	1	a 1	99	73	172	173
<b>Total ..</b>	<b>13,867</b>	<b>12,496</b>	<b>26,363</b>	<b>39,319</b>	<b>15,849</b>	<b>15,510</b>	<b>31,359</b>	<b>70,678</b>

(a) Enumerated at the Census of 30th June, 1954. (b) Furnished by the native welfare authorities. (c) Approximate. (d) Revised estimates.

For further information as to the estimated numbers of full-blood aboriginals, and the difficulty of arriving at precise figures, see Official Year Book No. 47, page 329. The Appendix to this volume contains particulars of the numbers of the aboriginal population ascertained at the time of the Census of 30th June, 1961.

## § 15. International Statistics of Population.

1. Introduction.—In the following tables, the population, density, rate of growth, natural increase and masculinity are shown in respect of all countries which had an estimated population of at least one million persons in 1959, together with Cyprus, Papua and Netherlands New Guinea. The source of these figures is the 1960 *Demographic Yearbook* which is prepared and published by the Statistical Office of the United Nations. The tables include figures varying in reliability and accuracy, there being considerable variation in the quality of demographic statistics as between countries, but this information has been shown to provide some form of guide as to the magnitude and trend of population movements in oversea countries.

Where the information available to the Statistical Office of the United Nations relates to only part of the population of a country, the population characteristic (e.g. rate of growth), or vital statistic rate (e.g. marriages), has been omitted from the tables and this is indicated by a footnote.

For fuller particulars of the differences in the quality of the statistics and their reliability and for other qualifications, reference should be made to the detailed explanations contained in the *Demographic Yearbook* of the Statistical Office of the United Nations (see particularly Technical Notes on Statistical Tables and footnotes to the tables).

**2. Population, Rate of Growth and Density: World, Continents and Regions.**—The following table shows for the World, Continents, and Regions, estimated population and density at ten yearly intervals since 1920, and for 1959. The annual rate of increase (per cent.), together with the average annual increase during the period 1950–59, is also shown. It should be noted that the population figures have been adjusted for underenumeration and errors in estimation. In preparing these figures, the Population Branch of the United Nations revises, from time to time, the estimates for previous years as new data become available, for example, from a census. The figures are estimates only, and as such are subject to a substantial margin of error.

**POPULATION, DENSITY AND RATE OF INCREASE FOR THE WORLD AND CONTINENTS—SELECTED YEARS.**

(Source: United Nations *Demographic Yearbook*, 1960.)

Continent and Region.	Population.							Density (persons per square mile).
	Adjusted estimates of mid-year population (millions).					Annual rate of Increase 1950–59 (per cent.)	Average Annual Increase 1950–59 (millions)	
	1920.	1930.	1940.	1950.	1959.			
<b>World Total</b> .. ..	1,810	2,013	2,246	2,495	2,907	1.7	45.8	56
<i>Africa</i> .. ..	140	155	172	200	237	1.9	4.1	20
Northern Africa .. ..	46	51	57	66	78	1.9	1.3	20
Tropical and Southern Africa .. ..	94	104	115	134	159	1.9	2.8	21
<i>America</i> .. ..	208	244	277	330	398	2.1	7.6	25
Northern America .. ..	117	135	146	167	196	1.8	3.2	24
Middle America .. ..	30	34	41	51	65	2.7	1.6	61
South America .. ..	61	75	90	112	137	2.3	2.8	20
<i>Asia</i> .. ..	966	1,072	1,212	1,376	1,622	1.8	27.3	156
South West Asia .. ..	43	47	53	59	74	2.5	1.7	34
South Central Asia .. ..	326	362	410	466	546	1.8	8.9	276
South East Asia .. ..	110	128	155	172	208	2.1	4.0	120
East Asia .. ..	487	535	594	679	794	1.8	12.8	175
<i>Europe</i> .. ..	329	356	381	395	423	0.8	3.1	221
Northern and Western Europe .. ..	115	122	128	133	141	0.7	0.9	162
Central Europe .. ..	112	120	127	128	137	0.8	1.0	350
Southern Europe .. ..	102	114	126	134	145	0.9	1.2	223
<i>Oceania</i> .. ..	8.8	10.4	11.3	13.0	16.1	2.4	0.3	5
<i>Union of Soviet Socialist Republics</i> .. ..	158	176	192	181	211	1.7	3.3	24

**3. Population, Density, Rate of Growth, Natural Increase and Masculinity of Principal Countries.**—Certain details of the population of the larger countries within continental groups are shown in the following table. As explained above, reference should be made to the detailed comments contained in the United Nations *Demographic Yearbook*, 1960, regarding geographical units used, boundaries of areas, reliability of estimates, etc.

POPULATION, DENSITY, RATE OF INCREASE, NATURAL INCREASE  
AND MASCULINITY—SELECTED COUNTRIES.

(Source: United Nations Demographic Yearbook, 1960.)

Country.	Population Midyear 1959 (Thous- ands).	Density 1959 (Persons per Square Mile).	Annual Rate of Increase 1953-59 (per cent.).	Natural Increase.		Masculinity at Latest Census.	
				Year.	Rate (per One thousand Popula- tion).	Year.	Rate (No. of Males per 100 Females).
<b>Africa—</b>							
Nigeria .. .. .	33,663	99	1.9	..	(a)	1953	95.7
United Arab Republic— Egypt .. .. .	25,365	66	2.4	..	(a)	..	(a)
Ethiopia .. .. .	21,800	48	(a)	..	(a)	..	(a)
Union of South Africa .. .. .	14,673	31	1.8	..	(a)	1951	103.1
Belgian Congo .. .. .	13,821	15	2.2	1953	12.7	..	(a)
Sudan .. .. .	11,459	12	(a)	1955	33.2	1956	102.2
Algeria .. .. .	10,930	12	2.6	..	(a)	1954	101.6
Morocco .. .. .	10,550	62	1.9	..	(a)	1952	98.4
Tanganyika .. .. .	9,076	25	1.8	1947	19.0	1957	92.9
Rhodesia and Nyasaland .. .. .	8,130	17	2.6	..	(a)	..	(a)
Uganda .. .. .	6,517	69	2.5	1947	17.0	1959	100.9
Kenya .. .. .	6,450	29	1.6	..	(a)	1948	98.3
Mozambique .. .. .	6,310	21	1.1	..	(a)	1950	91.7
Malagasy Republic .. .. .	5,239	23	2.4	..	(a)	..	(a)
Ghana .. .. .	4,911	53	1.6	..	(a)	1948	102.4
Ruanda-Urundi .. .. .	4,780	229	2.4	1957	34.1	..	(a)
Angola .. .. .	4,550	9	1.1	..	(a)	1950	96.3
Mali .. .. .	4,300	9	(a)	..	(a)	..	(a)
Tunisia .. .. .	3,935	81	1.4	1959	26.8	1956	107.2
Upper Volta .. .. .	3,537	33	1.5	..	(a)	..	(a)
Cameroons (French Ad- ministration) .. .. .	3,225	19	0.6	..	(a)	..	(a)
Ivory Coast .. .. .	3,103	25	4.9	..	(a)	..	(a)
Guinea .. .. .	2,727	29	3.4	1954	22	1955	90.8
Chad .. .. .	(b) 2,600	(b) 5	2.0	..	(a)	..	(a)
Niger .. .. .	2,555	5	2.7	..	(a)	..	(a)
Senegal .. .. .	2,550	33	3.6	..	(a)	..	(a)
Sierra Leone .. .. .	2,400	86	2.9	..	(a)	..	(a)
Dahomey .. .. .	2,000	45	4.4	..	(a)	..	(a)
Somaliland (Italian Ad- ministration) .. .. .	1,990	8	0.7	..	(a)	..	(a)
Cameroons (British Ad- ministration) .. .. .	1,621	48	1.8	..	(a)	..	(a)
Togoland .. .. .	1,442	66	5.6	..	(a)	..	(a)
Liberia .. .. .	(c) 1,250	(c) 29	(a)	..	(a)	..	(a)
Central African Republic .. .. .	1,185	5	1.3	..	(a)	..	(a)
Libya .. .. .	1,172	2	(d) 1.5	..	(a)	1954	107.6
<b>North America—</b>							
United States of America (including Hawaii) .. .. .	177,700	49	1.7	1960	14.1	1960	97.1
Mexico .. .. .	33,304	44	2.9	1960	34.1	1950	97.0
Canada .. .. .	17,442	5	2.7	1960	19.0	1956	102.8
Cuba .. .. .	6,599	15	2.1	..	(a)	1953	105.0
Guatemala .. .. .	3,652	9	3.0	1960	32.1	1950	102.2
Haiti .. .. .	3,464	323	1.2	..	(a)	1950	94.5
West Indies .. .. .	3,212	401	2.2	1958	28.4	..	(a)
Dominican Republic .. .. .	2,894	154	3.5	..	(a)	1960	102.0
El Salvador .. .. .	2,520	305	3.5	1960	34.0	1950	98.0
Puerto Rico .. .. .	2,347	683	1.0	1960	24.8	1950	101.0
Honduras .. .. .	1,887	44	3.3	..	(a)	1950	100.5
Nicaragua .. .. .	1,424	25	3.4	..	(a)	1950	97.0
Costa Rica .. .. .	1,126	58	4.1	1959	33.8	1950	99.7
<b>South America—</b>							
Brazil .. .. .	64,216	20	2.4	1950	22.4	1950	99.3
Argentina .. .. .	20,614	19	1.9	1960	14.2	1947	105.1
Colombia .. .. .	13,824	31	2.2	..	(a)	1951	98.9
Peru .. .. .	10,524	21	2.6	..	(a)	1940	97.7
Chile .. .. .	7,465	26	2.5	1959	22.9	1952	96.4
Venezuela .. .. .	6,512	18	3.0	1958	35.3	1950	102.8
Ecuador .. .. .	4,169	40	3.0	..	(a)	1950	99.2
Bolivia .. .. .	3,416	8	1.4	..	(a)	1950	96.2
Uruguay .. .. .	(b) 2,700	(b) 37	(e) 1.3	1956	4.4	1908	103.6
Paraguay .. .. .	1,718	11	2.3	..	(a)	1950	95.5
<b>Asia—</b>							
China (Mainland) .. .. .	b 669,000	(b) 181	(e) 2.8	1957	23.0	1953	107.6
India .. .. .	402,600	320	1.3	1958	19.7	1951	105.6
Japan .. .. .	92,740	650	1.1	1959	10.1	1955	96.6
Indonesia .. .. .	90,300	157	2.1	1950-54	20.0	..	(a)
Pakistan .. .. .	86,823	238	1.4	..	(a)	1961	110.7

NOTE.—See next page for footnotes.

POPULATION, DENSITY, RATE OF INCREASE, NATURAL INCREASE  
AND MASCULINITY—SELECTED COUNTRIES—*continued.*

Country.	Population Midyear 1959 (Thous- ands).	Density 1959 (Persons per Square Mile).	Annual Rate of Increase 1953-59 (per cent.).	Natural Increase.		Masculinity at Latest Census.	
				Year.	Rate (per One thousand Popula- tion).	Year.	Rate (No. of Males per 100 Females).
<i>Asia—continued.</i>							
Philippines .. .. .	24,718	214	2.6	..	(a)	1958	98.9
Korea, Republic of .. .. .	23,848	637	1.8	..	(a)	1955	100.0
Turkey (Asia) .. .. .	(b)23,804	(b) 81	(a)	..	(a)	..	(a)
Thailand .. .. .	21,881	110	1.9	1956	22.0	1960	99.5
Burma .. .. .	20,457	78	1.0	1955	15.0	..	(a)
Iran .. .. .	20,149	32	2.4	1959	20.0	1956	103.6
Viet-Nam, North .. .. .	15,170	253	-1.0	..	(a)	..	(a)
Viet-Nam, Republic of .. .. .	13,790	209	5.9	..	(a)	..	(a)
Afghanistan .. .. .	13,150	52	(a)	..	(a)	..	(a)
China (Taiwan) .. .. .	10,232	737	3.6	1960	32.6	1956	114.9
Ceylon .. .. .	9,612	379	2.5	..	(a)	1953	111.5
Nepal .. .. .	9,044	166	1.5	1954	15.0	1954	96.8
Korea, North .. .. .	8,100	169	(a)	..	(a)	..	(a)
Iraq .. .. .	6,952	41	3.1	..	(a)	1957	100.7
Malaya, Federation of .. .. .	6,698	132	3.0	1959	32.5	1957	106.5
Saudi Arabia .. .. .	(c) 6,036	(c) 10	(a)	..	(a)	..	(a)
Cambodia .. .. .	4,845	73	(a)	1958	21.7	1959	99.8
United Arab Republic—							
Syria .. .. .	4,539	64	4.2	..	(a)	..	(a)
Yemen .. .. .	(f) 4,500	(f) 60	(a)	..	(a)	..	(a)
Hong Kong .. .. .	2,857	7,307	4.1	1960	30.7	..	(a)
Israel (Jewish population) .. .. .	2,061	258	3.8	1960	18.7	1948	106.9
Laos .. .. .	1,760	19	3.3	..	(a)	..	(a)
Jordan .. .. .	1,636	44	3.1	..	(a)	1952	103.2
Singapore .. .. .	1,580	7,054	4.8	1960	31.6	1957	111.7
Lebanon .. .. .	(b) 1,550	(b) 386	(e) 2.8	..	(a)	..	(a)
Mongolian People's Re- public .. .. .	1,057	2	1.2	..	(a)	..	(a)
Netherlands New Guinea .. .. .	700	4	(a)	..	(a)	..	(a)
Cyprus .. .. .	558	156	1.7	1959	19.7	..	(a)
<i>Europe—</i>							
Germany, Federal Re- public of .. .. .	52,785	551	1.2	1960	6.3	1956	88.3
United Kingdom of Great Britain and Northern Ireland .. .. .	52,157	554	0.4	1959	5.2	1951	92.4
Italy .. .. .	49,052	422	0.5	1960	8.8	1951	94.9
France .. .. .	45,097	212	0.9	1960	6.5	1954	92.2
Spain .. .. .	29,894	154	0.8	1960	13.0	1950	92.8
Poland .. .. .	29,257	243	1.8	1959	16.3	1950	88.4
Yugoslavia .. .. .	18,448	187	1.3	1960	13.3	1953	94.0
Romania .. .. .	18,256	199	1.3	1959	10.0	1956	94.6
Eastern Germany .. .. .	16,213	391	-0.8	..	(a)	1950	80.2
Czechoslovakia .. .. .	13,559	275	1.1	1960	6.7	1950	94.6
Netherlands .. .. .	11,346	906	1.3	1960	13.0	1947	99.1
Hungary .. .. .	9,953	277	0.6	1960	4.5	1960	93.4
Belgium .. .. .	9,104	773	0.6	1960	4.0	1947	97.4
Portugal .. .. .	9,052	254	0.8	1960	13.0	1950	92.7
Greece .. .. .	8,258	161	0.9	..	(a)	1951	95.2
Bulgaria .. .. .	7,798	182	1.0	1959	8.1	1956	99.6
Sweden .. .. .	7,454	43	0.6	1960	3.6	1950	99.2
Austria .. .. .	7,049	218	0.2	1960	5.1	1951	86.6
Switzerland .. .. .	5,240	329	1.2	1960	8.0	1950	93.0
Denmark .. .. .	4,547	274	0.7	1959	6.9	1955	98.0
Finland .. .. .	4,416	34	1.1	1960	9.6	1950	91.6
Norway .. .. .	3,556	28	0.9	1960	8.4	1950	98.3
Ireland .. .. .	2,846	105	-0.6	1959	9.1	1956	101.9
West Berlin .. .. .	2,211	11,887	0.3	1959	-6.1	1956	73.9
Turkey (European) .. .. .	(b) 2,128	(b) 233	(a)	..	(a)	..	(a)
Albania .. .. .	1,556	140	3.0	..	(a)	1955	105.2
East Berlin .. .. .	1,085	6,955	-1.4	..	(a)	1950	74.2
<i>Oceania—</i>							
Australia .. .. .	10,061	3	2.2	1959	13.7	1954	102.4
New Zealand .. .. .	2,331	22	2.2	1959	17.4	1956	101.1
New Guinea .. .. .	1,376	15	3.0	..	(a)	..	(a)
Papua .. .. .	480	5	3.2	..	(a)	..	(a)
Union of Soviet Socialist Republics .. .. .	210,500	24	(a)	1959	17.4	1959	81.9

(a) Not available or available information relates to a segment of population only.

(c) 1956.

(d) 1954-59.

(e) 1953-58.

(f) 1949

(b) 1958.

Minus (-) denotes rate of decrease.

## CHAPTER X.

### VITAL STATISTICS.

**NOTE.**—The tables in this chapter are confined to the principal characteristics of vital statistics for Australia, and relate, in the main, to the year 1960, except for the totals of marriages, births, deaths and infant deaths, for which it has been possible to include figures for 1961. Comparisons have been restricted, in general, to the individual years 1957 to 1961 and the five-year periods 1926–30 to 1955–60, while age data have been shown in five-year groups. Comparisons over longer periods, together with more detailed figures such as single age particulars and cross-classifications of various characteristics, will be found in the annual bulletin, *Demography*. Current information is published in the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics* and the *Australian Demographic Review* (a mimeograph series issued at intervals throughout the year on population and vital statistics).

Figures of births and deaths for Australia throughout are exclusive of full-blood aboriginals.

Rates for the period 1954 to 1960 have been recalculated on the basis of revised population figures ascertained from the preliminary results of the Census of 30th June, 1961. Further revisions to these rates will be made when final results of the Census become available.

Vital statistics for the principal countries of the world are set out in §7. International Vital Statistics, of this chapter.

#### § 1. Provisions for Registration and Compilation of Statistics.

In Australia, vital statistics are compiled from information supplied for the registration of births, deaths and marriages. Each State and Territory has an independent system of registration. Provisions for the civil registration of births, deaths and marriages have been in force in Tasmania from 1839, in Western Australia from 1841, in South Australia from 1842, in Victoria from 1853 and in New South Wales and Queensland (then part of New South Wales) from 1856. Registration in the Territories is administered by the Commonwealth Government, registration in respect of the Northern Territory having been taken over from South Australia in 1911 and in respect of the Australian Capital Territory from New South Wales in 1930. The authority responsible for the registration of births, deaths and marriages occurring within his particular State or Territory is the Registrar-General (the Government Statist in Victoria) or the Principal Registrar.

In the Australian Capital Territory and the Northern Territory, information concerning a birth is required to be supplied within 21 days, in South Australia in 42 days, and in all other States 60 days is allowed. In all States, however, provision has been made for the late registration of births. For the registration of a death, the period allowed is 8 days in Tasmania, 10 days in South Australia, 14 days in Western Australia, the Northern Territory and the Australian Capital Territory, 21 days in Victoria and 30 days in New South Wales and Queensland. Provision is made in all States and Territories for the celebration of marriages by ministers of religion registered for that purpose with the Registrar-General (the Government Statist in Victoria) or the Principal Registrar of Births, Deaths and Marriages of the State or Territory, and also by certain civil officers. In all cases, the celebrant, whether minister of religion or civil officer, is required to register particulars of the parties married with the Registrar-General's Office. In Victoria, Western Australia, the Northern Territory and the Australian Capital Territory, registration of a marriage is required immediately following the ceremony, in Tasmania and South Australia within 7 days, and in New South Wales and Queensland within 30 days.

The registration of stillbirths is compulsory in all the States and Territories, except Tasmania. Western Australia was the first State to introduce compulsory registration in 1908, followed by the Australian Capital Territory in 1930, New South Wales in 1935, South Australia in 1937, the Northern Territory in 1949, Victoria in 1953, and Queensland in 1959. Registration in New South Wales, Western Australia, the Northern Territory and the Australian Capital Territory is effected as a birth and subsequent death; in the other States as a stillbirth. Though registration is not compulsory in Tasmania, it is believed that for various reasons nearly all stillbirths are registered voluntarily. In this chapter, stillbirths have been excluded from all tables of births and deaths and are shown only in those specially relating to stillbirths.

The data for the compilation of vital statistics are obtained from registry records and forwarded, through the Statistical Office in each State and Territory, to the Commonwealth Statistician. The compilation and publication of vital statistics for Australia is one of the functions of the Commonwealth Statistician. The Deputy Commonwealth Statisticians compile and publish statistics relating to their respective States.

## § 2. Marriages.

1. **Number of Marriages.**—The number of marriages registered in Australia during the year ended 31st December, 1961, was 76,686, giving a rate of 7.31 per 1,000 of the mean population for the year. A summary of the number of marriages registered in each State and Territory in five-year periods from 1926–30 to 1956–60 and for each of the years 1957 to 1961, is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Official Year Book No. 39, page 575. A graph showing the number of marriages in each year from 1870 to 1961 appears on page 343 of this issue.

## MARRIAGES.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
ANNUAL AVERAGES.									
1926–30 ..	19,253	12,955	6,279	4,036	3,167	1,506	23	30	47,249
1931–35 ..	18,742	12,773	6,950	3,967	3,328	1,638	29	53	47,480
1936–40 ..	25,295	17,784	8,982	5,726	4,399	2,187	83	85	64,541
1941–45 ..	28,506	19,450	10,563	6,517	4,668	2,097	71	109	71,981
1946–50 ..	30,162	20,453	10,666	6,581	5,205	2,529	114	181	75,891
1951–55 ..	28,483	20,007	10,171	6,290	5,232	2,539	146	234	73,102
1956–60 ..	28,433	20,422	10,253	6,517	5,145	2,573	190	321	73,854
ANNUAL TOTALS.									
1957 ..	28,767	20,239	10,271	6,581	4,897	2,507	178	256	73,696
1958 ..	28,554	20,649	10,255	6,505	5,038	2,475	201	324	74,001
1959 ..	28,201	20,456	10,581	6,614	5,387	2,567	205	352	74,363
1960 ..	29,328	20,627	10,227	6,607	5,323	2,713	208	395	75,428
1961 ..	29,773	21,264	10,392	6,804	5,150	2,677	207	419	76,686

2. **Crude Marriage Rates.**—The crude marriage rates for each State and Territory from 1926–30 to 1961 are given hereunder.

## CRUDE MARRIAGE RATES.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AVERAGE ANNUAL RATES.									
1926–30 ..	7.86	7.42	7.10	7.12	7.80	6.97	5.11	3.86	7.52
1931–35 ..	7.20	7.02	7.35	6.83	7.58	7.19	5.92	5.74	7.16
1936–40 ..	9.29	9.52	8.80	9.65	9.49	9.25	13.28	7.22	9.35
1941–45 ..	9.97	9.86	10.04	10.61	9.74	8.61	7.18	7.57	9.94
1946–50 ..	9.90	9.72	9.41	9.87	10.01	9.56	9.39	9.36	9.77
1951–55(b) ..	8.41	8.34	7.91	8.11	8.44	8.35	9.13	8.20	8.29
1956–60(b) ..	7.70	7.50	7.14	7.26	7.36	7.69	8.63	7.51	7.50
ANNUAL RATES.									
1957(b) ..	7.94	7.62	7.29	7.53	7.12	7.63	8.63	6.74	7.65
1958(b) ..	7.73	7.60	7.14	7.25	7.20	7.38	9.24	7.88	7.52
1959(b) ..	7.50	7.34	7.23	7.18	7.57	7.52	8.68	7.55	7.40
1960(b) ..	7.65	7.22	6.86	6.99	7.36	7.82	8.28	7.51	7.34
1961 ..	7.60	7.28	6.86	7.02	6.98	7.57	7.82	7.13	7.31

(a) Number of marriages per 1,000 of mean population. (b) Recalculated from population figures revised in accordance with the preliminary results of the Census of 30th June, 1961.

3. **Marriage Rates based on Marriageable Population.**—As the marriage rates in some international tabulations are based on the unmarried population aged 15 years and over, the corresponding rates have been calculated for Australia for the eight census periods to 1953-55. The period in each case comprises the census year with the year immediately preceding and the year immediately following, and the figures are as follows.

**PERSONS MARRYING PER 1,000 OF UNMARRIED POPULATION: AUSTRALIA.**

Period.				Rate.(a)	Period.				Rate.(a)
1880-82	..	..	..	48.63	1920-22	..	..	..	55.97
1890-92	..	..	..	44.04	1932-34	..	..	..	42.88
1900-02	..	..	..	42.14	1946-48	..	..	..	71.24
1910-12	..	..	..	50.12	1953-55	..	..	..	65.32

(a) Average annual number of persons who married per 1,000 unmarried persons, including widowed and divorced, aged 15 years and over.

4. **Crude Marriage Rates of Principal Countries.**—The crude marriage rates of Australia and the principal countries of the world for the latest available year are shown in § 7. International Vital Statistics.

5. **Age and Conjugal Condition at Marriage.**—(i) *General.* Particulars of age at marriage in age groups and previous conjugal condition of bridegrooms and brides in 1960 are given hereunder. There were 7,876 males under 21 years of age married during 1960, while the corresponding number of females was 28,875. At the other extreme, there were 962 bridegrooms and 441 brides in the age group 65 years and over.

**AGE AND CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES:  
AUSTRALIA, 1960.**

Age at Marriage (Years).	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
Under 20 ..	3,911	..	..	3,911	19,902	7	8	19,917
20-24 ..	33,881	9	50	33,940	34,602	86	299	34,987
25-29 ..	18,015	57	462	18,534	7,342	157	855	8,354
30-34 ..	7,121	127	889	8,137	2,603	280	1,161	4,044
35-39 ..	2,579	194	951	3,724	1,218	354	1,056	2,628
40-44 ..	1,042	243	726	2,011	572	456	721	1,749
45-49 ..	650	349	636	1,635	355	507	493	1,355
50-54 ..	337	375	401	1,113	218	450	240	908
55-59 ..	185	452	210	847	120	362	111	593
60-64 ..	97	417	100	614	81	331	40	452
65 and over ..	96	792	74	962	64	353	24	441
<b>Total ..</b>	<b>67,914</b>	<b>3,015</b>	<b>4,499</b>	<b>75,428</b>	<b>67,077</b>	<b>3,343</b>	<b>5,008</b>	<b>75,428</b>

(ii) *Proportional Distribution.* In the following table, the proportional distribution of bridegrooms and brides according to previous conjugal condition is shown in five-year periods from 1926-30 to 1956-60 and for each of the years 1957 to 1960.

**CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES: PROPORTIONAL DISTRIBUTION, AUSTRALIA.**

(Per Cent.)

Period.	Bridegrooms.				Brides.			
	Bachelors.	Widowers.	Divorced.	Total.	Spinsters.	Widows.	Divorced.	Total.
1926-30 ..	92.31	5.93	1.76	100.00	93.46	4.55	1.99	100.00
1931-35 ..	92.63	5.39	1.98	100.00	94.37	3.53	2.10	100.00
1936-40 ..	92.59	4.82	2.59	100.00	93.94	3.38	2.68	100.00
1941-45 ..	91.44	4.77	3.79	100.00	92.11	3.93	3.96	100.00
1946-50 ..	88.82	4.74	6.44	100.00	88.71	4.74	6.55	100.00
1951-55 ..	88.77	4.63	6.60	100.00	88.04	4.81	7.15	100.00
1956-60 ..	89.86	4.18	5.96	100.00	88.80	4.47	6.73	100.00
1956 ..	89.59	4.33	6.08	100.00	88.45	4.68	6.87	100.00
1957 ..	89.92	4.27	5.81	100.00	88.84	4.56	6.60	100.00
1958 ..	90.08	4.10	5.82	100.00	89.13	4.28	6.59	100.00
1959 ..	89.66	4.21	6.13	100.00	88.62	4.44	6.94	100.00
1960 ..	90.04	4.00	5.96	100.00	88.93	4.43	6.64	100.00

(iii) *Relative Ages of Bridegrooms and Brides.* The relative ages of bridegrooms and brides in 1960 are shown below in age groups of five years.

**RELATIVE AGES OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1960.**

Age of Bridegroom (Years).	Total Bridegrooms.	Age of Bride (Years).							
		Under 15.	15-19.	20-24.	25-29.	30-34.	35-39.	40-44.	45 and over.
Under 20 ..	3,911	16	3,275	598	17	4	1	..	..
20-24 ..	33,940	12	12,832	19,628	1,265	150	36	14	3
25-29 ..	18,534	3	3,094	11,025	3,400	745	210	38	19
30-34 ..	8,137	2	540	2,942	2,389	1,465	543	192	64
35-39 ..	3,724	1	102	581	876	925	728	321	190
40-44 ..	2,011	..	25	139	262	431	518	375	261
45-49 ..	1,635	..	10	40	94	220	345	377	549
50-54 ..	1,113	..	2	24	33	60	133	231	630
55-59 ..	847	..	2	4	11	31	77	129	593
60-64 ..	614	..	..	4	5	10	28	51	516
65 and over ..	962	..	1	2	2	3	9	21	924
<b>Total Brides</b>	<b>75,428</b>	<b>34</b>	<b>19,883</b>	<b>34,987</b>	<b>8,354</b>	<b>4,044</b>	<b>2,628</b>	<b>1,749</b>	<b>3,749</b>

(iv) *Average Ages of Bridegrooms and Brides.* The average age at marriage of brides and bridegrooms has declined during recent years. The average ages, in years, of brides for each of the five years to 1960 were:—1956, 25.34; 1957, 25.18; 1958, 25.00; 1959, 25.01; and 1960, 24.84. The average ages, in years, of bridegrooms were 28.66 in 1956, 28.54 in 1957, 28.36 in 1958, 28.39 in 1959 and 28.15 in 1960. The difference in the average age at marriage as between brides and bridegrooms is generally just over three years, the difference in 1960 being 3.31 years.



6. Previous Conjugal Condition.—The following table shows the relative conjugal condition of bridegrooms and brides in 1960.

**CONJUGAL CONDITION OF BRIDEGROOMS AND BRIDES: AUSTRALIA, 1960.**

Conjugal Condition of Bridegrooms.	Total Bridegrooms.	Conjugal Condition of Brides.		
		Spinsters.	Widows.	Divorced.
Bachelors .. ..	67,914	63,722	1,330	2,862
Widowers .. ..	3,015	994	1,375	646
Divorced .. ..	4,499	2,361	638	1,500
<b>Total Brides .. ..</b>	<b>75,428</b>	<b>67,077</b>	<b>3,343</b>	<b>5,008</b>

7. Birthplaces of Persons Marrying.—A table showing the relative birthplaces of bridegrooms and brides married in each year will be found in the annual bulletin, *Demography*.

8. Occupation of Bridegrooms.—The distribution of the 75,428 bridegrooms for 1960 amongst classes of occupations was as follows:—craftsmen, 20,818; commercial and clerical, 14,236; operatives, 12,006; rural, fishing and hunting, 7,381; labourers, 7,351; professional and semi-professional, 4,582; domestic and protective service, 4,176; administrative, 2,848; not gainfully occupied and not stated, 2,030.

9. Celebration of Marriages.—In all the States, marriages may be celebrated either by ministers of religion who are registered for that purpose with the Registrar-General, or by certain civil officers—in most cases district registrars—but most of the marriages are celebrated by ministers of religion. The registered ministers in 1960 belonged to more than forty different denominations, some of which, however, have only very few adherents. A number of these have been combined under the heading "Other Christian". The figures for 1960 are shown in the following table.

**MARRIAGES IN EACH DENOMINATION, 1960.**

Denomination.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia.	
									No.	Proportion of Total.
Church of England ..	9,339	4,803	2,815	1,341	1,550	975	40	130	20,993	27.83
Roman Catholic ..	7,824	5,954	2,793	1,411	1,411	564	54	128	20,139	26.70
Methodist ..	2,651	2,539	1,478	1,592	649	440	1	17	9,367	12.42
Presbyterian ..	2,927	3,121	1,728	282	365	138	21	27	8,605	11.41
Orthodox (Greek, Russian, etc.) ..	645	629	113	201	60	9	15	7	1,675	2.22
Baptist ..	444	319	190	149	68	61	1	3	1,235	1.64
Lutheran ..	166	277	263	383	20	6	3	7	1,125	1.49
Congregational Churches of Christ ..	274	240	97	230	123	36	..	3	1,003	1.33
Salvation Army ..	104	371	61	201	69	22	..	8	830	1.11
Seventh-day Adventist ..	118	87	106	36	39	27	8	..	421	0.56
Unitarian ..	109	34	43	14	27	4	..	..	231	0.31
United Church ..	..	24	..	4	..	..	..	..	28	0.04
Other Christian ..	..	..	..	..	..	..	26	..	26	0.03
Hebrew ..	180	130	157	46	150	36	2	..	701	0.93
Other Non-Christian ..	130	167	7	4	13	1	..	..	322	0.43
<b>Total ..</b>	<b>24,911</b>	<b>18,695</b>	<b>9,851</b>	<b>5,899</b>	<b>4,544</b>	<b>2,319</b>	<b>171</b>	<b>330</b>	<b>66,720</b>	<b>88.46</b>
Civil Officers ..	4,417	1,932	376	708	779	394	37	65	8,708	11.54
<b>Grand Total</b>	<b>29,328</b>	<b>20,627</b>	<b>10,227</b>	<b>6,607</b>	<b>5,323</b>	<b>2,713</b>	<b>208</b>	<b>395</b>	<b>75,428</b>	<b>100.00</b>

**PROPORTION OF TOTAL  
(Per cent.)**

Denominational ..	84.94	90.63	96.32	89.28	89.37	89.70	82.21	89.07	88.46	
Civil ..	15.06	9.37	3.68	10.72	14.63	14.29	17.79	16.92	11.54	

## § 3. Divorce.

The number of dissolutions of marriage, nullities of marriage and judicial separations in 1960 was 6,709. Further information may be found in Chapter XVI.—Public Justice, and detailed tables relating to divorce statistics for 1960 and summary tables for earlier years in *Demography*, Bulletin No. 78.

## § 4. Fertility and Reproduction.

1. **Introduction.**—Of the two elements of increase in the population, natural increase and net migration, the former has been by far the more important in Australia for many years. The level of natural increase depends on the excess of births over deaths and the relation between fertility and mortality determines the rate of reproduction or replacement of the population.

2. **Number of Live Births and Confinements.**—(i) *Year 1960.* There are various methods of measuring the fertility of the population by relating the number of births to the number in the population. In each, the basic data are, of course, the numbers of live births.

The number of live births registered in Australia during 1960 is shown in the following table. The table shows also the number of confinements resulting in one or more live births. The figures exclude cases where the births were of still-born children only.

## LIVE BIRTHS AND CONFINEMENTS, 1960.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W.A.	Tas.	N.T.	A.C.T.	Australia.
LIVE BIRTHS.									
Single births..	80,204	62,565	34,443	20,500	16,568	8,675	748	1,542	225,245
Twins ..	1,762	1,449	747	460	353	178	26	41	5,016
Triplets ..	17	11	23	6	5	..	3	..	65
Males ..	42,231	32,825	18,164	10,760	8,699	4,483	416	837	118,415
Females ..	39,752	31,200	17,049	10,206	8,227	4,370	361	746	111,911
Total ..	81,983	64,025	35,213	20,966	16,926	8,853	777	1,583	230,326

## STILLBIRTHS ASSOCIATED WITH MULTIPLE BIRTHS INCLUDED ABOVE.

Twins ..	56	19	17	2	7	10	..	1	112
Triplets ..	4	1	1	..	1	..	..	..	7

## CONFINEMENTS RESULTING IN BIRTHS SHOWN ABOVE.

Nuptial ..	77,052	60,941	32,684	19,897	15,844	8,341	666	1,538	216,963
Ex-nuptial ..	4,068	2,362	2,149	836	906	428	96	25	10,870
Total ..	81,120	63,303	34,833	20,733	16,750	8,769	762	1,563	227,833

NOTE.—Owing to the registration procedure adopted in some States, it is possible that in some cases where one child only of a multiple pregnancy was live-born the confinement has been treated as a single birth. However, the numbers of multiple births are not significantly affected. See also para. 13, p. 330.

(ii) *Live Births, Years 1926 to 1961.* The average annual number of live births in each State and Territory for each five-year period from 1926 to 1960 and the total number of live births for each year from 1957 to 1961 are given in the following table. Corresponding figures for each five-year period from 1861 to 1950 were published in *Official Year Book No. 39*, page 583.

## LIVE BIRTHS.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
ANNUAL AVERAGES.									
1926-30 ..	53,308	34,333	19,361	11,006	8,748	4,819	70	118	131,763
1931-35 ..	44,964	28,380	17,480	8,646	8,061	4,547	79	145	112,302
1936-40 ..	47,679	30,282	19,534	9,388	8,877	4,866	125	221	120,972
1941-45 ..	56,583	38,002	23,431	12,546	10,409	5,418	113	384	146,886
1946-50 ..	68,856	47,372	28,003	16,270	13,130	7,064	289	734	181,718
1951-55 ..	73,737	53,770	30,983	18,045	15,724	7,774	468	922	201,423
1956-60 ..	79,613	61,279	34,171	19,977	16,922	8,517	694	1,286	222,459

ANNUAL TOTALS.									
1957 ..	79,456	60,464	33,763	19,536	16,924	8,435	646	1,134	220,358
1958 ..	80,045	61,269	33,872	20,047	16,731	8,568	697	1,275	222,504
1959 ..	80,866	62,245	35,599	20,372	17,111	8,625	796	1,362	226,976
1960 ..	81,983	64,025	35,213	20,966	16,926	8,853	777	1,583	230,326
1961 ..	86,392	65,886	36,637	22,399	17,078	8,982	878	1,734	239,986

A graph showing the number of oirths in each year from 1870 to 1961 will be found on page 343.

3. *Crude Birth Rates.*—The oldest and most popular method of measuring fertility is to relate the number of births to the total population, thus obtaining the crude birth rate. The crude birth rate measures the rate per thousand persons (irrespective of age or sex) at which the population has added to its numbers by way of births during a given period. Other methods of measuring fertility are shown on pages 326 *et seq.*

Crude birth rates for each five-year period from 1926 to 1960 and for each year from 1957 to 1961 for each State and Territory are set out below.

## CRUDE BIRTH RATES.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AVERAGE ANNUAL RATES.									
1926-30 ..	21.76	19.65	21.90	19.41	21.54	22.29	15.60	14.96	20.98
1931-35 ..	17.28	15.60	18.48	14.89	18.36	19.95	15.99	15.77	16.94
1936-40 ..	17.51	16.20	19.48	15.82	19.16	20.58	19.96	18.68	17.52
1941-45 ..	19.79	19.27	22.28	20.43	21.72	22.23	11.40	26.82	20.28
1946-50 ..	22.60	22.51	24.69	24.41	25.24	26.71	23.77	37.92	23.39
1951-55(b) ..	21.78	22.42	24.11	23.25	25.37	25.58	29.37	32.22	22.86
1956-60(b) ..	21.55	22.52	23.80	22.27	24.20	25.45	31.49	30.10	22.59

## ANNUAL RATES.

1957(b) ..	21.92	22.76	23.97	22.35	24.62	25.68	31.33	29.84	22.86
1958(b) ..	21.66	22.55	23.59	22.35	23.90	25.55	32.05	31.01	22.60
1959(b) ..	21.49	22.36	24.31	22.12	24.04	25.26	33.70	29.22	22.57
1960(b) ..	21.38	22.41	23.62	22.19	23.41	25.52	30.95	30.12	22.42
1961 ..	22.06	22.57	24.19	23.11	23.16	25.40	33.19	29.49	22.87

(a) Number of births per 1,000 of mean population. (b) Recalculated from population figures revised in accordance with the preliminary results of the Census of 30th June, 1961.

NOTE.—The birth rates in the table above are based on *live births registered in the respective States and Territories*. Some confinements, however, take place in States other than the State in which the mother usually resides, particularly in areas near State borders.

The variations thus caused in the birth rates for the States and Territories by referring the birth registrations to the mother's usual residence, are shown by the following corrected rates for 1961:—New South Wales, 22.08; Victoria, 22.59; Queensland, 24.10; South Australia, 23.02; Western Australia, 23.19; Tasmania, 25.46; Northern Territory, 34.28; and Australian Capital Territory, 30.02.

See Official Year Book No. 47 (p. 339) for the effect of the variations in the availability of hospital facilities on the birth rate in the Australian Capital Territory and in the neighbouring town of Queanbeyan in New South Wales.

A graph showing the birth rate for each year from 1870 to 1961 will be found on page 344.

In the earlier years of the present century, the crude birth rate fluctuated somewhat, but from 1912, when 28.60 was recorded, there was an almost continuous decline to the very low figure of 16.39 in 1934. The decline in the depression years was occasioned to some extent by the postponement of marriages. With subsequent improvement in economic conditions the rate rose, and in 1940 it increased quite appreciably, owing to a continued improvement in the economic welfare of the community and the war-time increase in marriages. The improvement in the birth rate has been substantially maintained since the end of the war despite some falling off in marriage rates. The post-war peak of 24.07 was recorded in 1947.

4. **Crude Birth Rates of Principal Countries.**—The crude birth rates of Australia and the principal countries of the world for the latest available year are shown in § 7. International Vital Statistics.

5. **Fertility Rates.**—The principal demographic factors affecting the level of crude birth rates are the proportion of women of child-bearing age in the population and the proportion of such women who are married. These factors may vary considerably at different periods and for different countries, and a population with a higher proportion of married women of child-bearing age will have a much higher crude birth rate than one with a low proportion, although the fertilities of the two populations may be identical.

In order to compare fertilities, births are sometimes related to the number of women of child-bearing age or, alternatively, nuptial births are related to the number of married women of child-bearing age. Thus births are related to potential mothers, giving the fertility rate.

The following table sets out for certain periods, commencing with 1880–82, the number of births per thousand of mean population, the number of births per thousand women of child-bearing age and the number of nuptial births per thousand married women of child bearing age. For purposes of this table, the child-bearing age has been taken to be 15–44 years inclusive, but births to mothers who were stated to be under 15 or over 44 years have been included in the compilations.

**CRUDE BIRTH RATES AND FERTILITY RATES: AUSTRALIA.**

Period.	Average Annual Rates.			Index Nos. (Base: 1880–82= 100).		
	Crude Birth Rate.(a)	Fertility Rates.		Crude Birth Rate.(a)	Fertility Rates.	
		Births per 1,000 Women aged 15–44 Years.	Nuptial Births per 1,000 Married Women aged 15–44 Years.		Births per 1,000 Women aged 15–44 Years.	Nuptial Births per 1,000 Married Women aged 15–44 Years.
1880–82.. ..	35.3	170	321	100	100	100
1890–92.. ..	34.5	159	332	98	94	103
1900–02.. ..	27.2	117	235	77	69	73
1910–12.. ..	27.2	117	236	77	69	74
1920–22.. ..	25.0	107	197	71	63	61
1932–34.. ..	16.7	71	131	47	42	41
1946–48.. ..	23.6	104	160	67	61	50
1953–55.. ..	22.7	109	149	64	64	46

(a) Number of births per 1,000 of mean population.

The table above shows how increasing proportions both of women of child-bearing age and of married women of child-bearing age inflate the crude birth rate. Thus, while the nuptial birth rate, for married women increased by only 22 per cent. over the period 1932–34 to 1946–48, the crude birth rate rose by 41 per cent. owing principally to the greatly increased number of marriages during that period.

6. **Age-specific Fertility Rates for Females.**—So long as customary ages at marriage do not change drastically, the main demographic factor affecting the number of births is the age composition of the potential mothers in the population. Within the child-bearing group, the fertility of women of different ages varies considerably and a clearer view of the fertility

of the population can be obtained from an examination of what are known as its age-specific fertility rates, that is, the number of births to women of specified ages per thousand women of those particular ages.

Age-specific fertility rates are more commonly expressed in age groups than in single ages. In the following table, such rates, calculated in terms of female births for the purpose of obtaining the gross and net reproduction rates described in para. 7, are shown in five-year age groups for Australia for the period 1926 to 1960.

AGE-SPECIFIC FERTILITY RATES(a): AUSTRALIA.

Age Group (Years).	1926.	1931.	1936.	1941.	1946.	1951.	1956.	1959.	1960.
15-19 .. .. .	14.02	13.08	12.18	11.90	12.63	18.59	20.84	22.05	21.62
20-24 .. .. .	60.23	53.08	50.33	59.42	73.52	85.84	101.46	106.06	107.11
25-29 .. .. .	76.82	62.47	62.02	70.78	89.51	90.24	98.11	104.40	104.99
30-34 .. .. .	61.90	51.25	46.33	49.72	65.03	59.16	59.65	61.64	61.65
35-39 .. .. .	43.55	33.23	28.89	28.69	37.43	32.29	31.32	31.61	30.43
40-44 .. .. .	17.63	13.61	10.19	9.52	11.87	9.97	9.48	9.13	8.93
45-49 .. .. .	1.90	1.45	1.11	0.80	1.03	0.80	0.76	0.70	0.70

(a) Number of female births per 1,000 women in each age group.

The table shows that in recent years the most fertile age group has been 20-24 years, whereas previously fertility had been highest for the 25-29 age group. The decline in fertility between 1926 and 1936 was general, but was more pronounced in the higher age groups. During the period 1936 to 1960, a rise in fertility occurred in all age-groups below 40. The most noticeable increase has been in the 20-24 age group, in which, as mentioned, fertility is now highest, as the result of a marked trend towards earlier marriage.

7. Gross and Net Reproduction Rates for Females.—A single measure of reproduction, known as the gross reproduction rate, is obtained by adding together the specific fertility rates for each age in the child-bearing group. This measure indicates the number of female children who would be born on an average to women living right through the child-bearing period, if the conditions on which the rate is based continue. The rate is unaffected by the age composition of the potential mothers, and consequently it shows more clearly than the crude birth rate the reproductive propensity of the population. It is, however, an imperfect measure of reproduction because it does not take into account the females who fail to live from birth to the end of the reproductive period. A more accurate measure of this nature is obtained by multiplying the specific fertility rates by the number of females in the corresponding age group of the stationary or life table population and summing the products. Allowance is thus made for the effect of mortality and the result is known as the net reproduction rate. The net reproduction rate indicates the average number of female children who would be born to women during their lifetime if they were subject at each age to the fertility and mortality rates on which the calculation is based. A constant net reproduction rate of unity indicates that the population will ultimately become stationary. If it continues greater than unity, the population will ultimately increase; if less than unity, it will ultimately decrease. The following table should be read in the light of the comment which follows it and of the index of marriage fertility in paragraph 9, page 328.

GROSS AND NET REPRODUCTION RATES: AUSTRALIA.

Year.	Gross Reproduction Rate.	Net Reproduction Rate.	Year.	Gross Reproduction Rate.	Net Reproduction Rate.
1881(a) .. .. .	2.65	(b) 1.88	1947 .. .. .	1.493	(g) 1.416
1891(a) .. .. .	2.30	(b) 1.73	1954 .. .. .	1.558	(h) 1.497
1901(a) .. .. .	1.74	(c) 1.39	1956 .. .. .	1.608	(h) 1.546
1911 .. .. .	1.705	(d) 1.421	1957 .. .. .	1.662	(h) 1.598
1921 .. .. .	1.511	(e) 1.313	1958 .. .. .	1.667	(h) 1.603
1931 .. .. .	1.141	(f) 1.039	1959 .. .. .	1.678	(h) 1.614
1941 .. .. .	1.154	(f) 1.053	1960 .. .. .	1.677	(h) 1.613

(a) Approximate only. (b) 1881-1890 mortality experience used. (c) 1891-1900 mortality experience used. (d) 1901-1910 mortality experience used. (e) 1920-1922 mortality experience used. (f) 1932-1934 mortality experience used. (g) 1946-1948 mortality experience used. (h) 1953-1955 mortality experience used.

NOTE.—It is not strictly correct to assume, as in the calculations of the rates above, that a particular age-specific fertility rate can be applied to a hypothetical group of women reaching that age, without taking account of previous fertility and marriage experience. Reproduction rates are therefore unreliable when birth and marriage rates have been changing. The indexes of marriage fertility shown on the next page are also of doubtful reliability in similar circumstances.

Since 1881, there has been a substantial downward trend in both rates, but the gross rate has fallen considerably more than the net, showing that the decline in fertility has been offset to some extent by a decline in mortality. The net reproduction rate was below unity over the period 1932 to 1939. If such low levels were to be experienced indefinitely, ultimate population decline would be certain. The progressive rise in both gross and net reproduction rates from 1939 to 1947 was due largely to higher marriage rates during the war and early post-war years than had been experienced in the immediately pre-war years. Owing to various influences, the number of marriages in each year since 1950 has remained at a relatively high level and the net reproduction rates have been rising slowly. The fertility of marriages is shown in paragraph 9 below.

8. **Gross and Net Reproduction Rates, Various Countries.**—In the following table, a comparison is given of the gross and net reproduction rates recorded for various countries in the period 1954 to 1960. These represent the latest available international comparisons.

**GROSS AND NET REPRODUCTION RATES: VARIOUS COUNTRIES.**

Country.	Period.	Reproduction Rate.		Country.	Period.	Reproduction Rate.	
		Gross.	Net.			Gross.	Net.
Thailand .. ..	1954	2.26	1.70	Finland .. ..	1959	1.31	1.24
New Zealand(a) ..	1959	1.95	1.88	Austria .. ..	1959	1.26	1.16
Canada .. ..	1959	1.92	1.83	Belgium .. ..	1959	1.26	1.15
United States of America(b) ..	1958	1.73	1.67	Czechoslovakia ..	1958	1.25	1.12
Australia(c) ..	1960	1.68	1.61	Denmark .. ..	1958	1.23	1.13
Ireland, Republic of	1955	1.59	1.45	England and Wales	1958	1.22	1.18
Netherlands ..	1959	1.54	1.49	Switzerland ..	1959	1.15	1.05
Portugal .. ..	1958	1.47	1.26	Germany—			
Norway .. ..	1958	1.38	1.33	Eastern ..	1955	1.13	(d)
Scotland .. ..	1959	1.35	1.30	Federal Rep. ..	1957	1.12	1.07
France .. ..	1959	1.34	1.28	Sweden .. ..	1958	1.08	1.05
Yugoslavia ..	1958	1.34	1.10	Hungary .. ..	1958	1.04	0.97
				Japan .. ..	1958	1.02	0.96

(a) Excludes Maoris.

(b) White population only.

(c) Excludes full-blood aboriginals.

(d) Not available.

In comparing the reproduction rates of the countries shown above, allowance should be made for any differences in years, as the rates for any one country from year to year are affected by variations in the incidence of marriage, as well as the stationary or life table population used.

9. **Fertility of Marriages.**—Estimates of the fertility of marriages which were published in issues of the Official Year Book prior to No. 36 were calculated by relating the births of one five-year period to the marriages in the preceding five years (*see* Official Year Book No. 35, p. 329). Since the publication of that issue, an improved method has been formulated for measuring current marriage fertility by relating nuptial confinements in each year to the marriages from which they could have resulted. Confinements of women of a certain number of years duration of marriage are related to the number of marriages taking place that number of years previously. The table below sets out this index of current fertility per marriage in respect of confinements in the individual years shown.

**FERTILITY OF MARRIAGES: AUSTRALIA.**

Year.	Nuptial Confinements per Marriage.	Year.	Nuptial Confinements per Marriage.	Year.	Nuptial Confinements per Marriage.
1946.. ..	2.55	1951.. ..	2.55	1956.. ..	2.76
1947.. ..	2.55	1952.. ..	2.63	1957.. ..	2.87
1948.. ..	2.44	1953.. ..	2.66	1958.. ..	2.88
1949.. ..	2.45	1954.. ..	2.66	1959.. ..	2.93
1950.. ..	2.56	1955.. ..	2.71	1960.. ..	2.96

NOTE.—*See* NOTE to table on page 327.

The figure for a particular year gives the estimated number of children which a marriage would produce according to the fertility conditions of that year. There was an almost continuous decline for a number of years to 1942, but a pronounced increase has since occurred. In comparing this index with the net reproduction rate, it is evident that the rise in the latter since 1935 has been caused mainly by a rise in the proportions of women married in the fertile age groups. Only since 1944 has there been an increase in the fertility of marriages compared with pre-war levels.

The figures for 1949 and subsequent years present a somewhat inflated index, as many of the births which have been used to calculate the index relate to marriages of immigrants which took place overseas and consequently are not included in Australian marriage records. Partial investigation suggests that this factor probably overstated the index by very little in 1949, but that the overstatement at present is about 8 per cent.

10. **Masculinity of Live Births.**—The masculinity of live births, i.e., the number of males born for every 100 female births, has remained fairly stable for Australia at about 105. But when the number of births for which masculinity is being calculated is small (for example, totals for smaller States), considerable variation is shown. The averages for the ten years 1951–60 were as follows:—New South Wales, 105.38; Victoria, 105.50; Queensland, 105.80; South Australia, 104.89; Western Australia, 105.25; Tasmania, 104.96; Northern Territory, 107.16; Australian Capital Territory, 108.77; Australia, 105.43. The following table shows the figures for Australia for each ten-year period from 1901 to 1960 and for each of the years 1959 to 1961.

**MASCULINITY(a) OF LIVE BIRTHS REGISTERED: AUSTRALIA.**

Particulars.	1901-10.	1911-20.	1921-30.	1931-40.	1941-50.	1951-60.	1959.	1960.	1961.
Total Births ..	105.22	105.27	105.55	105.12	105.38	105.43	104.97	105.81	105.34
Ex-nuptial Births	104.08	105.25	105.16	105.36	105.34	103.99	103.72	104.22	108.02

(a) Number of males born for every 100 female births.

11. **Ex-nuptial Live Births.**—(i) *General.* The highest proportion of ex-nuptial births in any one year since 1901 was recorded in 1905, when there were 6,545 ex-nuptial births, representing 6.24 per cent. of total births. Since then, the proportion has declined. The largest number of ex-nuptial births was recorded in 1961, when 12,269 were registered, but this number represented only 5.11 per cent. of total births. The lowest proportion was 3.78 per cent. in 1940.

The variations in the proportions of ex-nuptial births as between the individual States and Territories for 1961 are shown below.

**EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION, 1961.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Number ..	4,575	2,706	2,445	1,026	959	404	120	34	12,269
Proportion of Total Births %	5.30	4.11	6.67	4.58	5.62	4.50	13.67	1.96	5.11

The number and proportion of ex-nuptial births at intervals from 1901 to 1961 are as follows.

**EX-NUPTIAL LIVE BIRTHS: NUMBER AND PROPORTION, AUSTRALIA.**

Particulars.	Annual Average.						1957.	1958.	1959.	1960.	1961.
	1901-10.	1911-20.	1921-30.	1931-40.	1941-50.	1951-60.					
Number ..	6,498	6,836	6,238	5,133	6,780	9,013	9,362	10,131	10,687	10,987	12,269
Proportion of Total Births %	6.05	5.22	4.66	4.40	4.13	4.25	4.25	4.55	4.71	4.77	5.11

(ii) *Rate of Ex-nuptiality.* A further measure is obtained by calculating the number of ex-nuptial births per thousand of the single, widowed and divorced female population aged from 15 to 44 years. On this basis, the number of ex-nuptial births per 1,000 unmarried women of ages 15 to 44 is as follows:—1880–82, 14.49; 1890–92, 15.93; 1900–02, 13.30; 1910–12, 12.53; 1920–22, 10.50; 1932–34, 6.91; 1946–48, 11.45; and 1953–55, 14.45. Ex-nuptial births to married women, which are not recorded separately, are included in these figures and it is not possible to determine to what extent they influence the trend shown.

(iii) *Comparison of Rates.* The following table, showing the relative proportions of ex-nuptial and nuptial births to the total population, discloses a much greater proportional movement in the ex-nuptial birth rate than in the nuptial rate.

**CRUDE EX-NUPTIAL, NUPTIAL, AND TOTAL BIRTH RATES(a): AUSTRALIA.**

Birth Rate.	Annual Average.						1958. (b)	1959. (b)	1960.
	1901-10.	1911-20.	1921-30.	1931-40.	1941-50.	1951-60.			
Ex-nuptial ..	1.60	1.39	1.04	0.76	0.90	0.97	1.03	1.06	1.07
Nuptial ..	24.91	25.18	21.40	16.47	20.99	21.75	21.57	21.51	21.35
<b>Total ..</b>	<b>26.51</b>	<b>26.57</b>	<b>22.44</b>	<b>17.23</b>	<b>21.89</b>	<b>22.72</b>	<b>22.60</b>	<b>22.57</b>	<b>22.42</b>

(a) Number of births per 1,000 of mean population. (b) Recalculated from population figures revised in accordance with the preliminary results of the Census of 30th June, 1961.

12. *Legitimations.*—Acts have been passed in the several States to legitimize children born before the marriage of their parents, provided that no legal impediment to the marriage existed at the time of birth. On registration in accordance with the provisions of the Legitimation Acts, any child who comes within the scope of their purposes, born before or after the passing thereof, is deemed to be legitimate from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. During 1960, the number of children legitimized in Australia was 928.

13. *Multiple Births.*—Because the current Australian birth statistics are based only on those confinements which resulted in a live-born child, the number of confinements for multiple births for Australia is understated—firstly, because in cases where all children of a multiple birth are still-born the confinement is excluded, and secondly, because some cases of multiple births in which only one child was live-born are registered as single births.

During 1960, multiple births recorded on this basis comprised 2,564 cases of twins and 24 cases of triplets, the resultant numbers of live-born and still-born children being respectively 5,016 and 112 for twins, 65 and 7 for triplets. This represents an average of 11.25 recorded cases of twins and 0.11 recorded cases of triplets per 1,000 confinements or, alternatively, mothers of twins represented 1 in every 89 mothers and mothers of triplets 1 in every 9,493. Total cases of multiple births represented 11.36 per 1,000 confinements or 1 in every 88 mothers.

The proportion of mothers of multiple births to total mothers does not vary greatly from year to year.

14. *Ages of Parents.*—The relative ages of the parents of children whose births were registered in 1960 have been tabulated separately for male and female births, multiple births being distinguished from single births. For total births and for multiple births, the relative ages of parents are shown in *Demography*, Bulletin No. 78. In the following table, the relative ages of parents are shown in five year groups.



CONFINEMENTS: RELATIVE AGES OF PARENTS, AUSTRALIA, 1960.

Age of Father (Years) and Type of Birth.	Total.	Age of Mother (Years).									Not stated.
		Under 15.	15-19.	20-24.	25-29.	30-34.	35-39.	40-44.	45 and over		
Under 20 .. .. .	2,064	5	1,713	341	5	..	..	..	..	..	..
20-24 .. .. .	35,829	1	8,780	24,485	2,366	163	31	3	..	..	..
25-29 .. .. .	66,493	..	2,435	31,705	28,444	3,518	363	180	..	..	..
30-34 .. .. .	58,637	..	465	9,090	25,963	20,163	2,773	288	..	3	..
35-39 .. .. .	32,894	..	97	1,572	6,471	14,096	9,739	908	..	11	..
40-44 .. .. .	13,494	..	24	324	1,217	3,716	5,918	2,223	..	72	..
45-49 .. .. .	5,435	..	11	105	395	1,011	2,184	1,539	..	190	..
50-54 .. .. .	1,528	..	2	25	77	276	543	517	..	88	..
55-59 .. .. .	436	..	1	6	32	72	149	153	..	23	..
60-64 .. .. .	104	..	..	3	10	22	38	26	..	5	..
65 and over .. .. .	49	..	..	2	4	11	21	9	..	2	..
Not Stated .. .. .	..	..	..	..	..	..	..	..	..	..	..
Mothers of Nuptial Children { Single .. .. .	214,499	6	13,455	67,094	64,217	42,451	21,374	5,513	389	..	..
Mothers of Nuptial Children { Twins .. .. .	2,440	..	73	561	756	591	381	73	5	..	..
Mothers of Nuptial Children { Triplets .. .. .	24	..	..	3	11	6	4	..	..	..	..
Mothers of Nuptial Children { Total .. .. .	216,963	6	13,528	67,658	64,984	43,048	21,759	5,586	394	..	..
Mothers of Ex-nuptial Children { Single .. .. .	10,746	58	2,929	3,133	1,862	1,518	910	304	21	11	..
Mothers of Ex-nuptial Children { Twins .. .. .	124	..	16	33	35	23	13	2	..	2	..
Mothers of Ex-nuptial Children { Triplets .. .. .	..	..	..	..	..	..	..	..	..	..	..
Mothers of Ex-nuptial Children { Total .. .. .	10,870	58	2,945	3,166	1,897	1,541	923	306	21	13	..
Total Mothers { Single .. .. .	225,245	64	16,384	70,227	66,079	43,969	22,284	5,817	410	11	..
Total Mothers { Twins .. .. .	2,564	..	89	594	791	614	394	75	5	2	..
Total Mothers { Triplets .. .. .	24	..	..	3	11	6	4	..	..	..	..
Total Mothers { Total .. .. .	227,833	64	16,473	70,824	66,881	44,589	22,682	5,892	415	13	..

15. Birthplaces of Parents.—A table showing birthplaces of parents of children whose births were registered during 1960 appears in *Demography*, Bulletin No. 78.

16. Occupation of Fathers.—A table showing occupations of the fathers of nuptial children whose births were registered in 1960 appears in *Demography*, Bulletin No. 78.

17. Age, Duration of Marriage and Issue of Mothers.—(i) *General*. The total number of nuptial confinements resulting in live births in 1960 was 216,963, comprising 214,499 single births, 2,440 cases of twins and 24 cases of triplets. The following tables relating to previous issue exclude the issue of former marriages and still-born children. On the other hand, they include in some States children by the same father who were born to the mother prior to the marriage. Children born at the present confinement are included in the total issue shown.

(ii) *Duration of Marriage and Issue of Mothers*. The following table shows that in 1960 the duration of marriage of mothers of nuptial children ranged from less than one year to over 25 years and that the average family increased fairly regularly with the duration of marriage. The average issue of married mothers who bore children in 1960 was 2.59, compared with 2.58 in 1959, 2.56 in 1958, 2.54 in 1957, and 2.52 in 1956.

NUPTIAL CONFINEMENTS: DURATION OF MARRIAGE AND ISSUE OF MOTHERS, AUSTRALIA, 1960.

Duration of Marriage.	Total Married Mothers.	Total Issue.	Average Issue.	Duration of Marriage.	Total Married Mothers.	Total Issue.	Average Issue.
Under 1 year	29,116	29,626	1.02	15 years ..	2,334	11,789	5.05
1 year ..	24,853	31,828	1.28	16 .. ..	1,816	9,339	5.14
2 years ..	24,324	43,059	1.77	17 .. ..	1,706	9,148	5.36
3 .. ..	22,006	46,266	2.10	18 .. ..	1,472	8,177	5.56
4 .. ..	19,280	46,927	2.43	19 .. ..	975	5,747	5.89
5 .. ..	16,523	45,179	2.73	20 .. ..	740	4,774	6.45
6 .. ..	13,693	41,312	3.02	21 .. ..	441	2,879	6.53
7 .. ..	11,665	38,240	3.28	22 .. ..	293	2,135	7.29
8 .. ..	10,057	35,095	3.49	23 .. ..	191	1,355	7.09
9 .. ..	8,830	32,818	3.72	24 .. ..	122	880	7.21
10 .. ..	7,559	29,896	3.96	25 years and	..	..	..
11 .. ..	5,971	24,888	4.17	over .. ..	130	1,060	8.15
12 .. ..	5,102	22,281	4.37	Not stated ..	1	3	3.00
13 .. ..	4,436	20,553	4.63	.. ..	..	..	..
14 .. ..	3,327	15,914	4.78	Total ..	216,963	501,168	2.59

(iii) *Age and Average Issue of Mothers.* The following table shows the average number of children born to mothers of different ages. In the younger ages, there is, naturally, little difference from year to year in the average number of children born to each mother, but for mothers in the higher age groups the number of issue has fallen, until recently, in comparison with past years. In 1960, average issue was greater in all age groups under 45 years than in the decade 1951-60. The average issue of mothers of all ages recorded for 1960 (namely, 2.59) is 20.3 per cent. below the average of 3.25 for the years 1911-20.

**NUPTIAL CONFINEMENTS: AGE AND AVERAGE ISSUE OF MOTHERS: AUSTRALIA.**

Period.	Age of Mother (Years).							All Ages.
	Under 20.	20-24.	25-29.	30-34.	35-39.	40-44.	45 and over.	
	Average Issue of Mothers.							
1911-20 ..	1.21	1.75	2.61	3.74	5.11	6.69	8.16	3.25
1921-30 ..	1.20	1.71	2.46	3.48	4.80	6.27	7.74	3.04
1931-40 ..	1.20	1.68	2.30	3.19	4.41	5.89	7.40	2.71
1941-50 ..	1.17	1.56	2.15	2.85	3.67	4.79	6.19	2.37
1951-60 ..	1.23	1.71	2.42	3.12	3.84	4.63	5.57	2.51
1960 ..	1.25	1.77	2.56	3.30	4.01	4.76	5.45	2.59

(iv) *Previous Issue of Mothers, Various Ages.* A classification of mothers by age and previous issue is given for 1960 in the following table.

**NUPTIAL CONFINEMENTS: AGE OF MOTHER AND PREVIOUS ISSUE, AUSTRALIA, 1960.**

Previous Issue.	Age of Mother (Years).							Total Married Mothers.
	Under 20.	20-24.	25-29.	30-34.	35-39.	40-44.	45 and over.	
0 ..	10,606	32,787	14,885	5,859	2,229	489	35	66,890
1 ..	2,594	22,599	20,496	9,091	3,268	595	33	58,676
2 ..	304	8,878	16,387	11,185	4,515	865	42	42,176
3 ..	29	2,634	8,093	8,334	4,327	960	54	24,431
4 ..	1	603	3,263	4,428	2,991	858	71	12,215
5 ..	..	126	1,218	2,185	1,918	633	35	6,115
6 ..	..	28	453	1,048	1,051	394	35	3,009
7 ..	..	3	139	496	650	278	28	1,594
8 ..	..	..	40	229	356	203	13	841
9 ..	..	..	9	127	213	122	18	489
10 and over..	..	..	1	66	241	189	30	527
<b>Total Married Mothers ..</b>	<b>13,534</b>	<b>67,658</b>	<b>64,984</b>	<b>43,048</b>	<b>21,759</b>	<b>5,586</b>	<b>394</b>	<b>216,963</b>

(v) *Multiple Births—Previous Issue of Mothers.* Figures regarding the previous issue of married mothers of twins in 1960 show that 564 mothers had no previous issue either living or deceased, 630 had one child previously, 510 had two previous issue, 362 three, 173 four, 100 five, 44 six, 28 seven, 17 eight, 6 nine, 2 ten, 2 eleven, and 2 had twelve previous issue.

Of the 24 cases of nuptial triplets registered during 1960, 5 mothers had no previous issue, 4 had one, 3 had two, 6 had three, 4 had four, 1 had five and 1 had ten previous issue.

18. *Nuptial First Births.*—(i) *Duration of Marriage.* The following table shows the interval between marriage and first birth for periods since 1911. In cases of multiple births, the first live-born child only is enumerated.

NUPTIAL FIRST BIRTHS: DURATION OF MARRIAGE, AUSTRALIA.

Duration of Marriage.	Annual Average.					1959.	1960.
	1911-20.	1921-30.	1931-40.	1941-50.	1951-60.		
<b>NUMBER OF NUPTIAL FIRST BIRTHS.</b>							
Under 8 months .. ..	9,312	10,351	10,677	8,822	11,796	13,685	14,301
8 months .. ..	1,562	1,530	1,417	2,104	2,144	2,182	2,331
9 .. ..	3,517	3,253	2,668	4,298	4,673	4,921	4,874
10 .. ..	2,877	2,907	2,202	3,447	3,947	4,088	4,024
11 .. ..	2,018	2,152	1,836	2,896	3,287	3,468	3 369
Total under 1 year ..	19,286	20,193	18,800	21,567	25,847	28,344	28,899
1 year and under 2 years ..	8,563	10,133	10,595	17,762	18,463	18,398	18,287
2 years " " 3 .. ..	2,626	3,369	4,319	8,028	7,937	7,785	7,472
3 .. ..	1,230	1,743	2,214	4,361	4,373	4,328	4,257
4 .. ..	700	941	1,205	2,569	2,632	2,559	2,646
5 .. ..	980	1,446	1,766	3,936	4,262	4,334	4,367
10 .. ..	168	240	289	501	721	799	797
15 years and over .. ..	42	55	55	94	144	170	165
<b>Total .. ..</b>	<b>33,595</b>	<b>38,120</b>	<b>39,243</b>	<b>58,818</b>	<b>64,379</b>	<b>66,717</b>	<b>66,890</b>

PROPORTION OF TOTAL NUPTIAL FIRST BIRTHS.

(Per cent.)

Under 8 months .. ..	27.72	27.15	27.21	15.00	18.32	20.51	21.38
8 months .. ..	4.65	4.01	3.61	3.58	3.33	3.27	3.48
9 .. ..	10.47	8.53	6.80	7.31	7.26	7.38	7.29
10 .. ..	8.56	7.63	5.61	5.86	6.13	6.12	6.01
11 .. ..	6.01	5.65	4.68	4.92	5.11	5.20	5.04
Total under 1 year ..	57.41	52.97	47.91	36.67	40.15	42.48	43.20
1 year and under 2 years ..	25.49	26.58	27.00	30.20	28.68	27.57	27.34
2 years " " 3 .. ..	7.82	8.84	11.01	13.65	12.33	11.67	11.17
3 .. ..	3.66	4.57	5.64	7.41	6.79	6.49	6.36
4 .. ..	2.08	2.47	3.07	4.37	4.09	3.84	3.96
5 .. ..	2.92	3.79	4.50	6.69	6.62	6.50	6.53
10 .. ..	0.50	0.63	0.73	0.85	1.12	1.20	1.19
15 years and over .. ..	0.12	0.15	0.14	0.16	0.22	0.25	0.25
<b>Total .. ..</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

In 1960, the masculinity of nuptial first births was 107.35 and of total births 105.81.

(ii) *Age of Mother and Duration of Marriage.* A summary showing grouped ages and grouped durations of marriage of mothers of nuptial first-born children is given in the following table.

NUPTIAL FIRST BIRTHS: AGE OF MOTHER AND DURATION OF MARRIAGE, AUSTRALIA, 1960.

Duration of Marriage.	Age of Mother (Years).							Total.
	Under 20.	20-24.	25-29.	30-34.	35-39.	40-44.	45 and over.	
<b>NUMBER OF NUPTIAL FIRST BIRTHS.</b>								
Under 8 months .. ..	6,891	5,717	1,005	446	183	56	3	14,301
8 months .. ..	432	1,323	391	138	41	5	1	2,331
9 .. ..	618	3,013	869	268	89	17	..	4,874
10 .. ..	532	2,473	692	232	86	8	1	4,024
11 .. ..	416	2,024	627	211	73	17	1	3,369
Total under 1 year ..	8,889	14,550	3,584	1,295	472	103	6	28,899
1 year and under 2 years ..	1,505	11,268	3,643	1,279	475	115	2	18,287
2 years " " 3 .. ..	173	4,177	2,148	644	264	61	5	7,472
3 .. ..	29	1,758	1,807	469	160	32	2	4,257
4 .. ..	8	710	1,406	389	103	25	5	2,646
5 .. ..	2	324	2,236	1,356	384	60	5	4,367
10 .. ..	..	..	61	415	268	48	5	797
15 years and over .. ..	..	..	..	12	103	45	5	165
<b>Total .. ..</b>	<b>10,606</b>	<b>32,787</b>	<b>14,885</b>	<b>5,859</b>	<b>2,229</b>	<b>489</b>	<b>35</b>	<b>66,890</b>

(iii) *Nuptial First Births and Subsequent Births.* The following table provides a comparison between the numbers of nuptial first births and subsequent births in periods since 1911 and shows also the proportion of first to total nuptial confinements.

NUPTIAL FIRST BIRTHS AND SUBSEQUENT BIRTHS: AUSTRALIA.

Period.	Nuptial Confinements.			Proportion of First to Total Nuptial Confinements. (Per Cent.)
	First Births.	Other Births.	Total.	
ANNUAL AVERAGES.				
1911-20 .. .. .	33,595	88,997	122,592	27.40
1921-30 .. .. .	38,120	88,086	126,206	30.20
1931-40 .. .. .	39,243	71,136	110,379	35.55
1941-50 .. .. .	58,818	96,994	155,812	37.75
1951-60 .. .. .	64,379	136,264	200,643	32.09

ANNUAL TOTALS.				
1956 .. .. .	63,646	137,217	200,863	31.69
1957 .. .. .	65,792	142,847	208,639	31.53
1958 .. .. .	65,431	144,477	209,908	31.17
1959 .. .. .	66,717	147,145	213,862	31.20
1960 .. .. .	66,890	150,073	216,963	30.83

19. *Stillbirths.*—The registration of stillbirths has been compulsory in Western Australia since 14th January, 1908; in the Australian Capital Territory since 1st January, 1930; in New South Wales since 1st April, 1935; in South Australia since 1st May, 1937; in the Northern Territory since 1st July, 1949; in Victoria from 1st January, 1953; and in Queensland from 22nd March, 1959. Prior to the introduction of compulsory registration in 1953 in Victoria, and in 1959 in Queensland, provision for voluntary registration had existed for a number of years. Registration is not compulsory in Tasmania.

Interstate comparisons of the figures and rates in the following tables are affected by the differences in the definitions of stillbirths adopted by the various States and only the trends in the rates for the States should be compared.

For various reasons the registration of stillbirths is not as complete as for live births and deaths. Particulars for the Territories and smaller States are more affected on this account than are those for the larger States.

The number of stillbirths recorded in each State and Territory since 1936 is shown in the following table.

STILLBIRTHS.

Period	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
ANNUAL AVERAGES.									
1936-40 ..	1,409	854	(a)	(b) 274	234	144	(a)	5	(a)
1941-45 ..	1,478	966	(c) 657	324	248	143	(a)	9	de 3,825
1946-50 ..	1,405	949	626	368	274	161	(a)	12	(e) 3,795
1951-55 ..	1,239	849	581	290	271	139	8	16	3,393
1956-60 ..	1,253	833	558	274	235	109	6	19	3,287
ANNUAL TOTALS.									
1956 ..	1,273	819	556	274	226	122	4	22	3,296
1957 ..	1,282	870	584	297	273	104	4	17	3,431
1958 ..	1,208	826	548	240	225	105	5	14	3,171
1959 ..	1,241	799	553	281	225	109	5	18	3,231
1960 ..	1,261	850	551	280	226	106	13	22	3,309

(a) Not available. Queensland for 1941.

(b) Three years 1938-40.

(c) Four years 1942-45.

(d) Excludes

(e) Excludes the Northern Territory.

The incidence of stillbirths in each State and Territory as measured by the rate per 1,000 of all births, both live and still, is as follows.

## PROPORTION OF STILLBIRTHS.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AVERAGE ANNUAL RATES.									
1936-40 ..	28.71	27.43	(b)	c27.49	25.70	28.75	(b)	22.18	(b)
1941-45 ..	25.46	24.79	d26.76	25.17	23.29	25.68	(b)	22.87	ef25.25
1946-50 ..	19.99	19.64	21.87	22.12	20.46	22.26	(b)	16.35	f20.46
1951-55 ..	16.52	15.55	18.41	15.80	16.97	17.54	17.20	17.05	16.57
1956-60 ..	15.49	13.41	16.07	13.55	13.70	12.64	8.57	14.26	14.56
ANNUAL RATES.									
1956 ..	16.54	13.83	16.87	14.24	13.18	14.83	7.14	20.02	15.30
1957 ..	15.88	14.18	17.00	14.98	15.87	12.18	6.15	14.77	15.33
1958 ..	14.87	13.30	15.92	11.83	13.27	12.11	7.12	10.86	14.05
1959 ..	15.11	12.67	15.30	13.61	12.98	12.48	6.24	13.04	14.04
1960 ..	15.15	13.10	15.41	13.18	13.18	11.83	16.46	13.71	14.17

(a) Numbers of stillbirths per 1,000 of all births (live and still). (b) Not available. (c) Three years 1938-40. (d) Four years 1942-45. (e) Excludes Queensland for 1941. (f) Excludes the Northern Territory.

## § 5. Mortality.

1. Number of Deaths.—(i) Year 1961. The following table shows the number of deaths, male and female, registered in each State and Territory during the year. Stillbirths, although registered as both births and deaths in some States, are excluded from the death statistics published herein.

## DEATHS, 1961.

Sex.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Males ..	19,652	13,534	7,546	4,362	3,326	1,601	98	129	50,248
Females ..	15,396	10,966	5,210	3,453	2,403	1,188	30	67	38,713
Persons ..	35,048	24,500	12,756	7,815	5,729	2,789	128	196	88,961

(ii) Years 1926 to 1961. A summary of the number of deaths in each State and Territory from 1926 to 1961 is given in the following table. Annual averages for each five-year period from 1861 to 1950 were published in Official Year Book No. 39, page 597.

## DEATHS.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
ANNUAL AVERAGES.									
1926-30 ..	22,677	16,698	8,007	5,008	3,617	2,040	71	42	58,160
1931-35 ..	22,591	17,680	8,147	5,063	3,876	2,194	67	35	59,653
1936-40(a) ..	25,735	19,361	9,107	5,540	4,270	2,342	73	54	66,482
1941-45(a) ..	27,807	20,964	9,715	6,303	4,724	2,488	64	71	72,136
1946-50(a) ..	29,552	21,827	10,357	6,507	4,802	2,459	76	103	75,683
1951-55 ..	32,135	22,900	11,187	7,182	5,263	2,576	109	131	81,483
1956-60 ..	34,002	24,254	12,008	7,732	5,523	2,668	117	184	86,488
ANNUAL TOTALS.									
1957 ..	33,317	24,131	11,679	7,576	5,297	2,670	115	168	84,953
1958 ..	32,350	23,625	11,455	7,743	5,554	2,708	106	182	83,723
1959 ..	35,249	25,078	12,349	7,943	5,497	2,780	124	192	89,212
1960 ..	35,030	24,547	12,370	7,804	5,697	2,670	134	212	88,464
1961 ..	35,048	24,500	12,756	7,815	5,729	2,789	128	196	88,961

a) Excludes deaths of defence personnel and of internees and prisoners of war from overseas for the period September, 1939 to June, 1947.

A graph showing the number of deaths in each year from 1870 to 1961 will be found on page 343.

2. **Crude Death Rates.**—The commonest method of measuring the mortality rate is to relate the number of deaths for a given period to the mean population for that period, thus obtaining the crude death rate. This rate for a given period measures the number per thousand of population by which the population is depleted through deaths during that period. Crude death rates for each State and Territory from 1926 to 1961 are shown in the following table.

CRUDE DEATH RATES.(a)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AVERAGE ANNUAL RATES.									
1926-30 ..	9.26	9.56	9.06	8.83	8.91	9.44	15.83	5.36	9.26
1931-35 ..	8.68	9.72	8.62	8.72	8.83	9.63	13.46	3.81	9.00
1936-40(b) ..	9.45	10.36	9.08	9.33	9.22	9.91	11.69	4.54	9.63
1941-45(b) ..	9.73	10.63	9.24	10.26	9.86	10.21	6.43	4.98	9.96
1946-50(b) ..	9.70	10.37	9.13	9.76	9.23	9.30	6.27	5.31	9.74
1951-55(c) ..	9.49	9.55	8.71	9.25	8.49	8.48	6.86	4.58	9.25
1956-60(c) ..	9.20	8.91	8.36	8.62	7.90	7.97	5.32	4.31	8.78
ANNUAL RATES.									
1957(c) ..	9.19	9.08	8.29	8.67	7.71	8.13	5.58	4.42	8.81
1958(c) ..	8.75	8.69	7.98	8.63	7.94	8.07	4.87	4.43	8.50
1959(c) ..	9.37	9.01	8.43	8.62	7.72	8.14	5.25	4.12	8.87
1960(c) ..	9.14	8.59	8.30	8.26	7.88	7.70	5.34	4.03	8.61
1961—									
Males ..	9.97	9.19	9.77	8.90	8.85	8.95	6.18	4.17	9.46
Females ..	7.92	7.59	7.02	7.21	6.65	6.80	2.83	2.40	7.46
Persons ..	8.95	8.39	8.42	8.06	7.77	7.89	4.84	3.33	8.48

(a) Number of deaths per 1,000 of mean population. (b) Excludes deaths of defence personnel from September, 1939 to June, 1947. (c) Recalculated from population figures revised in accordance with the preliminary results of the Census of 30th June, 1961.

A graph showing the crude death rate for each year from 1870 to 1961 will be found on page 344.

3. **Standardized Death Rates.**—(i) *General.* The death rates quoted above are crude rates, i.e., they simply show the number of deaths per thousand of mean population without taking into consideration differences in the sex and age composition of the population. Other conditions being equal, however, the crude death rate of a community will be low if it contains a large proportion of young people (not infants), and conversely it will be relatively high if the population includes a large proportion of elderly people. The foregoing table of crude death rates, therefore, does not indicate comparative incidence of mortality either as between States in the same year or in any one State over a period of years. In order to obtain a comparison of mortality rates on a uniform basis as far as sex and age constitution are concerned, "standardized" death rates may be computed. These are computed by selecting a particular distribution of age and sex as a standard, and then calculating what would have been the general death rate if the death rates for each sex and in each age group had been as recorded, but the age and sex distribution had been the same as in the standard population. For the standardized rates which follow, the standard population compiled by the International Institute of Statistics has been used. This standard is based upon the age distribution according to sex of nineteen European countries at their censuses nearest to the year 1900.

(ii) *Death Rates in Age Groups.* An examination of the age distribution of deaths and the resultant age-specific death rates is made in paragraph 8, page 348.

(iii) *Comparison of Crude and Standardized Death Rates.* The relative incidence of mortality as between individual States and as between the years 1921, 1933, 1947 and 1954 is illustrated in the following statement of crude and "standardized" death rates. These years have been chosen for comparison because the census data give essential information as to sexes and ages of the State populations. Crude death rates are shown to indicate the degree to which they disguise the true position.

## CRUDE AND STANDARDIZED DEATH RATES.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
<b>Crude Death Rate(a)—</b>							
1921 .. .. .	9.50	10.52	9.37	10.02	10.42	10.30	9.91
1933 .. .. .	8.58	9.59	8.84	8.44	8.64	9.60	8.92
1947 .. .. .	9.53	10.44	9.15	9.61	9.39	9.17	9.69
1954 .. .. .	9.46	9.19	8.64	9.01	8.38	8.67	9.10
<b>Standardized Death Rate(b)—</b>							
1921 .. .. .	10.35	10.79	10.24	10.38	11.88	10.83	10.58
1933 .. .. .	8.52	8.74	9.10	7.66	8.74	8.86	8.62
1947 .. .. .	7.44	7.31	7.47	6.77	7.28	7.21	7.34
1954 .. .. .	7.24	6.63	6.80	6.52	6.71	7.02	6.90

(a) Total deaths per 1,000 of mean population. in para. 3 (i) above.

(b) See explanation of standardized death rates

The comparisons above relate to individual years in which a census of population was taken and should not be used as the basis for general conclusions as to changes in incidence of mortality for other than those years.

4. **True Death Rates.**—The main objections to standardized death rates are that the choice of a standard population is arbitrary and that the standardized rates have little value except for comparative purposes, and even then variation of the standard population may make appreciable differences. However, a correct measurement of the mortality of the population can be obtained from life tables. A life table represents the number of survivors at each age from a group of newly-born children who are subject to given mortality conditions, and from such a table the complete expectation of life at birth can be calculated. The reciprocal of this figure is known as the true death rate, since, if the complete expectation of life of a person at birth is 50 years, say, then each person will on the average die 50 years after birth, so that in a stationary population one person in 50 or 20 per thousand will die each year. The true death rate for a given period is unaffected by the particular age distribution of that period and is determined solely by the mortality experience of the period as manifested in the rate of survival from each year of age to the next. The table below sets out complete expectation of life at birth and true death rates for the periods covered by Australian life tables.

## COMPLETE EXPECTATION OF LIFE AT BIRTH AND TRUE DEATH RATES: AUSTRALIA.

Period.	Complete Expectation of Life at Birth (Years).		True Death Rate.	
	Males.	Females.	Males.(a)	Females.(b)
1881-1890 .. .. .	47.20	50.84	21.19	19.67
1891-1900 .. .. .	51.06	54.76	19.58	18.26
1901-1910 .. .. .	55.20	58.84	18.12	17.00
1920-1922 .. .. .	59.15	63.31	16.91	15.80
1932-1934 .. .. .	63.48	67.14	15.75	14.89
1946-1948 .. .. .	66.07	70.63	15.14	14.16
1953-1955 .. .. .	67.14	72.75	14.89	13.75

(a) Number of deaths per 1,000 males in stationary population.

(b) Number of deaths per 1,000 females in stationary population.

5. **Crude Death Rates of Principal Countries.**—The crude death rates and the true death rates of Australia and the principal countries of the world for the latest available year are shown in the table on pages 361-2 of § 7. International Vital Statistics.

6. **Australian Life Tables.**—(i) *Life Tables prior to 1954.* It has been the practice at each census from 1911 onwards to prepare Life Tables representative of the mortality experience of Australia. The mortality of the Australian population for the thirty years from 1881 to 1910 inclusive was investigated in 1911 by the Commonwealth Statistician.

Tables were compiled for each State and for Australia as a whole in respect of each sex for each of the decennial periods 1881-1890, 1891-1900 and 1901-1910. These compilations furnished a comprehensive view of Australian mortality in respect of sex, of time, and of geographical distribution, and practically superseded all Life Tables prepared in Australia prior to 1911. In addition, monetary tables based on the experience for the whole of Australia for the ten years 1901-1910 were prepared and published.

At the Census of 1921, Life Tables were prepared by the Commonwealth Statistician from the recorded census population and the deaths in the three years 1920 to 1922. In 1933 and 1947, Life Tables based on the census population and the deaths in the years 1932 to 1934 and 1946 to 1948 respectively were compiled by the Commonwealth Actuary.

(ii) *Life Tables of Census of 1954.* On the occasion of the 1954 Census, the seventh Life Tables in the series were compiled by the Commonwealth Actuary. These were based on the population recorded at the Census, adjusted to allow for variation in the net movement into Australia over the years 1953 to 1955, and deaths during these years. Full particulars of the data used, the method of construction and the tabulations of these Life Tables will be found in the report of the Commonwealth Actuary which was published by the Commonwealth Statistician in 1958. This report will also appear in Volume VIII of the detailed tables of the 1954 Census.

The main features of the tables, including comparisons with earlier Australian tables, and the latest experience in the United Kingdom and New Zealand are set out in the following summary tables.

### COMPARATIVE TABLES.

#### 1. RATES OF MORTALITY ( $q_x$ ) AT REPRESENTATIVE AGES.

Age (x).	1901-10.	1920-22.	1932-34.	1946-48.	1953-55.
MALES.					
0 .. .. .	.09510	.07132	.04543	.03199	.02521
10 .. .. .	.00179	.00156	.00119	.00072	.00056
20 .. .. .	.00370	.00284	.00219	.00169	.00186
30 .. .. .	.00519	.00390	.00271	.00186	.00170
40 .. .. .	.00816	.00617	.00460	.00337	.00297
50 .. .. .	.01395	.01158	.00966	.00919	.00819
60 .. .. .	.02584	.02407	.02216	.02278	.02221
70 .. .. .	.06162	.05290	.05082	.05256	.05315
80 .. .. .	.13795	.13340	.12659	.12011	.11958
FEMALES.					
0 .. .. .	.07953	.05568	.03642	.02519	.01989
10 .. .. .	.00159	.00127	.00087	.00050	.00035
20 .. .. .	.00329	.00252	.00183	.00091	.00064
30 .. .. .	.00519	.00387	.00279	.00165	.00096
40 .. .. .	.00718	.00524	.00402	.00284	.00217
50 .. .. .	.00956	.00808	.00744	.00641	.00530
60 .. .. .	.01920	.01571	.01466	.01360	.01203
70 .. .. .	.04777	.04090	.03802	.03607	.03250
80 .. .. .	.11333	.11230	.10106	.10027	.09314

#### 2. RATES OF MORTALITY FOR ONE PERIOD AS A PROPORTION OF THE RATES FOR THE PRECEDING PERIOD.

Age.	Males.				Females.			
	1920-22	1932-34	1946-48	1953-55	1920-22	1932-34	1946-48	1953-55
	1901-10.	1920-22.	1932-34.	1946-48.	1901-10.	1920-22.	1932-34.	1946-48.
0 ..	.75	.64	.70	.79	.70	.65	.69	.79
10 ..	.87	.76	.61	.78	.80	.69	.57	.70
20 ..	.77	.77	.77	1.10	.77	.73	.50	.70
30 ..	.75	.69	.69	.91	.75	.72	.59	.58
40 ..	.76	.75	.73	.88	.73	.77	.71	.76
50 ..	.83	.83	.95	.89	.85	.92	.86	.83
60 ..	.93	.92	1.03	.97	.82	.93	.93	.88
70 ..	.86	.96	1.03	1.01	.86	.93	.95	.90
80 ..	.97	.95	.95	1.00	.99	.90	.99	.93



COMPARATIVE TABLES—*continued.*3. RATES OF MORTALITY FOR PERIODS SINCE 1901-10  
AS A PROPORTION OF THE RATES FOR THE PERIOD 1901-10.

Age.	Males.				Females.			
	1920-22	1932-34	1946-48	1953-55	1920-22	1932-34	1946-48	1953-55
	1901-10.	1901-10.	1901-10.	1901-10.	1901-10.	1901-10.	1901-10.	1901-10.
0 ..	.75	.48	.34	.27	.70	.46	.32	.25
10 ..	.87	.66	.40	.31	.80	.55	.31	.22
20 ..	.77	.59	.46	.50	.77	.56	.28	.19
30 ..	.75	.52	.36	.33	.75	.54	.32	.18
40 ..	.76	.56	.41	.36	.73	.56	.40	.30
50 ..	.83	.69	.66	.59	.85	.78	.67	.55
60 ..	.93	.86	.88	.86	.82	.76	.71	.63
70 ..	.86	.82	.85	.86	.86	.80	.76	.68
80 ..	.97	.92	.87	.87	.99	.89	.88	.82

4. NUMBER OF SURVIVORS ( $l_x$ ) AT SELECTED AGES OUT OF 100,000 BIRTHS.

Age (x).	Males.				Females.			
	1920-22.	1932-34.	1946-48.	1953-55.	1920-22.	1932-34.	1946-48.	1953-55.
0 ..	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
10 ..	89,389	93,193	95,619	96,488	91,314	94,424	96,549	97,228
20 ..	87,697	91,797	94,562	95,460	89,906	93,341	95,953	96,774
30 ..	84,743	89,566	92,967	93,801	87,086	91,174	94,740	96,055
40 ..	80,813	86,539	90,823	91,861	83,279	88,175	92,758	94,715
50 ..	74,330	81,061	85,946	87,553	78,313	83,680	89,011	91,573
60 ..	63,386	69,950	74,251	76,256	70,150	75,565	81,257	84,665
70 ..	44,332	50,086	52,230	54,054	54,771	59,629	65,398	69,613
80 ..	18,614	22,223	22,785	23,658	27,170	31,539	35,401	39,633
90 ..	2,141	2,935	3,144	3,507	4,238	5,808	6,556	8,087

5. COMPLETE EXPECTATION OF LIFE ( $e_x^o$ ) AT SELECTED AGES.

Age (x).	Males.				Females.			
	1920-22.	1932-34.	1946-48.	1953-55.	1920-22.	1932-34.	1946-48.	1953-55.
0 ..	59.15	63.48	66.07	67.14	63.31	67.14	70.63	72.75
10 ..	56.01	58.02	59.04	59.53	59.20	61.02	63.11	64.78
20 ..	46.99	48.81	49.64	50.10	50.03	51.67	53.47	55.06
30 ..	38.44	39.90	40.40	40.90	41.48	42.77	44.08	45.43
40 ..	30.05	31.11	31.23	31.65	33.14	34.04	34.91	36.00
50 ..	22.20	22.83	22.67	22.92	24.90	25.58	26.14	27.03
60 ..	15.08	15.57	15.36	15.47	17.17	17.74	18.11	18.78
70 ..	9.26	9.60	9.55	9.59	10.41	10.98	11.14	11.62
80 ..	5.00	5.22	5.36	5.47	5.61	6.01	6.02	6.30

COMPARATIVE TABLES—*continued.*6. RATES OF MORTALITY ( $q_x$ ) AT SELECTED AGES FROM 1953-55 EXPERIENCE COMPARED WITH RECENT RATES OF MORTALITY FOR THE UNITED KINGDOM AND NEW ZEALAND.

Age (x).	Males.			Females.		
	Australia 1953-55.	United Kingdom 1950-52.	New Zealand 1950-52.	Australia 1953-55.	United Kingdom 1950-52.	New Zealand 1950-52.
0 .. ..	.02521	.03266	.02499	.01989	.02510	.01995
10 .. ..	.00056	.00052	.00050	.00035	.00035	.00028
20 .. ..	.00186	.00129	.00161	.00064	.00083	.00068
30 .. ..	.00170	.00157	.00160	.00096	.00127	.00110
40 .. ..	.00297	.00290	.00268	.00217	.00227	.00209
50 .. ..	.00819	.00850	.00727	.00530	.00524	.00552
60 .. ..	.02221	.02369	.01951	.01203	.01271	.01316
70 .. ..	.05315	.05651	.04723	.03250	.03532	.03282
80 .. ..	.11958	.13629	.11260	.09314	.10466	.09334

## 7. RATES OF MORTALITY FROM 1953-55 AUSTRALIAN EXPERIENCE, AS A PROPORTION OF THE RATES FOR THE UNITED KINGDOM AND NEW ZEALAND.

Age.	Males.		Females.	
	Australia 1953-55	Australia 1953-55	Australia 1953-55	Australia 1953-55.
	United Kingdom 1950-52.	New Zealand 1950-52.	United Kingdom 1950-52.	New Zealand 1950-52.
0 .. ..	.77	1.01	.79	1.00
10 .. ..	1.08	1.12	1.00	1.25
20 .. ..	1.44	1.16	.77	.94
30 .. ..	1.08	1.06	.76	.87
40 .. ..	1.02	1.11	.96	1.04
50 .. ..	.96	1.13	1.01	.96
60 .. ..	.94	1.14	.95	.91
70 .. ..	.94	1.13	.92	.99
80 .. ..	.88	1.06	.89	1.00

The main features of the 1953-55 mortality rates were as follows.

(a) *Male Mortality.* With the exception of ages 16 to 26 inclusive, and 69 to 73 inclusive, the 1953-55 mortality rates were less than those for 1946-48. The most significant reduction occurred at age 0, where the mortality rate was 79 per cent. of the corresponding rate for 1946-48, and only 27 per cent. of the experience for the period 1901-1910.

The most disturbing feature of the 1953-55 experience was the increase in mortality which occurred in the 16-26 age group. This was the result of heavier mortality from accidents of all types, which more than counterbalanced a decrease in the rates of mortality due to other causes.

At advanced ages, the experience suggests that only a slight improvement in male mortality occurred since 1946-48.

(b) *Female Mortality.* The comparative tables above show that very substantial decreases in female mortality rates occurred over the whole range of ages since the 1946-48 experience. This improvement was considerably greater overall than that for males.

Accident mortality among females, which has never been as significant as among males, increased very slightly, but this increase was more than offset by the reduction in the mortality from other causes. There was a notable disparity between the high male accident rate and the low female rate.

In the 1946-48 experience, female mortality from causes other than accident was, in the age range 20 to 39 years, heavier than the corresponding male mortality. For 1953-55, however, the position was reversed. At high ages the female mortality rates showed substantially greater improvement since 1946-48 than the male rates.

7. Infant Deaths and Death Rates.—(i) States. (a) Under One Year. For each State and Territory, the number of deaths under one year of age and the rates of infant mortality during the period 1926 to 1961 were as follows.

INFANT MORTALITY: UNDER ONE YEAR.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
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ANNUAL AVERAGES.

1926-30 ..	2,918	1,797	918	517	431	257	5	8	6,851
1931-35 ..	1,885	1,214	690	304	329	202	6	5	4,635
1936-40 ..	1,963	1,139	718	311	352	201	6	5	4,695
1941-45 ..	2,034	1,311	804	413	347	213	7	7	5,136
1946-50 ..	1,990	1,129	770	431	370	187	11	14	4,902
1951-55 ..	1,852	1,113	730	407	384	184	17	14	4,701
1956-60 ..	1,770	1,205	717	410	362	176	25	18	4,683

ANNUAL TOTALS.

1957 ..	1,804	1,219	732	403	357	170	22	10	4,717
1958 ..	1,704	1,178	657	449	360	167	22	23	4,560
1959 ..	1,832	1,320	721	422	345	202	31	16	4,889
1960 ..	1,735	1,182	740	397	366	169	26	28	4,643
1961 ..	1,800	1,173	733	448	336	151	21	27	4,689

AVERAGE ANNUAL RATES.(a)

1926-30 ..	54.74	52.34	47.41	46.95	49.27	53.37	66.09	71.31	51.99
1931-35 ..	41.92	42.76	39.46	35.12	40.81	44.47	80.60	34.48	41.27
1936-40 ..	41.18	37.63	36.75	33.08	39.70	41.23	44.80	21.78	38.81
1941-45 ..	35.95	34.50	34.30	32.95	33.30	39.31	61.73	18.72	34.97
1946-50 ..	28.91	23.82	27.49	26.50	28.15	26.53	37.37	19.89	26.98
1951-55 ..	25.11	20.70	23.58	22.55	24.41	23.67	36.28	15.40	23.34
1956-60 ..	22.24	19.67	20.99	20.50	21.42	20.62	36.00	13.68	21.05

ANNUAL RATES.(a)

1957 ..	22.70	20.16	21.68	20.63	21.09	20.15	34.06	8.82	21.41
1958 ..	21.29	19.23	19.40	22.40	21.52	19.49	31.56	18.04	20.49
1959 ..	22.65	21.21	20.25	20.71	20.16	23.42	38.94	11.75	21.54
1960 ..	21.16	18.46	21.01	18.94	21.62	19.09	33.46	17.69	20.16
1961 ..	20.84	17.80	20.01	20.00	19.67	16.81	23.92	15.57	19.54

(a) Number of deaths of children aged under one year per 1,000 live births registered.

(b) Under Four Weeks. The following table shows infant mortality rates under four weeks of age in each State and Territory during the period 1926 to 1960.

INFANT MORTALITY RATES(a): UNDER FOUR WEEKS.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
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AVERAGE ANNUAL RATES.

1926-30 ..	29.63	29.75	27.66	26.84	25.10	33.12	14.37	28.86	28.96
1931-35 ..	27.62	27.78	27.91	22.99	25.11	30.09	35.26	23.45	27.27
1936-40 ..	27.63	25.94	26.15	21.62	22.62	29.56	28.80	16.33	26.19
1941-45 ..	24.52	24.40	24.41	20.86	20.60	27.24	33.57	12.54	23.97
1946-50 ..	20.53	17.55	19.95	18.38	19.53	19.34	21.45	15.80	19.34
1951-55 ..	17.34	15.18	17.09	14.95	17.27	16.34	19.63	11.28	16.45
1956-60 ..	16.04	14.50	15.15	13.67	15.01	13.29	24.19	9.64	15.07

ANNUAL RATES.

1956 ..	16.97	14.13	16.35	13.55	15.90	14.56	30.58	7.43	15.60
1957 ..	16.39	15.02	15.22	13.77	15.13	13.63	18.58	7.06	15.36
1958 ..	15.30	14.48	13.76	13.72	14.35	12.37	17.22	11.76	14.50
1959 ..	16.37	15.22	14.61	14.03	13.79	14.84	27.63	8.81	15.31
1960 ..	15.25	15.84	13.70	13.26	15.89	11.18	27.03	12.00	14.64

a) Number of deaths of children aged under four weeks per 1,000 live births registered.

(c) *Four Weeks and under One Year.* Infant mortality rates for children aged four weeks and under one year are shown in the following table for the period 1926 to 1960.

**INFANT MORTALITY RATES(a): FOUR WEEKS AND UNDER ONE YEAR.**

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AVERAGE ANNUAL RATES.									
1926-30 ..	25.11	22.59	19.75	20.11	24.17	20.25	51.72	42.45	23.03
1931-35 ..	14.30	14.98	11.55	12.13	15.70	14.38	45.34	11.03	14.00
1936-40 ..	13.55	11.69	10.60	11.46	17.08	11.67	16.00	5.45	12.62
1941-45 ..	11.77	10.33	10.14	12.34	12.77	12.30	22.40	6.21	11.27
1946-50 ..	8.38	6.27	7.54	8.12	8.62	7.19	15.92	4.09	7.64
1951-55 ..	7.77	5.52	6.49	7.60	7.14	7.33	16.65	4.12	6.89
1956-60 ..	6.19	5.17	5.85	6.84	6.41	7.33	11.81	4.04	5.98

**ANNUAL RATES.**

1956 ..	6.50	5.19	6.39	6.33	6.80	6.42	12.59	2.78	6.12
1957 ..	6.31	5.14	6.46	6.86	5.96	6.52	15.48	1.76	6.05
1958 ..	5.99	4.75	5.64	8.68	7.17	7.12	14.34	6.28	5.99
1959 ..	6.28	5.99	5.64	6.68	6.37	8.58	11.31	2.94	6.23
1960 ..	5.91	4.76	5.17	5.68	5.73	7.91	6.43	5.69	5.52

(a) Number of deaths of children aged four weeks and under one year per 1,000 live births registered.

(ii) *Australia. (a) Under One Year.* The fact that out of 571,439 male infants born from 1956 to 1960, 13,310 (23.29 per 1,000) died during the first year of life, while of 540,858 female infants only 10,107 (18.69 per 1,000) died during the first year, accords with the universal experience that during the first few years of life the higher death rate of male infants tends to counteract the excess of male births. Stillbirths, for which masculinity is also higher, are not included in any of the tables relating to deaths.

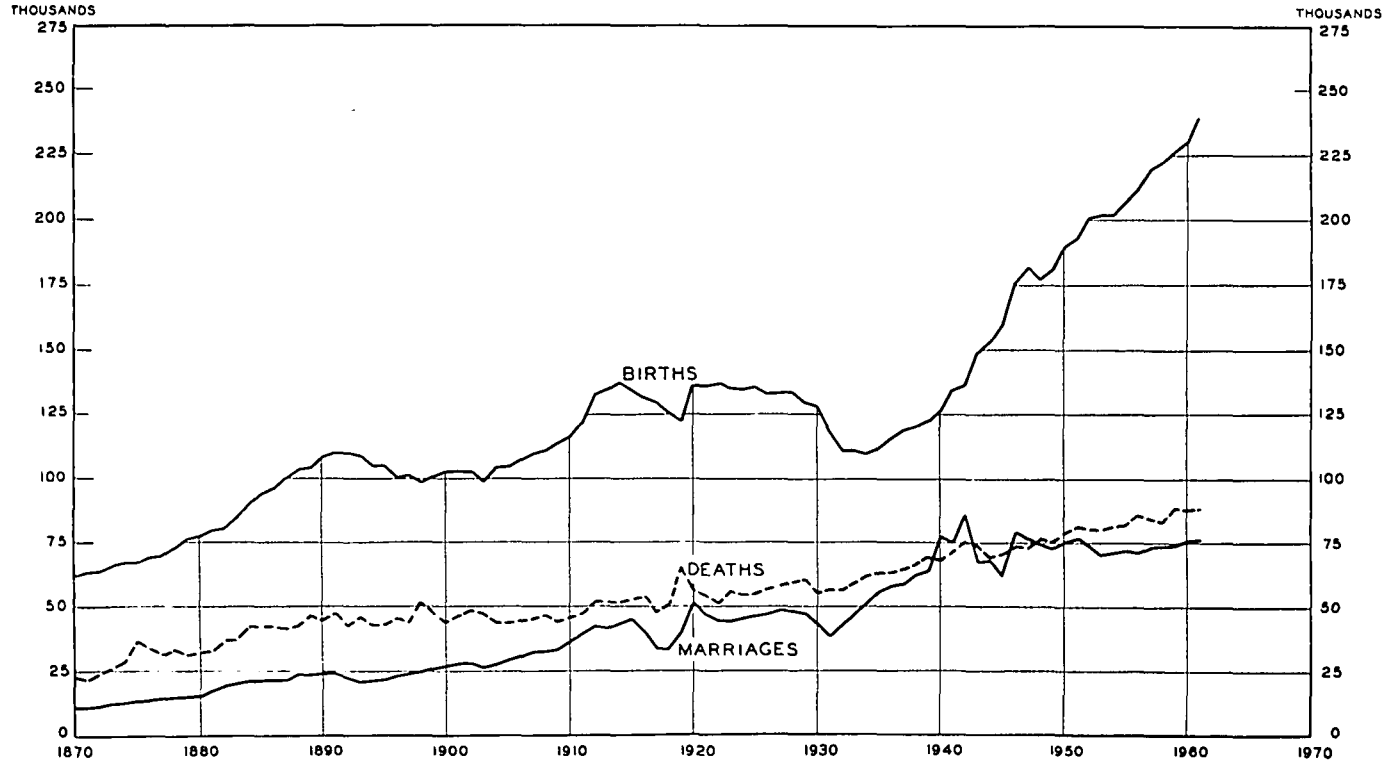
As shown by the following table, the disparity is greater during the first four weeks of life, termed the neonatal period, than during the remainder of the first year of life, or the post-neonatal period.

**INFANT DEATHS AND MORTALITY RATES: AUSTRALIA.**

Period.	Number of Deaths.						Rates.(a)					
	Neonatal— Under Four Weeks.		Post- Neonatal— Four Weeks and under One Year.		Total under One Year.		Neonatal— Under Four Weeks.		Post- Neonatal— Four Weeks and under One Year.		Total under One Year.	
	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.
ANNUAL AVERAGES.												
1926-30 ..	2,203	1,612	1,706	1,330	3,909	2,942	32.50	25.20	25.16	20.79	57.66	45.99
1931-35 ..	1,763	1,299	886	687	2,649	1,986	30.62	23.73	15.38	12.55	46.00	36.28
1936-40 ..	1,816	1,353	863	663	2,679	2,016	29.30	22.93	13.93	11.23	43.23	34.16
1941-45 ..	2,007	1,495	914	720	2,921	2,215	26.66	20.88	12.14	10.05	38.80	30.93
1946-50 ..	2,024	1,490	784	604	2,808	2,094	21.68	16.86	8.40	6.84	30.08	23.70
1951-55 ..	1,907	1,406	776	612	2,683	2,018	18.47	14.32	7.52	6.24	25.99	20.56
1956-60 ..	1,921	1,432	741	589	2,662	2,021	16.81	13.24	6.48	5.45	23.29	18.69
ANNUAL TOTALS.												
1956 ..	1,879	1,430	704	595	2,583	2,025	17.15	13.95	6.42	5.80	23.57	19.75
1957 ..	1,953	1,431	740	593	2,693	2,024	17.25	13.36	6.53	5.53	23.78	18.89
1958 ..	1,822	1,404	767	567	2,589	1,971	15.99	12.93	6.73	5.23	22.72	18.16
1959 ..	2,017	1,458	777	637	2,794	2,095	17.35	13.17	6.69	5.75	24.04	18.92
1960 ..	1,934	1,437	717	555	2,651	1,992	16.33	12.84	6.06	4.96	22.39	17.80

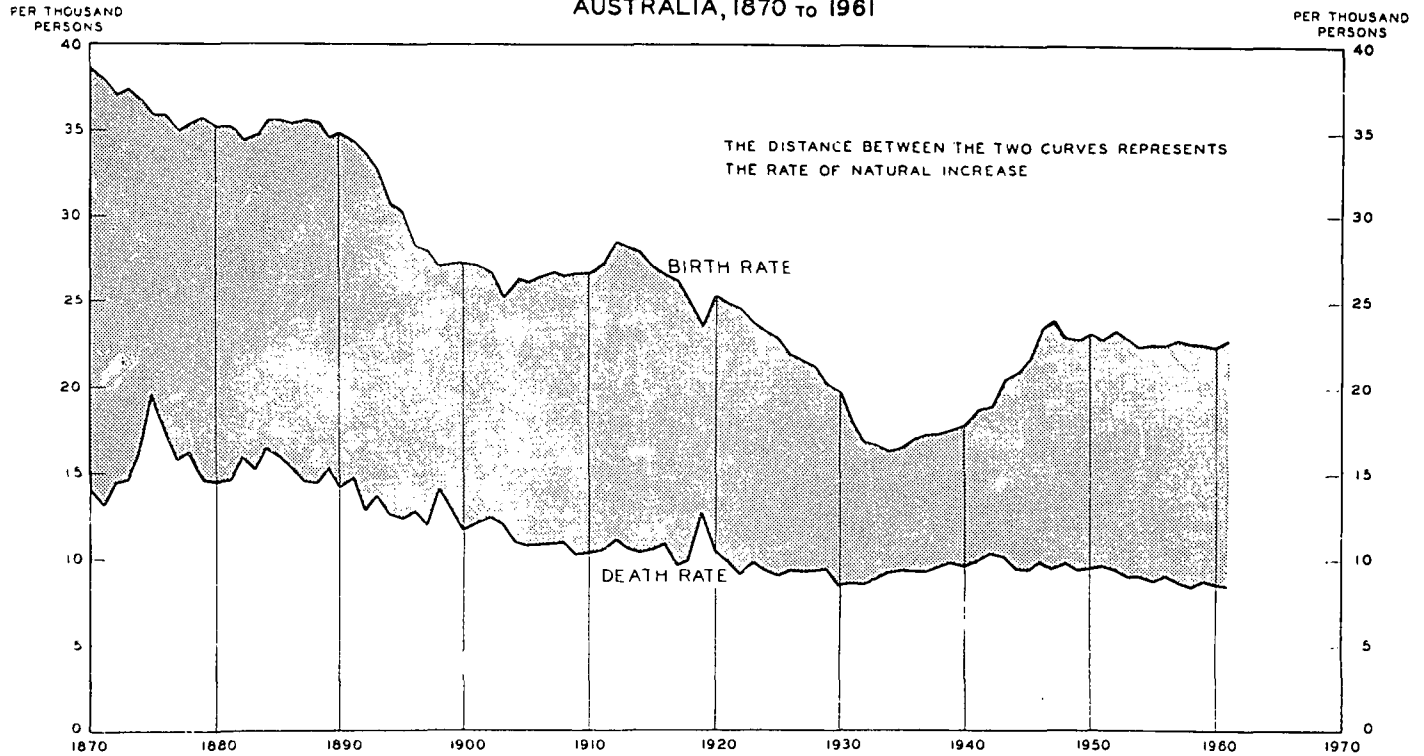
(a) Number of deaths per 1,000 male or female live births registered.

# BIRTHS, DEATHS, AND MARRIAGES: AUSTRALIA, 1870 TO 1961



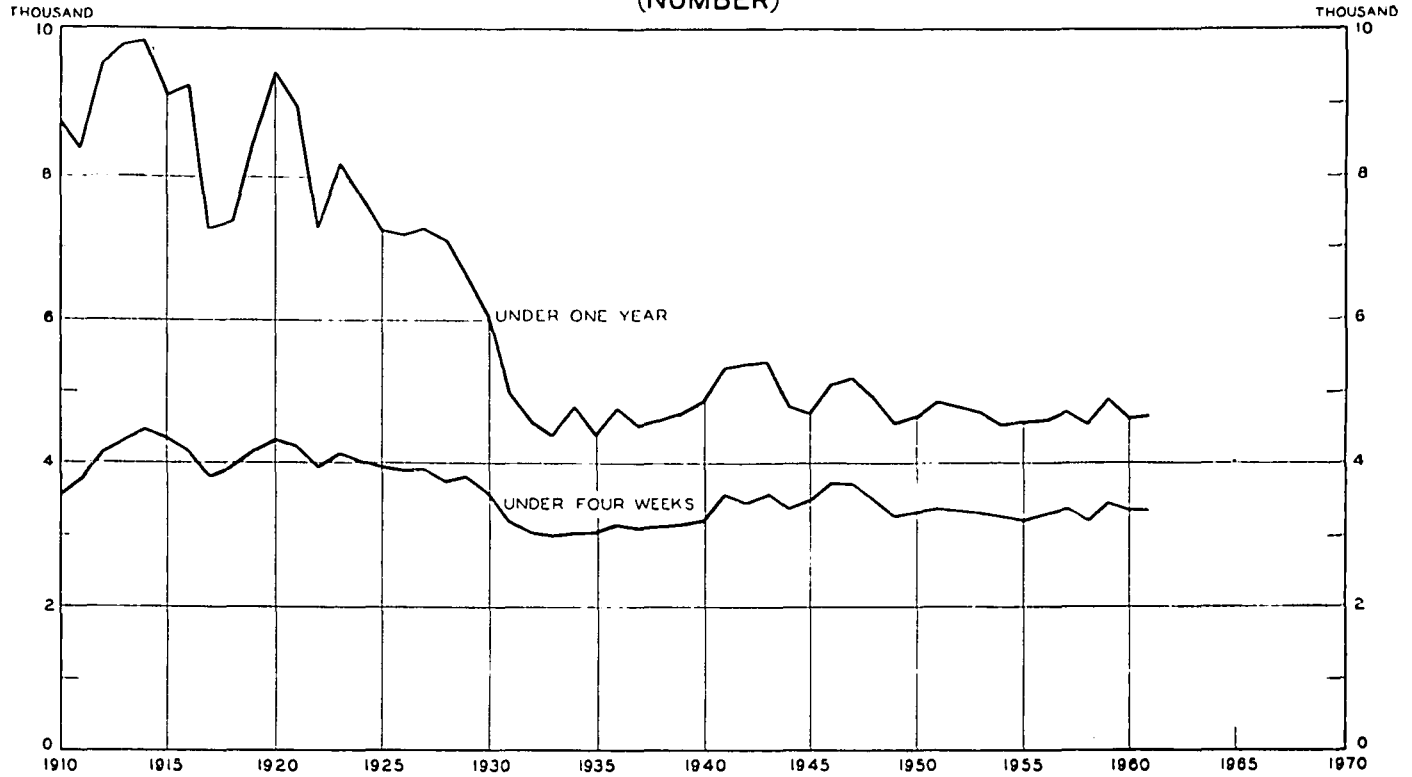
# RATES OF BIRTHS, DEATHS, AND NATURAL INCREASE

AUSTRALIA, 1870 to 1961



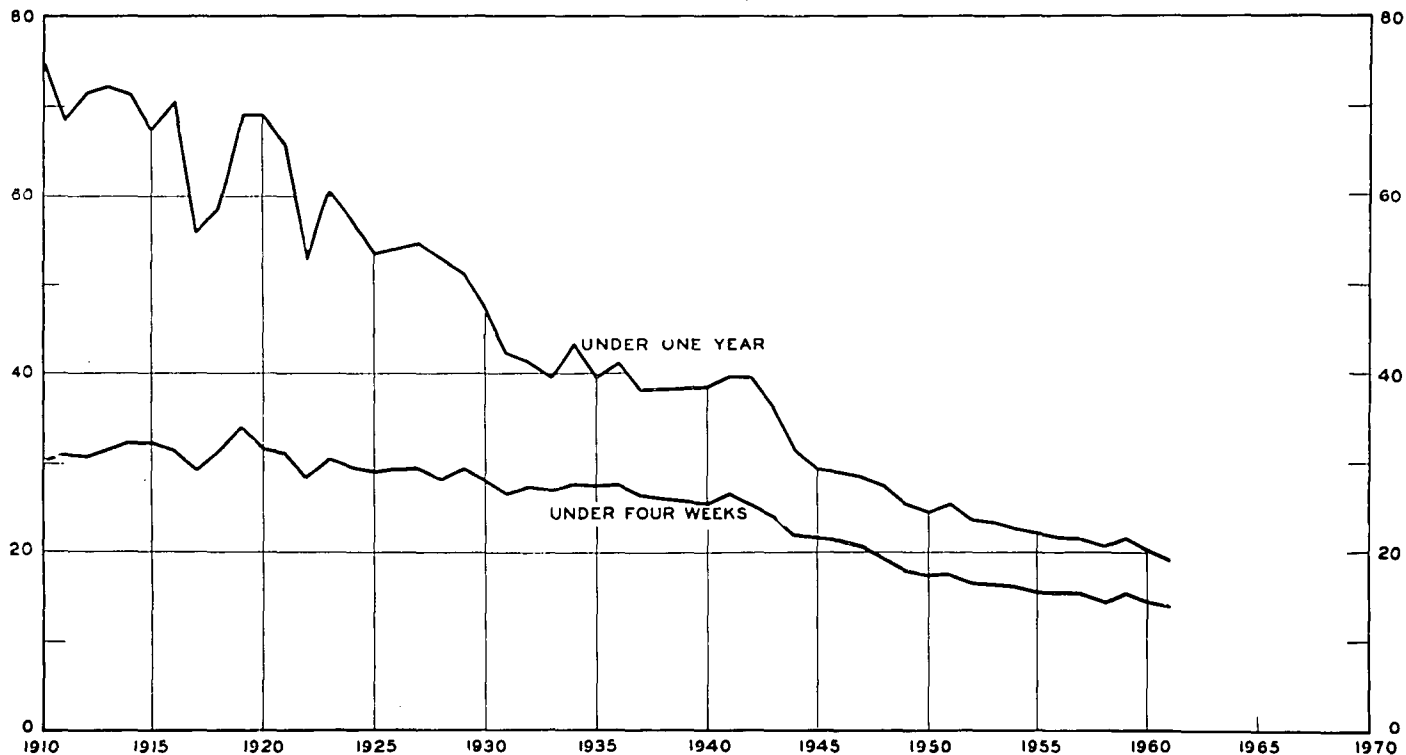
# INFANT DEATHS: AUSTRALIA, 1910 to 1961

(NUMBER)



# INFANT MORTALITY RATES: AUSTRALIA, 1910 to 1961

(INFANT DEATHS PER 1,000 LIVE BIRTHS)





(b) *Under Four Weeks.* The following table shows particulars of infant deaths in the first four weeks of life, or the neonatal period, from 1931 to 1960. It will be seen that, for both males and females, the risk of death is very much greater during the first day of life than subsequently.

INFANT DEATHS AND MORTALITY RATES—UNDER FOUR WEEKS:  
AUSTRALIA.

Period.	Number of Deaths.						Rates.(a)					
	Early Neonatal.				Late Neonatal— One Week and under Four Weeks.		Early Neonatal.				Late Neonatal One Week and under Four Weeks.	
	Under One Day.		One Day and under One Week.				Under One Day.		One Day and under One Week.			
	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.	Males.	Fe- males.
	ANNUAL AVERAGES.						AVERAGE ANNUAL RATES.					
1931-35 ..	(b)	(b)	c 1,442	c 1,066	321	233	(b)	(b)	c25.04	c19.48	5.58	4.25
1936-40 ..	(b)	(b)	c 1,496	c 1,120	320	233	(b)	(b)	c24.13	c18.99	5.17	3.94
1941-45 ..	906	674	728	541	373	280	12.03	9.42	9.67	7.55	4.96	3.91
1946-50 ..	986	731	758	539	280	220	10.56	8.28	8.12	6.09	3.00	2.49
1951-55 ..	918	713	742	508	247	185	8.88	7.26	7.19	5.17	2.40	1.89
1956-60 ..	972	765	705	490	244	177	8.50	7.07	6.17	4.53	2.13	1.64
	ANNUAL TOTALS.						ANNUAL RATES.					
1956 ..	933	754	714	478	232	198	8.51	7.36	6.52	4.66	2.12	1.93
1957 ..	1,029	795	677	472	247	164	9.09	7.42	5.98	4.41	2.18	1.53
1958 ..	927	737	659	486	236	181	8.14	6.79	5.78	4.48	2.07	1.66
1959 ..	1,003	784	762	497	252	177	8.63	7.08	6.55	4.49	2.17	1.60
1960 ..	967	755	715	516	252	166	8.17	6.75	6.04	4.61	2.13	1.48

(a) Number of deaths per 1,000 live births registered.  
under one day.

(b) Not available.

(c) Includes

The foregoing tables indicate the decrease in infant mortality in Australia, the mortality rate of children aged under one year per 1,000 live births for 1960 being 49 per cent. of the average rate for 1931-35. The improvement was due largely to the decrease in deaths from preventable causes, the mortality rate for children aged one week but under one year of age declining by 61 per cent., while that for children aged under one week declined by 43 per cent.

A graph showing infant mortality rates for each year from 1910 to 1961 will be found on page 346.

(iii) *Statistical Divisions.* The total numbers of births and of deaths of children under one year of age in each statistical division of the States are shown in the annual bulletin, *Demography*.

(iv) *Principal Countries.* Compared with other countries Australia occupies a favourable position in respect of infant mortality. In 1960, only a few countries recorded a lower rate than Australia. Rates for Australia and the principal countries of the world for the latest available year are shown in the tables on pages 361-2 of § 7. *International Vital Statistics*.

(v) *Causes of Death—Children under one Year.* Causes of death of children under one year of age should be considered in relation to age at death, because the emphasis on various causes changes rapidly as age at death varies. In 1960, 2,953 deaths or 63.6 per cent. of infant deaths occurred during the first week of life. Causes mainly of pre-natal and natal origin accounted for 2,811 deaths or 95.2 per cent. of these deaths (congenital malformations 395, or 13.4 per cent.; birth injury 660, or 22.4 per cent.; post-natal asphyxia and atelectasis 490, or 16.6 per cent.; immaturity unqualified, or primary to diseases other than of early infancy 923, or 31.3 per cent.). These causes accounted for 278, or 66.5 per cent. of the total of 418 deaths occurring during the second, third and fourth weeks of life, and 334, or 26.3 per cent. of the total of 1,272 deaths from four weeks and under one year of age (congenital malformations 311, or 24.4 per cent.). Causes mainly of post-natal origin accounted for 705, or 55.4 per cent. of the deaths four weeks and under one year (pneumonia and bronchitis 341, or 26.8 per cent., gastro-enteritis and diarrhoea of the newborn 95, or 7.5 per cent.).

A summary for 1960 of deaths of children under one year of age, classified according to principal causes of death and age at death, is given in the following table.

CAUSES OF DEATH: CHILDREN UNDER ONE YEAR OF AGE, AUSTRALIA, 1960.

Inter-national Statistical Classification Number.	Cause of Death.	Age at Death.										Total under one year.	
		Days.		Total under one week.	Weeks.			Months.					
		Under 1.	1-6.		1.	2.	3.	1-2. (a)	3-5.	6-8.	9-11.		
	<i>Causes Mainly of Pre-Natal and Natal Origin—</i>												
750-759	Congenital malformations ..	199	196	395	87	53	33	113	98	62	38	879	
760, 761	Birth injury ..	386	274	660	21	1	6	..	..	..	..	688	
762	Post-natal asphyxia and atelectasis ..	304	186	490	9	2	2	2	2	..	..	507	
769	Attributed to maternal toxæmia ..	51	27	78	1	1	1	2	1	..	..	84	
770	Erythroblastosis ..	70	33	103	4	..	..	..	..	1	..	108	
771	Haemorrhagic disease of the newborn ..	5	35	40	3	2	..	1	..	..	..	46	
773	Ill-defined diseases of early infancy ..	57	65	122	9	4	2	4	1	2	..	144	
774-776	Immaturity alone, or primary to diseases other than of early infancy ..	610	313	923	28	7	2	7	..	..	..	967	
	<i>Total</i> .. ..	1,682	1,129	2,811	162	70	46	129	102	65	38	3,423	
	<i>Causes Mainly of Post-Natal Origin—</i>												
571, 764	Gastro-enteritis (including diarrhoea of newborn) ..	..	1	1	1	4	1	15	33	24	23	102	
(b)	Pneumonia and bronchitis ..	14	50	64	19	13	19	95	130	64	52	456	
(c)	Septicaemia, skin and subcutaneous tissue infections, sepsis of newborn ..	1	12	13	4	6	5	8	18	2	3	59	
057, 340	Meningococcal infections and non-meningococcal meningitis ..	..	6	6	7	6	2	15	14	7	17	74	
(d)	Causes classified as infective or mainly infective in origin not specified above ..	1	..	1	9	..	2	21	26	14	11	84	
E921-E925	Accidental mechanical suffocation from vomit, food, foreign body or in cot ..	..	3	3	2	1	3	19	26	9	3	66	
E926, E980-E985	Lack of care, neglect, infanticide ..	2	..	2	..	..	..	1	..	..	1	4	
(e)	Other accidents, poisonings and violence ..	..	..	..	1	2	2	7	16	10	21	59	
	<i>Total</i> .. ..	18	72	90	43	32	34	181	263	130	131	904	
140-239	Neoplasms ..	1	..	1	..	..	..	5	1	6	5	18	
Residual	Other causes remaining ..	21	30	51	10	15	6	65	66	59	26	298	
	<i>All Causes</i> .. ..	1,722	1,231	2,953	215	117	86	380	432	260	200	4,643	

(a) Age four weeks and under three months. (b) 490-493, 500-502, 763. (c) 053, 690-698, 765-768. (d) 001-52, 54-56, 58-138, 391-393, 470-483, 518, 519. (e) E800-E920, E927-E979, E990-E999.

8. Age Distribution.—(i) *Number of Deaths.* Age at death is recorded for statistical purposes in days for the first week of life, in weeks for the first four weeks, in months for the first year and in completed years of life thereafter. These ages are usually combined in groups for publication, the most common being weeks for the first four weeks, months or groups of months for the first year, single years of age for the first five years and thereafter the five-year groups 5-9 years, 10-14 years, etc. A summary in this form for Australia is given in the following table for the year 1960.

## AGE AT DEATH: AUSTRALIA, 1960.

Age at Death.	Males.	Fe- males.	Per- sons.	Age at Death.	Males.	Fe- males.	Per- sons.
Under 1 week .. ..	1,682	1,271	2,953	5-9 years .. ..	291	205	496
1 week and under 2 weeks..	118	97	215	10-14 " .. ..	252	150	402
2 weeks and under 3 " ..	76	41	117	15-19 " .. ..	512	197	709
3 weeks and under 4 " ..	58	28	86	20-24 " .. ..	546	185	731
				25-29 " .. ..	513	221	734
				30-34 " .. ..	666	351	1,017
<i>Total under 4 weeks ..</i>	<i>1,934</i>	<i>1,437</i>	<i>3,371</i>	35-39 " .. ..	846	562	1,408
				40-44 " .. ..	1,208	798	2,006
				45-49 " .. ..	1,919	1,239	3,158
				50-54 " .. ..	2,846	1,440	4,286
4 weeks and under 3 months	217	163	380	55-59 " .. ..	3,852	1,886	5,738
3 months and under 6 " ..	245	187	432	60-64 " .. ..	4,904	2,796	7,700
6 months and under 12 " ..	255	205	460	65-69 " .. ..	6,308	4,166	10,474
				70-74 " .. ..	7,231	5,251	12,482
				75-79 " .. ..	6,275	5,802	12,077
<i>Total under 1 year ..</i>	<i>2,651</i>	<i>1,992</i>	<i>4,643</i>	80-84 " .. ..	4,551	5,469	10,020
				85-89 " .. ..	2,519	3,601	6,120
				90-94 " .. ..	973	1,642	2,615
1 year .. ..	219	214	433	95-99 " .. ..	199	375	574
2 years .. ..	136	122	258	100 years and over	21	30	51
3 " .. ..	106	74	180	Age not stated ..	24	4	28
4 " .. ..	61	63	124				
<i>Total under 5 years ..</i>	<i>3,173</i>	<i>2,465</i>	<i>5,638</i>	<i>Total, All Ages ..</i>	<i>49,629</i>	<i>38,835</i>	<i>88,464</i>

There are different mortality rates at various stages of life and the actual number of deaths in any period is related to the numbers living at the respective stages. Changes in the number of deaths from one period to another are associated with changes in the rate of mortality in the various age groups and by the changed proportions of persons living in the different groups.

In Australia, during the last fifty years, there has been a steady decline in the rate of mortality at all ages. This has been most pronounced at ages under one year. The increased length of life due to this factor, coupled with the long-term decline in the birth rate and the effects of past and present migration, has been a significant cause in changing the age distribution of the population and consequently the age distribution of deaths, thus obscuring the effects of declining mortality rates.

The combined effect of these various influences can be seen from the following table, which shows the proportion of deaths in various age groups in ten-year periods from 1901 to 1960 and for the year 1960.

PROPORTION OF DEATHS IN EACH AGE GROUP: AUSTRALIA.  
(Per Cent.)

Period.	Age at Death (Years).								Total.
	Under 1.	1-4.	5-19.	20-39.	40-59.	60-64.	65 and over.	Unspeci- fied.	
1901-10 ..	20.51	6.45	6.37	14.99	17.99	5.31	28.26	0.12	100.00
1911-20 ..	16.66	6.09	5.49	14.44	20.32	6.19	30.68	0.13	100.00
1921-30 ..	13.10	4.51	4.85	12.12	20.55	8.26	36.53	0.08	100.00
1931-40 ..	7.40	2.56	3.83	9.36	20.54	8.36	47.92	0.03	100.00
1941-50 ..	6.79	1.71	2.26	6.01	19.04	9.33	54.84	0.02	100.00
1951-60 ..	5.59	1.33	1.80	4.90	17.27	9.18	59.90	0.03	100.00
1960—									
Males ..	5.34	1.05	2.13	5.18	19.80	9.88	56.57	0.05	100.00
Females ..	5.13	1.22	1.42	3.40	13.81	7.20	67.81	0.01	100.00
Persons ..	5.25	1.12	1.82	4.40	17.17	8.70	61.51	0.03	100.00

A table showing these proportions for males and females separately for the period 1901 to 1950 was published in Official Year Book No. 39, page 614.

(ii) *Age-specific Death Rates.* In previous issues of the Official Year Book, average annual age-specific death rates were given for each State and Australia for the periods 1932-34, 1946-48 and 1953-55 (see Official Year Books, No. 37, p. 778, No. 39, pp. 615-6 and No. 44, pp. 640-1). These rates were based on the age distribution of the population at the relevant censuses.

Intercensal estimates of the age distribution of the population are available for Australia and for the larger States. The following table shows age-specific death rates for Australia for the years 1958, 1959 and 1960.

AGE-SPECIFIC DEATH RATES(a): AUSTRALIA.

Age Group (Years).	1958.	1959.	1960.	Age Group (Years).	1958.	1959.	1960.
0-4 ..	5.32	5.51	5.16	50-54 ..	7.82	7.74	7.74
5-9 ..	0.48	0.50	0.49	55-59 ..	12.35	12.84	12.47
10-14 ..	0.42	0.40	0.41	60-64 ..	19.50	20.16	19.80
15-19 ..	0.91	0.97	0.92	65-69 ..	30.70	31.96	31.56
20-24 ..	1.29	1.14	1.09	70-74 ..	48.37	50.31	47.75
25-29 ..	1.13	1.09	1.12	75-79 ..	77.87	81.46	77.86
30-34 ..	1.34	1.46	1.36	80-84 ..	120.80	127.57	120.49
35-39 ..	1.94	2.03	1.86	85-89 ..	211.99	216.36	218.52
40-44 ..	2.83	2.98	3.03	90 and over ..	305.07	362.74	335.13
45-49 ..	4.92	5.02	4.85				

(a) Average number of deaths per 1,000 of population in each age group.

9. *Causes of Death.*—The classification of causes of death adopted for Australia by the Commonwealth Bureau of Census and Statistics at the inception of its mortality statistics in 1907 was that introduced by the International Institute of Statistics in 1893, reviewed by that Institute in 1899, and revised by an International Commission in 1900. This classification became known as the International List of Causes of Death and further international revisions in 1909 (Second), 1920 (Third), 1929 (Fourth), 1938 (Fifth), 1948 (Sixth), and 1955 (Seventh) were successively adapted for use in Australian statistics.

The Sixth Revision of the International Statistical Classification of Diseases, Injuries and Causes of Death was used in Australia for deaths registered in 1950 to 1957. The Seventh Revision has been used for deaths registered in 1958 and subsequent years. The Sixth Revision, for the first time in connexion with the International classification, laid down rules for a uniform method of selecting the main cause to be tabulated if more than one cause is stated on the death certificate. These rules were maintained in the Seventh Revision which was concerned mainly with certain essential changes and amendment of errors and inconsistencies in the previous classification. Prior to 1950, the rules adopted in Australia for the selection of the cause of death to be tabulated were those laid down in the United States Manual of Joint Causes of Death, first published in 1914 and revised to conform to successive revisions of the International List.

The adoption of the new method introduced with the Sixth Revision and maintained in the Seventh, marked a fundamental change in Australian cause of death statistics, emphasis now being placed on the underlying cause of death as indicated by the certifying practitioner. The introduction of this method required the adoption by all States of a form of medical certificate substantially identical with the International Form of Medical Certificate of Cause of Death as laid down in Article 9 of the World Health Organization Regulations No. 1. By 1950, all States had adopted satisfactory forms of certificate and it was possible to apply the new principles uniformly to all State cause of death records.

This change in principle affects the comparability of the statistics for 1950 and subsequent years with those for earlier years. For convenience in assessing the extent of the change and in accordance with a recommendation of the Sixth Decennial Revision Conference, causes of death for Australia for 1950 were also classified according to the detailed classification of

the Fifth Revision, on the joint cause rules current for that revision. A complete detailed classification according to both the Fifth and Sixth Revisions was shown in *Demography*, Bulletin No. 68, 1950. Commencing with 1951, the classification was according to the Sixth Revision only, and from 1958, the Seventh Revision has been used. Except in a few instances, comparability was maintained with the introduction of the Seventh Revision. *Demography*, Bulletin No. 76, 1958, indicates the few instances in which comparability was affected by the use of the Seventh Revision.

In order to facilitate the concise presentation of cause of death statistics, the present International Classification provides two special lists of causes for tabulation—the Intermediate List of 150 causes and the Abbreviated List of 50 causes. The latter has been used as the base of the cause of death tabulations A to C which follow. Some categories have been sub-divided to show additional particulars of interest in Australian statistics. Tables A and B show deaths of males and females in age groups, respectively, for 1960 and Table C shows the total numbers of males and females who died and the death rates per million of mean population and percentage of total deaths for 1960.

## A.—CAUSES OF DEATH: MALES, 1960.

## ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE INTERNATIONAL LIST).

Cause of Death.(a)	Detailed List Numbers.	Age Groups (Years).									Total.
		0.	1-4.	5-14.	15-24.	25-34.	35-44.	45-54.	55-64.	65 and over.	
B 1 Tuberculosis of respiratory system ..	001-008	..	2	..	..	11	24	45	95	171	348
B 2 Tuberculosis, other forms ..	010-019	..	..	..	1	1	2	2	9	5	20
B 3 Syphilis and its sequelae ..	020-029	..	..	..	..	1	1	11	15	34	62
B 6 Dysentery, all forms ..	045-048	..	1	1	..	..	1	1	1	2	7
B 9 Whooping cough ..	056	2	..	..	..	..	..	..	..	..	2
B10 Meningococcal infections..	057	10	3	1	1	..	..	..	1	2	18
B12 Acute poliomyelitis ..	080	..	..	..	..	1	1	..	..	..	2
B14 Measles ..	085	3	5	..	..	..	..	..	..	..	8
B17 All other diseases classified as infective and parasitic	(b)	23	20	18	10	9	17	13	24	30	164
Malignant neoplasms of:—											
Digestive organs and peritoneum ..	150-159	..	1	1	9	25	90	286	603	d 1,672	2,687
Lung ..	162, 163	..	1	..	2	5	32	229	487	(d) 694	1,450
Breast ..	170	..	..	..	..	..	1	6	5	12	12
Genital Organs ..	171-179	2	..	..	1	15	13	23	98	702	854
Urinary organs ..	180, 181	..	3	1	..	4	8	46	90	272	424
Leukaemia and aleuk-aemia ..	204	3	20	41	16	19	22	35	54	126	336
Other malignant and lymphatic neoplasms..	(c)	4	19	45	38	60	114	232	333	(d) 599	1,444
B19 Benign neoplasms and neoplasms of unspecified nature ..	210-239	3	5	6	2	4	8	14	12	27	81
B20 Diabetes mellitus ..	260	..	2	1	2	7	19	29	84	325	469
B21 Anaemias ..	290-293	3	5	2	3	..	1	9	7	65	95
B22 Vascular lesions affecting central nervous system ..	330-334	2	1	9	13	39	125	367	842	e 3,785	5,183
B23 Non-meningococcal meningitis ..	340	36	11	2	1	2	2	3	8	8	73
B24 Rheumatic fever ..	400-402	..	..	5	..	2	5	1	3	1	17
B25 Chronic rheumatic heart disease ..	410-416	..	..	1	6	22	45	52	83	133	342
B26 Arteriosclerotic heart disease ..	420	..	..	..	5	49	391	1,661	3,249	f 8,127	13,482
Degenerative heart disease	421, 422	3	2	2	9	12	33	117	283	2,060	2,521
B27 Other diseases of heart ..	430-434	9	5	9	8	14	15	65	198	1,194	1,517
B28 Hypertension with heart disease ..	440-443	..	..	..	..	2	10	58	137	(d) 585	792
B29 Hypertension without mention of heart ..	444-447	..	..	..	2	8	34	61	90	300	495
B30 Influenza ..	480-483	1	..	1	..	1	3	9	10	26	51

For footnotes see following page.

A.—CAUSES OF DEATH: MALES, 1960—*continued.*ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE INTERNATIONAL LIST)—*continued.*

Cause of Death.(a)	Detailed List Numbers.	Age Groups (Years).									Total.
		0.	1-4.	5-14.	15-24.	25-34.	35-44.	45-54.	55-64.	65 and over.	
B31 Pneumonia .. ..	490-493	177	56	11	18	21	45	103	155	1,121	1,707
B32 Bronchitis .. ..	500-502	11	22	4	3	3	12	52	225	873	1,205
B33 Ulcer of stomach and duodenum .. ..	540, 541	..	..	1	3	10	21	59	96	287	477
B34 Appendicitis .. ..	550-553	..	1	5	4	6	6	13	10	24	69
B35 Intestinal obstruction and hernia	560, 561, 570	39	4	1	3	..	3	18	39	141	248
B36 Gastritis, duodenitis, enteritis, and colitis, except diarrhoea of the newborn	543, 571, 572	49	37	1	2	5	8	13	24	(d) 102	241
B37 Cirrhosis of liver ..	581	1	1	3	..	4	33	69	100	102	313
B38 Nephritis and nephrosis ..	590-594	3	1	5	17	30	65	84	118	228	551
B39 Hyperplasia of prostate ..	610	..	..	..	..	..	..	1	26	390	417
B41 Congenital malformations	750-759	491	52	32	24	8	13	18	13	10	661
B42 Birth injuries, postnatal asphyxia and atelectasis	760-762	706	..	..	..	..	..	..	..	..	706
B43 Infections of the new-born	763-768	90	..	..	..	..	..	..	..	..	90
B44 Other diseases peculiar to early infancy, and immaturity unqualified	769-776	753	..	..	..	..	..	..	..	..	753
B45 Senility without mention of psychosis, ill-defined and unknown causes	780-795	10	6	2	3	8	8	14	18	(d) 323	392
General arteriosclerosis	450	..	..	..	..	..	..	10	39	968	1,017
Other diseases of circulatory system	451-468	3	1	1	1	5	21	43	98	366	539
B46 { Other diseases of respiratory system ..	470-475, 510-527	49	13	7	3	13	19	44	110	365	623
All other diseases ..	Residual	87	45	56	50	65	132	219	354	1,022	2,030
BE47 Motor vehicle accidents	E810-E835	4	48	112	517	330	249	216	202	(g) 282	1,960
BE48 All other accidents	E800-E802, E840-E962	74	128	146	216	205	222	228	172	(f) 399	1,790
BE49 Suicide and self-inflicted injury	E963, E970-E979	..	..	3	50	134	162	167	122	(g) 140	778
BE50 Homicide and operations of war	E964, E965, E980-E999	..	1	7	15	19	19	24	13	8	106
All Causes .. ..	..	2,651	522	543	1,058	1,179	2,054	4,765	8,756	28,101	49,629

(a) No male deaths were recorded in the following categories in 1960: B4, Typhoid Fever (040); B5, Cholera (043); B7, Scarlet fever and streptococcal sore throat (050, 051); B8, Diphtheria (055); B11, Plague (058); B13, Smallpox (084); B15, Typhus and other rickettsial diseases (100-108); B16, Malaria (110-117). (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138. (c) All causes, 140-205, not mentioned above. (d) Includes 1, age "not stated". (e) Includes 2, age "not stated". (f) Includes 5, age "not stated". (g) Includes 3, age "not stated".

## B.—CAUSES OF DEATH: FEMALES, 1960.

ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE INTERNATIONAL LIST).

Cause of Death.(a)	Detailed List Numbers.	Age Groups (Years).									Total.
		0.	1-4.	5-14.	15-24.	25-34.	35-44.	45-54.	55-64.	65 and over.	
B 1 Tuberculosis of respiratory system .. ..	001-008	..	..	..	2	8	22	19	16	32	99
B 2 Tuberculosis, other forms	010-019	..	1	1	2	..	4	3	2	9	22
B 3 Syphilis and its sequelae ..	020-029	1	..	..	..	..	1	2	..	10	14
B 6 Dysentery, all forms .. ..	045-048	..	..	..	..	..	..	..	..	2	2
B 8 Diphtheria .. ..	055	..	2	..	..	..	..	..	..	..	2
B 9 Whooping cough .. ..	056	2	4	..	..	..	..	..	..	..	6
B10 Meningococcal infections ..	057	7	5	3	..	..	..	1	..	1	18
B14 Measles .. ..	085	3	3	1	..	..	..	..	..	..	8
B15 Typhus and other rickettsial diseases .. ..	100-108	..	..	..	..	..	..	1	..	..	1
B17 All other diseases classified as infective and parasitic	(b)	19	15	14	12	12	9	13	14	50	158

For footnotes see following page.

B.—CAUSES OF DEATH: FEMALES, 1960—*continued.*ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE INTERNATIONAL LIST)—*continued.*

Cause of Death.(a)	Detailed List Numbers.	Age Groups (Years).									Total.	
		0.	1-4.	5-14.	15-24.	25-34.	35-44.	45-54.	55-64.	65 and over.		
B18	Malignant neoplasms of Digestive organs and peritoneum ..	150-159	..	1	..	2	26	80	201	378	1,637	2,325
	Lung ..	162, 163	..	..	..	1	12	11	25	55	113	216
	Breast ..	170	..	..	..	1	23	104	226	250	535	1,139
	Genital organs ..	171-179	..	..	..	6	21	102	204	233	444	1,012
	Urinary organs ..	180, 181	..	8	1	..	1	9	16	50	135	220
	Leukaemia and aleuk- aemia ..	204	2	23	30	10	12	27	20	39	91	254
	Other malignant and lymphatic neoplasms ..	(c)	3	18	22	16	37	92	139	181	418	926
B19	Benign neoplasms and neo- plasms of unspecified nature ..	210-239	1	3	10	2	4	17	35	17	44	133
B20	Diabetes mellitus ..	260	..	..	1	1	5	9	31	94 (d)	578	719
B21	Anaemias ..	290-293	..	2	4	3	..	4	8	12	124	157
B22	Vascular lesions affecting central nervous system ..	330-334	5	2	5	9	32	127	387	742	5,350	6,659
B23	Non-meningococcal men- ingitis ..	340	21	7	2	..	1	3	5	4	4	47
B24	Rheumatic fever ..	400-402	..	2	4	3	1	4	3	1	2	20
B25	Chronic rheumatic heart disease ..	410-416	..	..	2	8	15	42	70	70	173	380
B26	Arteriosclerotic heart disease ..	420	..	..	..	5	12	74	360	1,130	5,882	7,463
	Degenerative heart dis- ease ..	421, 422	2	1	1	2	13	22	61	164	2,590	2,856
B27	Other diseases of heart ..	430-434	6	2	4	2	8	19	38	117	1,189	1,385
B28	Hypertension with heart disease ..	440-443	..	..	..	..	3	15	43	111	917	1,089
B29	Hypertension without men- tion of heart ..	444-447	..	..	..	2	9	32	52	66	387	548
B30	Influenza ..	480-483	3	1	2	1	1	2	2	4	59	73
B31	Pneumonia ..	490-493	141	66	19	8	12	27	45	70 (d)	966	1,354
B32	Bronchitis ..	500-502	13	13	2	..	3	15	29	15	172	247
B33	Ulcer of stomach and duo- denum ..	540, 541	..	..	..	2	8	14	29	27	125	205
B34	Appendicitis ..	550-553	..	..	4	2	..	3	2	4	18	33
B35	Intestinal obstruction and hernia ..	560, 561, 570	16	2	..	3	3	6	16	29	136	211
B36	Gastritis, duodenitis, en- teritis and colitis, except diarrhoea of the newborn ..	543, 571, 572	49	20	1	4	5	4	9	14	106	212
B37	Cirrhosis of liver ..	581	1	..	1	2	2	17	35	57	65	180
B38	Nephritis and nephrosis ..	590-594	1	3	7	8	14	53	74	73	194	427
B40	Complications of preg- nancy, childbirth and the puerperium ..	{ 640-652 } { 670-689 }	..	..	..	21	50	47	3	..	..	121
B41	Congenital malformations ..	750-759	388	56	35	14	10	13	18	12	15	561
B42	Birth injuries, post-natal asphyxia and atelectasis ..	760-762	489	..	..	..	..	..	..	..	..	489
B43	Infections of the new born ..	763-768	56	..	..	..	..	..	..	..	..	56
B44	Other diseases peculiar to early infancy, and immat- urity unqualified ..	769-776	607	..	..	..	..	..	..	..	..	607
B45	Senility without mention of psychosis, ill-defined and unknown causes ..	780-795	9	6	..	2	5	4	5	9	462	502
B46	General arteriosclerosis ..	450	..	..	..	..	..	2	7	24	1,057	1,090
	Other diseases of circula- tory system ..	451-468	2	..	3	10	6	16	21	46	208	312
	Other diseases of respira- tory system ..	{ 470-475 } { 510-527 }	28	12	10	3	7	12	15	24	157	268
	All other diseases ..	Residual	66	47	45	51	80	140	197	295 d	1,076	1,997
BE47	Motor vehicle accidents ..	E810-E835	10	50	64	123	39	60	82	90 (d)	158	676
BE48	All other accidents ..	{ E800-E802 } { E840-E962 }	38	96	49	17	29	36	58	53	593	969
BE49	Suicide and self-inflicted injury ..	E963, E970- E979	..	..	..	14	37	66	75	71	51	314
BE50	Homicide and operations of war ..	E964, E965- E980-E999	3	2	6	8	9	8	8	4	5	53
	All Causes ..	..	1,992	473	355	382	572	1,360	2,679	4,682	26,340	38,835

(a) No female deaths were recorded in the following categories in 1960: B4, Typhoid fever (040); B5, Cholera (043); B7, Scarlet fever and streptococcal sore throat (050, 051); B11, Plague (058); B12, Acute Poliomyelitis (030); B13, Smallpox (084); B16, Malaria (110-117). (b) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138. (c) All causes, 140-205, not shown above. (d) Includes 1, age "not stated".

**C.—CAUSES OF DEATH: AUSTRALIA, 1960.**  
 ABBREVIATED LIST OF 50 CAUSES (BASED ON THE SEVENTH REVISION OF THE  
 INTERNATIONAL LIST).

Cause of Death.	Detailed List Numbers.	Number of Deaths.			Rate per 1,000,000 of Mean Population.	Percentage of Total Deaths.
		Males.	Females.	Persons.		
B 1 Tuberculosis of respiratory system ..	001-008	348	99	447	43	.51
B 2 Tuberculosis, other forms ..	010-019	20	22	42	4	.05
B 3 Syphilis and its sequelae ..	020-029	62	14	76	7	.09
B 4 Typhoid fever ..	040	..	..	..	..	..
B 5 Cholera ..	043	..	..	..	..	..
B 6 Dysentery, all forms ..	045-048	7	2	9	1	.01
B 7 Scarlet fever and streptococcal sore throat ..	050, 051	..	..	..	..	..
B 8 Diphtheria ..	055	..	2	2	..	..00
B 9 Whooping cough ..	056	2	6	8	1	.01
B10 Meningococcal infections ..	057	18	18	36	4	.04
B11 Plague ..	058	..	..	..	..	..
B12 Acute poliomyelitis ..	080	2	..	2	..	..00
B13 Smallpox ..	084	..	..	..	..	..
B14 Measles ..	085	8	8	16	2	.02
B15 Typhus and other rickettsial diseases ..	100-108	..	1	1	..	..00
B16 Malaria ..	110-117	..	..	..	..	..
B17 All other diseases classified as infective and parasitic ..	(a)	164	158	322	31	.36
Malignant neoplasms of—						
Digestive organs & peritoneum	150-159	2,687	2,325	5,012	488	5.66
Lung ..	162-163	1,450	216	1,666	162	1.88
Breast ..	170	12	1,139	1,151	112	1.30
Genital organs ..	171-179	854	1,012	1,866	182	2.11
Urinary organs ..	180, 181	424	220	644	63	.73
Leukemia and aleukemia ..	204	336	254	590	57	.67
Other malignant and lymphatic neoplasms ..	(b)	1,444	926	2,370	231	2.68
B19 Benign and unspecified neoplasms ..	210-239	81	133	214	21	.24
B20 Diabetes mellitus ..	260	469	719	1,188	116	1.34
B21 Anaemias ..	290-293	95	157	252	25	.28
B22 Vascular lesions affecting central nervous system ..	330-334	5,183	6,659	11,842	1,152	13.39
B23 Non-meningococcal meningitis ..	340	73	47	120	12	.14
B24 Rheumatic fever ..	400-402	17	20	37	4	.04
B25 Chronic rheumatic heart disease ..	410-416	342	380	722	70	.82
B26 Arteriosclerotic heart disease ..	420	13,482	7,463	20,945	2,037	23.67
Degenerative heart disease ..	421, 422	2,521	2,856	5,377	523	6.08
B27 Other diseases of heart ..	430-434	1,517	1,385	2,902	282	3.28
B28 Hypertension with heart disease ..	440-443	792	1,089	1,881	183	2.13
B29 Hypertension without mention of heart ..	444-447	495	548	1,043	101	1.18
B30 Influenza ..	480-483	51	73	124	12	.14
B31 Pneumonia ..	490-493	1,707	1,354	3,061	298	3.46
B32 Bronchitis ..	500-502	1,205	247	1,452	141	1.64
B33 Ulcer of stomach and duodenum ..	540, 541	477	205	682	66	.77
B34 Appendicitis ..	550-553	69	33	102	10	.12
B35 Intestinal obstruction and hernia ..	560, 561, 570	248	211	459	45	.52
B36 Gastritis, duodenitis, enteritis and colitis, except diarrhoea of the newborn ..	543, 571, 572	241	212	453	44	.51
B37 Cirrhosis of liver ..	581	313	180	493	48	.56
B38 Nephritis and nephrosis ..	590-594	551	427	978	95	1.11
B39 Hyperplasia of prostate ..	610	417	..	417	41	.47
B40 Complications of pregnancy, child birth and the puerperium ..	{ 640-652, 670-689 }	..	121	121	12	.14
B41 Congenital malformations ..	750-759	661	561	1,222	119	1.38
B42 Birth injuries, post-natal asphyxia and atelectasis ..	760-762	706	489	1,195	116	1.35
B43 Infections of the newborn ..	763-768	90	56	146	14	.16
B44 Other diseases peculiar to early infancy, and immaturity unqualified ..	769-776	753	607	1,360	132	1.54
B45 Senility without mention of psychosis, ill-defined and unknown causes ..	780-795	392	502	894	87	1.01
General arteriosclerosis ..	450	1,017	1,090	2,107	205	2.38
Other diseases of circulatory system ..	451-468	539	312	851	83	.96
B46 Other diseases of respiratory system ..	{ 470-475, 510-527 }	623	268	891	87	1.01
All other diseases ..	Residual	2,030	1,997	4,027	392	4.55
BE47 Motor vehicle accidents ..	E810-E835	1,960	676	2,636	256	2.98
BE48 All other accidents ..	{ E800-E802, E840-E962 }	1,790	969	2,759	268	3.12
BE49 Suicide and self-inflicted injury ..	{ E963, E970-E979 }	778	314	1,092	106	1.23
BE50 Homicide and operations of war ..	{ E964, E965, E980-E999 }	106	53	159	15	.18
All Causes ..		49,629	38,835	88,464	8,606	100.00

(a) 030-039, 041, 042, 044, 049, 052-054, 059-074, 081-083, 086-096, 120-138.

(b) 140-148, 160, 161, 164, 165, 190-203, 205.



10. Deaths from Principal Causes.—(i) *General*. In the preceding tables, particulars have been given for each of the causes of death comprising the Abbreviated Classification according to the Seventh Revision of the International List. Certain important causes are treated in detail hereunder. The Abbreviated Classification numbers used in tables A to C (pp. 351-4) are indicated in parentheses for each cause or group of causes.

(ii) *All Forms of Tuberculosis (B1, B2)*. (a) *General*. The total number of deaths classified to all forms of tuberculosis in 1960 was 489, consisting of 368 males and 121 females. In comparing any of the figures for 1950 and subsequent years with those for 1949 and earlier years, consideration should be given to the effect of the change in basis from the Fifth to the Sixth Revision of the International List. This was discussed in Official Year Book No. 39, page 626.

(b) *Age at Death*. The following table shows the age groups of males and females who were classified as dying from tuberculosis in 1960, together with figures for 1921, 1931, 1941 and 1951.

**TUBERCULOSIS (ALL FORMS): DEATHS IN AGE GROUPS, AUSTRALIA.**

Age Group (Years).	Males.					Females.				
	1921.	1931.	1941.	1951.	1960.	1921.	1931.	1941.	1951.	1960.
0-14 .. ..	143	90	63	23	2	128	81	54	35	2
15-29 .. ..	477	294	162	46	4	540	487	275	68	5
30-44 .. ..	718	585	428	135	35	514	422	319	142	33
45-64 .. ..	692	674	793	570	151	278	252	251	126	40
65 and over ..	138	193	279	306	176	56	89	110	86	41
Not stated ..	3	..	..	..	..	..	..	..	1	..
<b>Total ..</b>	<b>2,171</b>	<b>1,836</b>	<b>1,725</b>	<b>1,080</b>	<b>368</b>	<b>1,516</b>	<b>1,331</b>	<b>1,009</b>	<b>458</b>	<b>121</b>

(c) *Death Rates*. The reduction in mortality from tuberculosis is shown by the decline in the crude death rate from tubercular diseases, which fell from 68 per 100,000 of mean population in 1921 (males, 78; females, 56) to 18 in 1951 (males, 25; females, 11) and still further to 5 in 1960 (males, 7; females, 2). The crude death rate does not reveal the even more striking fall in the number of deaths in the younger age groups, which can be seen from the table above.

(d) *Death Rates, Various Countries*. A comparison of the death rates from tuberculosis for Australia with those for various other countries, made on the latest figures available, shows that Australia, with a rate of 5 deaths per 100,000 of mid-year population, occupies a favourable position as regards this disease. Whereas the rate for the Netherlands is only 4, rates range as high as 51 for Portugal. For various other countries, rates are as follows:—Denmark, 5; Canada and New Zealand, 6; Union of South Africa (European population) and United States of America, 7; United Kingdom, 10; Switzerland, 15; Greece, 18; Italy, 20; France, 23; Finland, 29; Japan, 36.

(iii) *Malignant Neoplasms, including Neoplasms of Lymphatic and Haematopoietic Tissues (B18)*. (a) *General*. Deaths classified under this heading according to the Sixth Revision of the International List (used in Australia for deaths registered in 1950 to 1957) are not directly comparable in total with those on the Fifth Revision basis (see Official Year Book No. 39, page 628). This should be kept in mind in considering the comparisons shown in the following pages.

(b) *Seat of Disease*. Tables showing the seat of disease in conjunction with age and conjugal condition of the persons dying from malignant neoplasms in 1960 will be found in *Demography*, Bulletin No. 78. A summary regarding seat of disease for 1960 is given below.

**DEATHS FROM MALIGNANT NEOPLASMS AND NEOPLASMS OF LYMPHATIC AND HAEMATOPOIETIC TISSUES, AUSTRALIA, 1960.**

Seat of Disease.	Males.	Females.	Persons.
<i>Malignant Neoplasms—</i>			
Buccal cavity and pharynx .. .. .	160	69	229
Digestive organs and peritoneum—			
Oesophagus .. .. .	183	66	249
Stomach .. .. .	976	642	1,618
Small intestine .. .. .	18	17	35
Large intestine .. .. .	646	875	1,521
Other .. .. .	864	725	1,589
Respiratory system .. .. .	1,588	244	1,832
Breast .. .. .	12	1,139	1,151
Uterus .. .. .	..	592	592
Other female genital organs .. .. .	..	420	420
Male genital organs .. .. .	854	..	854
Urinary organs .. .. .	424	220	644
Skin .. .. .	223	140	363
Other and unspecified organs .. .. .	590	447	1,037
<i>Total, Malignant Neoplasms</i> .. .. .	<i>6,538</i>	<i>5,596</i>	<i>12,134</i>
<i>Neoplasms of Lymphatic and Haematopoietic Tissues—</i>			
Lymphosarcoma and reticulosarcoma .. .. .	151	116	267
Hodgkin's disease .. .. .	82	54	136
Other forms of lymphoma (reticulosis) .. .. .	32	21	53
Multiple myeloma (plasmocytoma) .. .. .	65	51	116
Leukaemia and aleukaemia .. .. .	336	254	590
Mycosis fungoides .. .. .	3	..	3
<i>Total, Neoplasms of Lymphatic and Haematopoietic Tissues</i> .. .. .	<i>669</i>	<i>496</i>	<i>1,165</i>
<b>Grand Total</b> .. .. .	<b>7,207</b>	<b>6,092</b>	<b>13,299</b>

(c) *Age at Death.* The ages of males and females who died from malignant neoplasms in 1960 are given below, together with figures for 1921, 1931, 1941 and 1951. The increase in the number of deaths from malignant neoplasms in the years since 1921 is due principally to the increase in the number of people in the higher age groups, at which ages the risks of cancer are much greater. While the total population increased by about 89 per cent. between 1921 and 1960, the number of people over 54 years of age increased by about 175 per cent. The increase in the number of deaths in the lower age groups from 1951 is partly due to the inclusion of neoplasms of lymphatic and haematopoietic tissues, and it is probable also that part of the increased number of deaths from cancer recorded in recent years has been due to improved diagnosis and certification on the part of the medical profession.

**MALIGNANT NEOPLASMS(a): NUMBER OF DEATHS IN AGE GROUPS, AUSTRALIA.**

Age Group (Years).	Males.					Females.				
	1921.	1931.	1941.	1951. (a)	1960. (a)	1921.	1931.	1941.	1951. (a)	1960. (a)
Under 15 .. .. .	26	25	21	91	141	23	23	25	71	110
15-29 .. .. .	29	43	49	103	112	37	38	45	76	75
30-44 .. .. .	163	196	176	275	361	266	326	344	387	517
45-54 .. .. .	387	410	465	584	852	470	548	685	692	831
55-64 .. .. .	800	868	983	1,334	1,671	657	744	926	1,180	1,186
65 and over .. .. .	1,032	1,942	2,561	3,128	4,067	875	1,426	2,198	2,698	3,373
Not stated .. .. .	3	..	..	..	3	..	..	..	..	..
<b>Total</b> .. .. .	<b>2,440</b>	<b>3,484</b>	<b>4,255</b>	<b>5,515</b>	<b>7,207</b>	<b>2,328</b>	<b>3,105</b>	<b>4,223</b>	<b>5,104</b>	<b>6,092</b>

(a) Includes neoplasms of lymphatic and haematopoietic tissues.

(d) *Death Rates.* The death rates from malignant neoplasms have continued to rise over recent years. The rates are crude death rates representing the number of deaths from malignant neoplasms per 100,000 of mean population and do not take account of changes in the age constitution of the population, and to a substantial extent they reflect the increasing age of the population rather than the true change in mortality from malignant neoplasms (see previous paragraph). In 1921, the rate for Australia was 87 (males, 88; females, 87); in 1931 it was 101 (males, 105; females, 97); in 1941 it was 119 (males 119; females, 120); and in 1951 it had risen to 126 (males, 130; females, 122). Figures for 1960 gave a rate of 129 (males, 139; females, 120).

(e) *Death Rates, Various Countries.* Death rates from malignant neoplasms per 100,000 of mean population for Australia and for various other countries are as follows:—Portugal, 91; Japan, 98; Canada, 128; Australia, 129; Union of South Africa (European population), 134; Italy, 138; New Zealand (excluding Maoris), 144; United States of America (all races), 147; Finland, 152; the Netherlands, 163; Switzerland, 193; France, 194; and England and Wales, 214. The rates are for the latest available year in each case.

(iv) *Diseases of the Heart (B25 to B28).* The number of deaths classified to diseases of the heart in 1960 was 31,827 (18,654 males and 13,173 females). This class is the largest amongst causes of death, the rate having increased from 112 per 100,000 of mean population in 1911–15 to 310 in 1960. The increase in the number of deaths recorded from heart diseases has been particularly pronounced during the past twenty years. The rapid increase in mortality is partly a reflection of the ageing of the population, but the figures have been influenced mainly by improved diagnosis and certification by medical practitioners.

The death rates for heart diseases for various years from 1921 were as follows:—1921, 93 (males, 102; females, 83); 1931, 159 (males, 178; females, 142); 1941, 269 (males 306; females, 231); 1951, 314 (males, 367; females, 259); and 1960, 310 (males, 359; females, 259). Deaths from heart diseases in 1960 represented 36 per cent. of the total deaths.

(v) *Puerperal Causes (B40).* It was shown in Official Year Book No. 39, page 634, that the changes introduced with the Sixth Revision of the International List did not significantly affect the comparability of the total number of deaths from puerperal causes. The Seventh Revision, introduced in 1958, did not affect comparability. The death rate from these causes (including criminal abortion) has fallen rapidly during recent years and in 1960 the rate was 0.5 per 1,000 live births, compared with a rate of 6 per 1,000 in 1936. The 121 deaths in 1960 correspond to a death rate of 2.38 per 100,000 females. The death rate may be expressed in other terms by stating that 1 of every 1,883 women giving birth to a live child in 1960 died from puerperal causes.

The death rate per 1,000 live births from puerperal causes in various countries for the latest available year is as follows:—the United States of America (all races), Denmark, and England and Wales, 0.4; The Netherlands and Australia, 0.5; New Zealand (excluding Maoris), France, and Canada, 0.6; Finland, 0.7; Switzerland, 0.8; Italy, 1.1; and Japan, 1.5.

Tables showing ages at marriage and at death, duration of marriage and issue, will be found in *Demography*, Bulletin No. 78.

(vi) *Causes of Infant Mortality.* See section devoted to causes of infant deaths on pages 341–8.

(vii) *Accidents, Poisonings and Violence (BE 47 to BE 50).* (a) *General.* Deaths in this class are classified according to external cause and not according to nature of injury. The classification provides sub-groups for accidents, including adverse reactions to prophylactic inoculations, therapeutic misadventures and late effects of accidental injury; suicide; homicide and injuries purposely inflicted by other persons; and injury resulting from operations of war, including delayed effects.

The following table, showing the death rates in the main sub-groups per 100,000 of mean population, indicates that the death rate from violence is between two and three times as great for males as for females. It can be seen also that in 1960 the proportion of deaths caused by violence was 7.51 per cent., compared with 6.76 per cent. in 1931–35.

The low level of the rates and proportions for the years 1941–45 is due largely to the exclusion of deaths of defence personnel from accidents, suicide and homicide, though the rates have been based on total mean population (including defence personnel). A further contributing factor is the decrease during this period in the number of automobile accidents. From July, 1947, deaths of defence personnel from accidents, etc., have again been included.

## ACCIDENTS, POISONINGS AND VIOLENCE: DEATH RATES.(a)

Period.	Death Rate from—												All Violence. Proportion per 10,000 Deaths.		
	Accidents.(b)			Suicide.			Homicide.(c)			Total Violence.					
	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.	M.	F.	P.
1931-35..	71	22	47	19	5	12	2	1	2	92	28	61	929	353	676
1936-40..	86	28	58	17	5	11	2	1	1	105	34	70	979	399	724
1941-45..	67	26	46	11	4	8	1	1	1	79	31	55	730	348	558
1946-50..	76	27	51	14	5	10	1	1	1	91	33	62	844	383	640
1951-55(d)	82	30	57	15	5	10	2	1	1	99	36	68	964	453	740
1956-60..	75	32	54	16	6	11	2	1	1	93	39	66	957	495	754
1956(d) ..	76	33	55	16	6	11	2	1	1	94	40	67	930	486	735
1957(d) ..	79	31	56	17	7	12	2	1	1	98	39	69	1,007	496	783
1958(d) ..	73	30	51	18	6	12	2	1	2	93	37	65	988	489	769
1959(d) ..	74	31	53	16	6	11	2	1	1	92	38	65	931	484	756
1960 ..	72	33	52	15	6	11	2	1	2	89	40	65	934	518	751

(a) Number of deaths per 100,000 of mean population. (b) Includes "open verdict".  
(c) Includes late effects of injuries due to operations of war. (d) Recalculated on the basis of the revised population figures adjusted in accordance with the preliminary results of the Census of 30th June, 1961.

(b) *Accidents (BE 47, BE 48).* In 1960, the total number of deaths from accidental causes was 5,395 (3,750 males and 1,645 females). Just over half of the accidental deaths were the result of transport accidents. Of these, the numbers attributable to the major causes, and the percentages of the total accidental deaths in each case, were as follows:—Motor vehicle traffic accidents, 2,570 (47.64 per cent.); motor vehicle non-traffic accidents, 66 (1.22 per cent.); other road vehicle accidents, 66 (1.22 per cent.); railway accidents, 95 (1.76 per cent.); water transport accidents, 95 (1.76 per cent.); aircraft accidents, 45 (0.84 per cent.); a total of 2,937 (54.44 per cent.). Other important causes were accidental falls, 902 (16.72 per cent.); accidental drowning, 400 (7.41 per cent.); and accident caused by fire and explosion of combustible material, 203 (3.76 per cent.).

(c) *Suicide (BE 49). Modes Adopted.* Deaths from suicide in 1960 numbered 1,092 (males, 778; females, 314). Firearms and explosives were used in 283 cases (25.92 per cent. of total deaths by suicide). Other important modes adopted, together with the numbers and relevant percentages, were as follows:—Poisoning other than by gases, 302 (27.65 per cent.); poisoning by gases, 201 (18.41 per cent.); hanging or strangulation, 152 (13.92 per cent.); submersion (drowning), 59 (5.40 per cent.); other modes, 95 (8.70 per cent.).

Of the 778 males who committed suicide, 266 (34.19 per cent.) used firearms or explosives. For females the most common mode was poisoning (other than by gases). This was used in 148 cases (47.13 per cent.).

*Age at Death.* The following table shows the age of persons who committed suicide in 1960.

## AGE OF PERSONS WHO COMMITTED SUICIDE: AUSTRALIA, 1960.

Age Group (Years).	Males.	Females.	Persons.	Age Group (Years).	Males.	Females.	Persons.
10-14 ..	3	..	3	60-64 ..	59	34	93
15-19 ..	17	4	21	65-69 ..	65	20	85
20-24 ..	33	10	43	70-74 ..	36	16	52
25-29 ..	55	20	75	75-79 ..	22	8	30
30-34 ..	79	17	96	80-84 ..	9	6	15
35-39 ..	87	31	118	85 and over ..	5	1	6
40-44 ..	75	35	110	Not Stated ..	3	..	3
45-49 ..	89	42	131				
50-54 ..	78	33	111				
55-59 ..	63	37	100				
				<b>Total Deaths ..</b>	<b>778</b>	<b>314</b>	<b>1,092</b>

(d) *Homicide and Operations of War (BE 50).* Of the 159 deaths recorded in 1960, there were 151 deaths from homicide and injury purposely inflicted by other persons (not in war), of which assault by firearms and explosives caused 51, assault by cutting and piercing instruments 26, assault by other means 73, and injury by intervention of police 1. Deaths from injury resulting from the operations of war numbered 8, but all were deaths from late effects of such injuries.

11. Age at Death and Average Issue of Deceased Married Males and Females.—*Demography*, Bulletin No. 78 contains a number of tables showing, in combination with the issue, the age at marriage, age at death and occupation of married (including widowed or divorced) persons who died in Australia in 1960. Deaths of married males in 1960 numbered 37,772, and those of married females, 30,581. The tables which follow deal, however, with only 37,276 males and 30,367 females, the information regarding issue in the remaining 710 cases being incomplete. The total number of children in the families of the 37,276 males was 112,458 and of the 30,367 females, 98,892. The average number of children is shown for various age groups in the following table.

AGE AT DEATH AND AVERAGE ISSUE OF DECEASED MARRIED (a) MALES AND FEMALES: AUSTRALIA.

Age at Death (Years).	Average Issue.									
	Males.					Females.				
	1921.	1931.	1941.	1951.	1960.	1921.	1931.	1941.	1951.	1960.
Under 20 ..	..	0.75	..	0.43	1.33	0.77	0.66	0.79	0.83	0.45
20-24 ..	0.84	0.81	0.73	0.96	0.98	1.22	1.13	0.95	0.86	0.91
25-29 ..	1.29	1.33	1.12	1.29	1.56	1.86	1.81	1.45	1.61	1.91
30-34 ..	2.06	1.79	1.76	1.79	2.13	2.45	2.34	1.91	1.98	2.44
35-39 ..	2.58	2.13	2.11	2.12	2.45	3.29	2.89	2.30	2.49	2.63
40-44 ..	3.23	2.77	2.49	2.30	2.52	3.66	3.29	2.77	2.39	2.53
45-49 ..	3.48	3.10	2.68	2.51	2.55	3.76	3.55	2.93	2.59	2.43
50-54 ..	3.76	3.46	2.96	2.56	2.52	4.23	3.60	3.29	2.76	2.50
55-59 ..	4.41	3.69	3.28	2.71	2.52	4.69	4.01	3.55	3.03	2.68
60-64 ..	4.98	4.02	3.55	3.07	2.65	5.39	4.21	3.79	3.29	2.71
65-69 ..	5.50	4.41	3.73	3.25	2.78	5.86	4.82	4.01	3.63	3.01
70-74 ..	6.06	5.06	4.17	3.58	3.09	6.30	5.41	4.29	3.64	3.30
75-79 ..	6.66	5.65	4.56	3.83	3.36	6.56	6.02	4.85	3.96	3.50
80-84 ..	6.89	6.17	4.93	4.30	3.64	6.76	6.26	5.39	4.19	3.63
85-89 ..	7.18	6.59	5.70	4.63	3.92	6.93	6.57	5.85	4.68	3.82
90-94 ..	7.21	6.94	6.57	5.06	4.20	6.53	6.73	6.11	5.08	4.18
95-99 ..	6.97	6.69	7.04	5.78	4.86	6.05	7.10	6.34	5.76	4.77
100 and over ..	9.20	7.00	8.69	5.71	6.00	5.11	8.20	6.73	7.72	5.19
Age not stated ..	5.36	5.00	..	8.00	1.00	5.80	5.00	..	5.50	..
All Ages ..	4.97	4.44	3.91	3.39	3.02	5.05	4.72	4.22	3.68	3.26

(a) Includes widowed or divorced.

12. Age at Marriage of Deceased Males and Females, and Issue.—The following table shows the average issue of males and females according to the age at marriage of the deceased parent.

AGE AT MARRIAGE AND AVERAGE ISSUE OF DECEASED MALES  
AND FEMALES: AUSTRALIA.

Age at Marriage (Years).	Average Issue.									
	Males.					Females.				
	1921.	1931.	1941.	1951.	1960.	1921.	1931.	1941.	1951.	1960.
Under 15 ..	..	..	..	..	..	7.60	6.36	7.80	4.88	4.58
15-19..	6.32	6.15	5.40	4.63	4.22	6.97	6.79	6.10	5.41	4.82
20-24..	6.05	5.56	4.89	4.23	3.75	5.50	5.23	4.80	4.28	3.76
25-29..	5.17	4.70	4.21	3.65	3.19	4.09	3.79	3.51	3.14	2.90
30-34..	4.45	3.96	3.41	3.00	2.65	2.66	2.42	2.35	2.23	2.01
35-39..	3.90	3.14	2.80	2.45	2.18	1.61	1.40	1.26	1.16	1.08
40-44..	2.67	2.36	2.01	1.69	1.49	0.62	0.39	0.35	0.36	0.31
45-49..	2.20	1.96	1.52	1.33	1.01	0.03	0.12	0.01	0.07	0.12
50-54..	1.70	1.60	1.05	0.80	0.56	..	..	..	..	..
55-59..	1.30	0.95	0.79	0.49	0.28	..	..	..	..	..
60-64..	0.33	0.63	0.29	0.24	0.22	..	..	..	..	..
65 and over ..	0.25	0.18	0.01	0.29	0.05	..	..	..	..	..
Age not stated ..	4.93	3.64	2.95	2.81	2.43	5.41	3.96	2.45	3.17	2.54
All Ages ..	4.97	4.44	3.91	3.39	3.02	5.05	4.72	4.22	3.68	3.26

## § 6. Vital Statistics of External Territories.

Because of the outbreak of hostilities in the Pacific during the 1939-45 War, civil administration in the external territories was suspended on 11th February, 1942, and registration of births, deaths and marriages was not resumed until 1946. The following table for the year 1960, shows the number of marriages, births and deaths registered in the external territories under the control of Australia. More detailed information will be found in a series of tables in *Demography*, Bulletin No. 78.

## VITAL STATISTICS: EXTERNAL TERRITORIES, 1960.

Territory.	Marriages.	Births.	Deaths.
Christmas Island(a) .. .. .	8	93	15
Cocos (Keeling) Islands(b) .. .. .	..	2	..
Norfolk Island(a) .. .. .	1	10	16
Papua(c) .. .. .	89	218	15
Trust Territory of New Guinea(c) .. .. .	96	329	50
Trust Territory of Nauru(c) .. .. .	2	17	4

(a) Total population.  
population only.

(b) Excluding those registered on Home Island.

(c) Non-indigenous

## § 7. International Vital Statistics.

**Vital Statistics Rates—Principal Countries.**—In the following table, vital statistics rates for selected countries are shown. Crude marriage, birth and death rates represent the number of "events" reported for the year stated per 1,000 of the population. Infant mortality rates

are the number of deaths which occurred under one year of age per 1,000 live births. The true death rates (reciprocals of the expectation of life at birth) have been computed from the life tables for the respective countries as published in the United Nation's *Demographic Yearbook*, 1960 (See explanation of true death rates, para. 4, p. 337).

In many instances, the rates shown in the following table are estimates and the results of sample surveys only. Reference should be made to the detailed comments contained in the United Nation's *Demographic Yearbook*, 1960 (see particularly Technical Notes on Statistical Tables and footnotes to the tables).

VITAL STATISTICS RATES—SELECTED COUNTRIES—LATEST AVAILABLE YEAR.

(Source: United Nation's *Demographic Yearbook*, 1960.)

Country.	Year.	Rates.(a)				Year.	True Death Rates. (b)	
		Marriage.	Birth.	Death.	Infant Mortality.		Male.	Female.
<b>Africa—</b>								
Union of South Africa—								
White population ..	1959	(c) 9.0	25.4	8.6	27.7	1945-47	15.7	14.6
Coloured population ..	1959	(c) 7.5	47.9	15.6	106.8	1945-47	24.0	22.7
Asiatic population ..	1959	(c) 6.8	33.0	8.9	65.0	1945-47	19.7	20.1
Congo (indigenous population) ..	1955	(d)	33.1	12.8	(e) 148.0	1950-52	26.6	25.0
Sudan ..	1955	(d)	51.7	18.5	93.6	..	(d)	(d)
Tanganyika ..	1947	(d)	44.0	25.0	170.0	..	(d)	(d)
Uganda ..	1947	(d)	42.0	25.0	(f) 87.6	..	(d)	(d)
Ruanda-Urundi (indigenous population) ..	1957	(d)	49.5	15.4	(d)	..	(d)	(d)
Tunisia ..	1959	5.2	46.8	10.6	(d)	..	(d)	(d)
Guinea ..	1954	(d)	61.7	40.0	(d)	..	Persons. (d)	
Rural ..	1954	(d)	(d)	(d)	(d)	1954-55	32.8	
Urban ..	1954	(d)	(d)	(d)	(d)	1954-55	27.9	
<b>North America—</b>								
United States of America	1959	8.5	24.1	9.4	26.4	1958	(g) 15.1	(g) 13.8
Mexico ..	1959	6.2	47.0	11.9	75.5	1940	26.4	25.1
Canada ..	1959	7.6	27.5	8.0	28.4	1955-57	14.8	13.7
Guatemala ..	1959	5.3	49.8	17.3	89.7	1949-51	22.8	23.0
West Indies ..	1956	6.0	(c) 38.0	(c) 9.6	(h) 71.5	..	(d)	(d)
El Salvador ..	1959	6.8	45.9	11.9	78.1	1949-51	20.0	19.1
Puerto Rico ..	1959	8.6	31.6	6.8	47.9	1939-41	22.2	21.3
Costa Rica ..	1959	7.2	42.8	9.0	81.0	1949-51	18.3	17.5
<b>South America—</b>								
Brazil ..	1950	(d)	43.0	20.6	170.0	1940-50	25.4	22.0
Argentina ..	1959	6.8	22.7	8.0	(c) 61.1	1947	17.6	16.3
Chile ..	1959	7.4	35.4	12.5	119.6	1952	20.1	18.6
Venezuela ..	1959	5.8	46.9	8.8	58.7	..	(d)	(d)
Bolivia ..	1959	4.1	19.7	5.0	(h) 90.7	1949-51	20.1	20.1
Uruguay ..	1956	7.7	11.4	7.0	(i) 73.0	..	(d)	(d)
<b>Asia—</b>								
China (Mainland) ..	1957	(d)	34.0	11.0	(d)	..	(d)	(d)
India ..	1958	(d)	39.1	(c) 19.4	(f) 185.0	1941-50	30.8	31.6
Japan ..	1959	9.1	17.5	7.4	33.7	1959	15.3	14.3
Indonesia ..	1950-54	(d)	40.0	20.0	150.0	..	(d)	(d)
Philippines ..	1959	5.7	25.0	7.3	93.4	1946-49	20.5	18.7
Korea ..	1957	4.7	(j) 36.6	(j) 21.2	(d) 1938	..	21.2	19.8
Thailand ..	1956	1.7	37.4	(k) 10.3	55.2	1947-48	20.5	19.3
China (Taiwan) ..	1959	8.6	41.2	7.2	33.3	1936-41	24.3	21.9
Ceylon ..	1959	5.7	36.9	9.1	(c) 64.5	1954	16.6	16.8
Nepal ..	1952-54	(d)	45.0	(l) 30.0	(d)	..	(d)	(d)
Malaya, Federation of ..	1959	(d)	42.2	9.7	66.0	..	(d)	(d)
Cambodia ..	1959	(d)	41.4	19.7	(d)	1958-59	22.6	23.1
Hong Kong ..	1959	(d)	36.6	7.1	48.3	..	(d)	(d)
Israel (Jewish population) ..	1959	7.8	26.8	5.9	30.4	1959	14.2	13.8
Singapore ..	1959	3.2	40.3	6.5	35.8	..	(d)	(d)
Cyprus ..	1959	8.7	25.8	6.1	30.0	1948-50	15.7	14.5

See footnotes on following page.

## VITAL STATISTICS RATES—SELECTED COUNTRIES—LATEST AVAILABLE YEAR—continued.

Country.	Year.	Rates.(a)				Year.	True Death Rates. (b)	
		Marriage.	Birth.	Death.	Infant Mortality.		Male.	Female.
Europe—								
Germany, Federal Republic of ..	1959	9.2	17.6	10.8	34.3	1958-59	15.0	13.9
United Kingdom of Great Britain and Northern Ireland ..	1959	7.5	16.9	11.7	23.1	..	(d)	(d)
England and Wales ..	1959	7.5	16.5	11.6	22.2	1959	14.7	13.6
Northern Ireland ..	1959	6.8	21.9	10.9	28.4	1957-59	14.8	13.9
Scotland ..	1959	7.8	19.1	12.1	28.4	1959	15.2	14.0
Italy ..	1959	7.8	18.4	9.3	44.9	1954-57	15.2	14.3
France ..	1959	7.1	18.4	11.3	29.5	1952-56	15.4	14.1
Spain ..	1959	8.1	21.8	9.0	47.1	1950	17.0	15.7
Poland ..	1959	9.5	24.9	8.6	71.8	1958	15.9	14.5
Yugoslavia ..	1959	8.9	23.1	9.8	91.4	1952-54	17.6	16.9
Romania ..	1959	10.7	20.2	10.2	77.0	..	(d)	(d)
Eastern Germany ..	1959	9.3	17.1	13.1	49.6	1956-57	15.1	14.1
Czechoslovakia ..	1959	7.6	16.0	9.7	25.8	1958	14.9	13.8
Netherlands ..	1959	7.8	21.3	7.6	16.8	1953-55	14.1	13.5
Hungary ..	1959	9.1	15.2	10.4	52.4	1958	15.4	14.4
Belgium ..	1959	7.2	17.4	11.8	29.9	1946-49	16.1	14.9
Portugal ..	1959	8.4	23.5	10.8	88.6	1957-58	16.7	15.4
Bulgaria ..	1959	8.6	17.6	9.5	55.9	1925-28	21.8	21.4
Sweden ..	1959	6.7	14.1	9.5	16.6	1957	14.1	13.5
Austria ..	1959	7.9	17.6	12.5	39.8	1949-51	16.2	14.9
Switzerland ..	1959	7.7	17.7	9.6	22.2	1948-53	15.1	14.1
Denmark ..	1959	7.2	16.3	9.4	(c) 22.4	1951-55	14.3	13.8
Finland ..	1959	7.2	18.9	8.8	23.6	1951-55	15.8	14.3
Norway ..	1959	6.5	18.0	8.9	(c) 20.0	1951-55	14.1	13.4
Ireland ..	1959	5.4	21.1	12.0	32.0	1950-52	15.5	14.9
West Berlin ..	1959	9.4	9.5	15.6	35.2	1949-51	15.7	14.6
Oceania—								
Australia ..	1959	7.4	22.6	8.9	21.5	1953-55	14.9	13.7
New Zealand ..	1959	7.9	26.5	9.1	23.9	..	(d)	(d)
Europeans ..	..	(d)	(d)	(d)	(d)	1950-52	14.6	13.8
Maori ..	..	(d)	(d)	(d)	(d)	1950-52	18.5	17.9
U.S.S.R.—								
Union of Soviet Socialist Republics ..	1959	12.2	25.0	7.6	40.6	1957-58	15.6	14.1

(a) Crude marriage, birth and death rates, i.e., number of marriages, births and deaths per 1,000 of population. Infant mortality—number of deaths of children under one year of age per 1,000 live births. (b) Number of deaths per 1,000 males and 1,000 females respectively in stationary population (see explanation on p. 337). (c) 1958. (d) Not available, or available information relates to a segment of population only. (e) 1951. (f) 1950. (g) Excluding Alaska and Hawaii. (h) 1954. (i) 1956. (j) 1955. (k) 1957. (l) 1953.



## CHAPTER XI.

### HOUSING AND BUILDING.

NOTE.—In § 1 of this chapter details are given of the characteristics of dwellings as obtained from censuses, § 2 outlines government assistance to housing since 1945 and operations under the War Service Homes Act 1918–1956, and a summary of building activity, including building approvals, is provided in § 3.

For further information on dwellings as obtained from censuses, reference should be made to the results published in the detailed tables of the 1954 Census (*see Price List of Publications at end of this volume*) and earlier censuses.

More detailed information on building activity may be found in the *Quarterly Bulletin of Building Statistics*, and current information is obtainable also in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, and in the mimeograph statements *Building Statistics: Number of New Houses and Flats* (quarterly), and *Building Approvals* (monthly).

Details of dwellings at the 1961 Census are being published progressively in mimeograph form for the individual States and Territories.

#### § 1. Census Dwellings.

1. *General.*—At each Census, in addition to the questions relating to the personal particulars of the individual members of households, there have been a number of important questions on the Census Schedule designed to elicit information concerning the dwellings in which the population was housed at the date of the Census. For the purpose of the Census, a "dwelling" is any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building. The term has therefore a very wide reference, and includes, *in addition to houses and flats*, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution.

2. *Number of Dwellings.*—(i) *Censuses 1911 to 1954.* The following table shows the number of occupied and unoccupied dwellings in Australia at each Census from 1911 to 1954. Occupied dwellings are classified into private and other dwellings. Dwellings other than private include hotels, boarding houses, lodging houses, hostels, hospitals, educational, religious and charitable institutions, defence and penal establishments, etc. The term "unoccupied dwellings" is not synonymous with vacant houses and flats available for occupancy, but refers mainly to "week-end", holiday and other dwellings whose usual occupants were temporarily absent on the night of the Census; newly-completed dwellings awaiting occupancy are also included.

#### DWELLINGS: AUSTRALIA, CENSUSES, 1911 TO 1954.

(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Census.	Occupied.			Unoccupied.
	Private.	Other than Private.	Total.	
1911 .. .. .	894,389	29,070	923,459	33,473
1921 .. .. .	1,107,010	46,275	1,153,285	51,163
1933 .. .. .	1,509,671	37,705	1,547,376	68,772
1947 .. .. .	1,873,623	34,272	1,907,895	47,041
1954 .. .. .	2,343,421	36,932	2,380,353	112,594

(ii) *Censuses, 1954 and 1961.* A table showing the number of occupied and unoccupied dwellings in the urban and rural areas of Australia at the Census of 30th June, 1954, was included in earlier issues of this Year Book (*see* No. 47, p. 378). Particulars for the 1961 Census may be found in the Appendix to this issue.

(iii) *States and Territories, 1947 and 1954.* The total numbers of occupied and unoccupied dwellings in each State and Territory at the Censuses of 1947 and 1954 were as follows.

#### DWELLINGS: STATES AND TERRITORIES, 1947 AND 1954.

(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

State or Territory.	Census, 30th June, 1947.		Census, 30th June, 1954.	
	Occupied.	Unoccupied.	Occupied.	Unoccupied.
New South Wales .. .. .	746,343	17,392	912,877	42,831
Victoria .. .. .	527,406	11,412	660,690	27,491
Queensland .. .. .	272,045	9,647	339,328	21,473
South Australia .. .. .	168,538	3,547	215,301	8,524
Western Australia .. .. .	124,767	2,606	162,823	6,614
Tasmania .. .. .	62,484	2,351	78,789	5,288
Northern Territory .. .. .	2,697	34	3,427	47
Australian Capital Territory .. .. .	3,615	52	7,118	326
<b>Australia .. .. .</b>	<b>1,907,895</b>	<b>47,041</b>	<b>2,380,353</b>	<b>112,594</b>

The numbers of occupied dwellings in the External Territories at the 1954 Census were as follows:—Norfolk Island, 310; Papua, 1,605; Trust Territory of New Guinea, 3,098; Trust Territory of Nauru, 99. (The foregoing figures are exclusive of dwellings occupied solely by indigenous population.)

3. *Class of Dwelling.*—A table showing the number of the various classes of occupied dwellings in the Metropolitan Urban, Other Urban, and Rural Areas of Australia at the Censuses of 1947 and 1954 appeared in earlier issues of this Year Book (*see* No. 47, p. 381). Particulars available from the 1961 Census may be found in the Appendix to this issue.

4. *Population According to Class of Dwelling, etc.*—The following table shows the number of the various classes of occupied dwellings at the Censuses of 1947 and 1954, together with the number of inmates.

OCCUPIED DWELLINGS, ETC. AND INMATES, AUSTRALIA, 1947 AND 1954.  
(EXCLUDING FULL-BLOOD ABORIGINALS AND DWELLINGS OCCUPIED SOLELY BY THEM.)

Particulars.	Census, 30th June, 1947.			Census, 30th June, 1954.		
	Number of Dwellings.	Inmates.		Number of Dwellings.	Inmates.	
		Number.	Proportion of Total. (Per Cent.)		Number.	Proportion of Total. (Per Cent.)
Private House(a)—						
House .. .. .	1,618,052	6,323,621	83.43	2,006,871	7,448,978	82.89
Shed, Hut, etc. .. .. .						
Total .. .. .	1,618,052	6,323,621	83.43	2,056,019	7,583,165	84.38
Share of Private House(b) ..	106,011	303,996	4.01	107,216	290,579	3.23
Flat .. .. .	111,399	316,115	4.17	127,420	329,265	3.67
Other .. .. .	38,161	83,028	1.10	52,766	111,353	1.24
<i>Total Private Dwellings</i> ..	<i>1,873,623</i>	<i>7,026,760</i>	<i>92.71</i>	<i>2,343,421</i>	<i>8,314,362</i>	<i>92.52</i>
<i>Dwellings Other than Private</i>	<i>34,272</i>	<i>520,204</i>	<i>6.86</i>	<i>36,932</i>	<i>618,743</i>	<i>6.89</i>
<b>Total Occupied Dwellings</b> ..	<b>1,907,895</b>	<b>7,546,964</b>	<b>99.57</b>	<b>2,380,353</b>	<b>8,933,105</b>	<b>99.41</b>
Wagon, Van, etc. .. .. .	5,873	13,791	0.18	11,681	30,056	0.33
Migratory(c) .. .. .	..	18,603	0.25	..	23,369	0.26
Total .. .. .	..	7,579,358	100.00	..	8,986,530	100.00

(a) Includes shared private houses for which only one Householder's Schedule was received.

(b) Portion of a shared private house which was occupied separately and for which portion a separate Householder's Schedule was received.

(c) Shipping, railway and air travellers.

5. **Occupied Private Dwellings.**—(i) *Material of Outer Walls.* Tables showing occupied private dwellings classified according to the material of which the outer walls were built, the number of rooms in the dwelling, the number of inmates, the nature of occupancy, weekly rental, and date of building for 1947 and 1954 were included in earlier issues of this Year Book (see No. 47, p. 383). Particulars available from the Census of 30th June, 1961, may be found in the Appendix to this issue.

## § 2. Finance for Housing.

1. **General.**—Financial assistance for the building or purchase of homes in Australia is provided from a number of private sources and from agencies owned or guaranteed by the State or Commonwealth Governments.

The private sources of housing funds include life assurance offices, private trading and saving banks, permanent building societies and private mortgagees. Details of the extent of lending by these private sources are not available.

The government sources of finance include both Commonwealth and State Governments, War Service Homes Division and Government Banks.

2. Housing Agreements between Commonwealth and State Governments.—Under the Commonwealth-State Housing Agreements the Commonwealth Government makes substantial loans to the States for the construction of housing.

(i) *The 1945 Agreement.* In November, 1945, the Commonwealth Government entered into an Agreement with the Governments of the States whereby the Commonwealth Government would provide finance for, and the State Governments would undertake the building of, housing projects. Tasmania withdrew from the Agreement in August, 1950, and South Australia did not begin to operate under it until July, 1953. The Agreement expired on 30th June, 1956. Between 1945-46 and 1955-56 under this Agreement the Commonwealth Government advanced £88,849,000 to New South Wales; £85,781,000 to Victoria; £24,344,000 to Queensland; £11,700,000 to South Australia; £27,050,000 to Western Australia; and £2,835,000 to Tasmania.

For the amount of money advanced by the Commonwealth Government to each State in individual years and for features of the 1945 Commonwealth and State Housing Agreement see Year Book No. 47, p. 389.

The number of dwellings erected in each State under the 1945 Agreement is shown in the following table.

**1945 COMMONWEALTH AND STATE HOUSING AGREEMENT: NUMBER OF DWELLINGS<sup>(a)</sup> COMPLETED.**

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
1945-46 .. ..	1,589	1,768	224	..	293	154	4,028
1946-47 .. ..	2,200	1,458	470	..	537	208	4,873
1947-48 .. ..	2,582	2,231	547	..	849	218	6,427
1948-49 .. ..	3,440	2,357	573	..	976	184	7,530
1949-50 .. ..	3,076	2,454	643	..	981	284	7,438
1950-51 .. ..	3,273	2,699	554	..	1,269	82	7,877
1951-52 .. ..	3,701	2,970	1,102	..	1,023	..	8,796
1952-53 .. ..	4,291	3,238	1,642	..	1,111	..	10,282
1953-54 .. ..	5,106	3,590	1,656	1,006	1,472	..	12,830
1954-55 .. ..	4,931	3,960	1,382	2,013	2,031	..	14,317
1955-56 .. ..	3,529	4,152	797	1,885	1,531	..	11,894
<b>Total .. ..</b>	<b>37,718</b>	<b>30,877</b>	<b>9,590</b>	<b>4,904</b>	<b>12,073</b>	<b>1,130</b>	<b>96,292</b>

(a) Includes flats.

Initially, houses constructed under the 1945 Commonwealth and State Housing Agreement could be sold to tenants, provided the tenant was able to arrange payment of the full purchase price of the house to the State Authority immediately on sale. Under this arrangement sales to tenants were relatively few. In April, 1955, the Commonwealth and the States entered into a supplementary agreement whereby the State Governments were permitted to sell houses to tenants on terms. These were:—deposit, 5 per cent. of the first £2,000 and 10 per cent. of the balance of the purchase price of the house, the maximum amount of the remaining balance being limited to £2,750 and repayment of the balance to be made over a maximum period of 45 years at an interest rate of 4½ per cent. a year. The 1945 Agreement has been amended by the 1961 Housing Agreement so that the States may sell houses built under the 1945 Agreement on terms decided by them rather than on the above-mentioned terms. Tenants eligible under the War Service Homes Act are entitled to purchase houses built under the Agreement on the terms provided in that Act. The number of houses sold under the Agreement is as follows.

#### 1945 COMMONWEALTH AND STATE HOUSING AGREEMENT: HOUSES SOLD

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Total.(a)
1947-48 .. ..	..	..	109	..	..	109
1948-49 .. ..	15	..	63	..	..	78
1949-50 .. ..	98	6	12	..	115	231
1950-51 .. ..	122	39	94	..	508	763
1951-52 .. ..	338	26	86	..	480	930
1952-53 .. ..	528	13	13	..	309	863
1953-54 .. ..	403	6	16	1	94	520
1954-55 .. ..	165	..	26	7	96	294
1955-56 .. ..	733	1,289	121	275	177	2,595
1956-57 .. ..	1,538	1,363	93	66	101	3,161
1957-58 .. ..	769	1,050	137	54	94	2,104
1958-59 .. ..	485	1,053	85	47	61	1,731
1959-60 .. ..	451	983	111	26	49	1,620
1960-61 .. ..	476	1,044	76	15	27	1,638
<b>Total .. ..</b>	<b>6,121</b>	<b>6,872</b>	<b>1,042</b>	<b>491</b>	<b>2,111</b>	<b>16,637</b>

(a) Tasmania did not operate under the 1945 Agreement after August, 1950.

(ii) *The 1956 Agreement.* In 1956, the Commonwealth and the States entered into a new agreement, under which added emphasis was placed on the construction of homes for private ownership. Features of the agreement are as follows.

- (a) The Commonwealth Government provided finance to the States over a period of five years ending 30th June, 1961, for the erection of housing projects.
- (b) For the first two years of the agreement, 20 per cent. of the money allocated to each State was advanced to building societies and other approved institutions for lending to private house builders. During the remaining three years of the agreement this proportion was 30 per cent.
- (c) The remaining 70 per cent. (first two years, 80 per cent.) of the allocation to each State was used by the States for the erection of houses for either rental or sale. The States determined the type of houses to be erected, their location and the selection of tenants. They also fixed the terms of selling.

(d) The Commonwealth was entitled to specify that a portion, not exceeding 5 per cent. in any one year, of the moneys referred to in (c) above, be set aside for the erection of houses for serving members of the defence forces nominated by the Commonwealth. The Commonwealth provided supplementary advances to the States equal to the amounts set aside by them for this purpose.

(e) Each advance of money and interest thereon is to be repaid in equal annual instalments over a period of 53 years from the date each advance was made. The rate of interest chargeable on advances is the long-term bond rate at the time the advance was made less three quarters of one per cent. when the bond rate does not exceed  $4\frac{1}{2}$  per cent. per annum, and, less one per cent. when the bond rate exceeds  $4\frac{1}{2}$  per cent. per annum. From the inception of the Agreement until February, 1961, the effective interest rate was 4 per cent. per annum; subsequently the rate was  $4\frac{3}{4}$  per cent. per annum.

The following table shows progress made under the 1956 Housing Agreement during 1960-61.

#### 1956 COMMONWEALTH AND STATE HOUSING AGREEMENT, 1960-61.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
Advances to States .. £'000	13,000	10,300	3,100	5,800	3,000	2,000	37,200
Supplementary Advances (Service Housing) .. .. £'000	455	360	108	29	56	2	1,010

#### STATE HOUSING PROGRAMME.

Allocation of Advances (70 per cent.) .. .. £'000	9,100	7,200	2,170	4,060	2,100	1,400	26,030
Dwellings—							
Commenced .. ..	3,433	1,631	1,286	2,097	761	375	9,583
Completed(a) .. ..	2,663	2,217	1,033	1,750	727	469	8,859
Under construction at 30th June, 1961 .. ..	2,434	751	663	1,708	277	131	5,964
Sold .. ..	1,528	1,656	623	73	531	457	4,868

#### SERVICE HOUSING.

Funds Allocated(b) .. .. £'000	910	720	217	58	111	4	2,020
Agreed Programme (Number of dwellings) .. ..	274	170	68	21	42	1	576
Dwellings completed(c) .. ..	152	201	108	29	15	1	506

#### HOME BUILDERS' ACCOUNT.

Allocation of Advance (30 per cent.) .. .. £'000	3,900	3,100	930	1,740	900	600	11,170
Amount drawn by Institutions £'000	4,490	3,499	1,032	1,875	931	645	12,472
Dwellings—							
Approved .. ..	1,148	987	214	667	321	182	3,519
Commenced .. ..	1,158	1,064	214	552	295	173	3,456
Completed .. ..	1,145	(d)1,230	239	470	282	169	3,535
Purchased—							
New Dwellings .. ..	489	..	173	237	50	24	973
Other .. ..	12	..	..	..	..	4	16

(a) Includes Service Housing. (b) 50 per cent. by Commonwealth and 50 per cent. by State.  
 (c) Included in State Housing Programme above. (d) Includes purchased dwellings which were completed during 1960-61.

Advances made by the Commonwealth Government to the States, and the number of houses sold since the beginning of the 1956 Agreement are shown in the following table.

**1956 COMMONWEALTH AND STATE HOUSING AGREEMENT: ADVANCES AND HOUSES SOLD.**

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
ADVANCES TO STATES (£'000).							
1956-57 .. ..	10,800	10,000	2,750	3,600	3,000	2,000	32,150
1957-58 .. ..	11,000	10,000	3,160	4,000	3,000	2,000	33,160
1958-59 .. ..	12,000	10,300	3,310	5,000	3,000	2,200	35,810
1959-60 .. ..	12,350	10,300	3,480	5,000	3,000	1,950	36,080
1960-61 .. ..	13,000	10,300	3,100	5,800	3,000	2,000	37,200
<b>Total .. ..</b>	<b>59,150</b>	<b>50,900</b>	<b>15,800</b>	<b>23,400</b>	<b>15,000</b>	<b>10,150</b>	<b>174,400</b>

**SUPPLEMENTARY ADVANCES (SERVICE HOUSING) (£'000).**

1956-57 .. ..	432	400	110	111	111	25	1,189
1957-58 .. ..	440	400	126	159	15	35	1,175
1958-59 .. ..	420	360	116	175	103	20	1,194
1959-60 .. ..	432	360	122	92	49	7	1,062
1960-61 .. ..	455	360	108	29	56	2	1,010
<b>Total .. ..</b>	<b>2,179</b>	<b>1,880</b>	<b>582</b>	<b>566</b>	<b>334</b>	<b>89</b>	<b>5,630</b>

**NUMBER OF HOUSES SOLD.**

1956-57 .. ..	1,659	373	306	165	175	224	2,902
1957-58 .. ..	2,910	286	548	205	614	454	5,017
1958-59 .. ..	2,022	1,454	647	205	205	315	4,848
1959-60 .. ..	2,250	1,690	475	114	280	464	5,273
1960-61 .. ..	1,528	1,656	623	73	531	457	4,868
<b>Total .. ..</b>	<b>10,369</b>	<b>5,459</b>	<b>2,599</b>	<b>762</b>	<b>1,805</b>	<b>1,914</b>	<b>22,908</b>

(iii) *The 1961 Agreement.* Following the termination of the 1956 Housing Agreement on 30th June, 1961, a new agreement running for a further period of five years was entered into by the Commonwealth and the State Governments. This Agreement continues with some amendment the terms and conditions of the 1956 Agreement. The main amendments have the result that:—

- (a) the rate of interest on advances by the Commonwealth to the States will be equal to the long-term Commonwealth bond rate at the time the advance was made less one per cent., and

- (b) the Commonwealth and/or a State may agree to contribute funds in excess of the previous statutory maximum of 5 per cent. of a State's allocation, for the erection of dwellings for servicemen.

The new Agreement also amends the 1945 Agreement so that the provisions in respect of sale of houses built under the 1945 Agreement are the same as for those built under the 1956 Agreement.

3. **State Housing Authorities.**—(i) *General.* In each State, the major Government housing schemes operated by the State Housing Authorities are those provided for under the Housing Agreements between the Commonwealth and State Governments referred to earlier. Other State Government assistance to housing is referred to in the following paragraphs.

(ii) *New South Wales.* The principal schemes operating in New South Wales are as follows.

- (a) *Commission-Financed Advances.* Under the Housing Act 1912–55, the Housing Commission is empowered to provide finance to persons to have houses erected on their own land, to purchase existing dwellings, or to effect improvements or repairs to houses. In respect of advances made under the Act prior to 1952, the maximum amount that could be lent was limited to £1,540, repayment of which could be made over a maximum period of 45 years. Interest charged was at the rate of 4½ per cent. a year. Under this scheme, 786 houses were erected while a further 106 houses were erected by the Housing Commission on Commission land and sold, under this section of the Act, to approved applicants. Regulations prescribing the present maximum amount that may be advanced and the limitation on income which may be received by an applicant for a loan have not been published and at present no advances or sales are being made.

(b) *Rental Housing (other than Housing Agreements).*

- (1) Upon request by other State Departments, the Housing Commission will erect houses for employees of those Departments, e.g., Education, Agriculture, Water Conservation, etc. These Departments provide the necessary land and funds needed to finance the erection of the houses. Rentals charged are fixed by the Departments in accordance with the salaries of the officers occupying the houses. The number of rental houses erected (other than under the Housing Agreements) is 925.
- (2) Specially designed units are erected by the Housing Commission to provide dwellings for elderly persons at rentals within their means. The rents of these units are £1 per week for elderly single persons and £1 10s. per week for elderly couples. Four hundred and twenty-seven of these units have been completed.

(c) *Sales Scheme.*

- (1) During 1953–54, the Housing Commission began the erection of 100 houses for sale. Under this scheme, the Commission acted as the construction authority while administrative arrangements were carried out by the Rural Bank. Houses were sold on the basis of 10 per cent. deposit with repayment of the balance over a maximum period of 40 years. Construction of all houses has been completed.
- (2) Applicants who have established eligibility for Housing Commission accommodation may now apply to have a standard type dwelling erected on their own block of land. Terms of repayments are the same as for the 1956 Agreement dwellings, i.e. a minimum deposit of £50 with a maximum repayment period of 45 years with interest at 5½ per cent. Under this scheme 100 dwellings have been completed.



(iii) *Victoria. (a) Home Finance Trust.* In 1956, a Home Finance Trust was established with the object of receiving money from institutions and others in order to make loans for the erection or purchase of houses. Applicants for loans must declare that they intend to use the houses as homes for themselves, their families and dependants. Except in special circumstances, no loan will be granted if the borrower or wife or husband of the borrower already owns a house in Victoria at the date of the proposed mortgage.

Loans granted are on the basis of a first mortgage over the house. Loans are not to exceed 95 per cent. of the value of the security (house and land) and are not made if the value of the security exceeds £5,000. In the case of purchase, the house must not have been erected more than two years before the date of the mortgage. Repayment of loans may be made over a maximum period of 30 years, with interest charges determined by the Trust. At 30th June, 1961, 1,770 loans totalling £4,898,685 had been made.

(b) *Housing of Aborigines.* Under the Aborigines Act 1958 as amended by the Aborigines (Housing) Act 1959, the Housing Commission of Victoria is empowered to erect houses for the Aborigines Welfare Board for occupation as dwellings by aborigines.

(iv) *Queensland.* The following housing schemes are operating in this State.

(a) *Queensland Housing Commission.* The Queensland Housing Commission was established in 1945 to take over the operation of the State Advances Corporation which had been set up in 1916 to make advances to home builders under the State Advances Act. The Commission was given increased powers to assist in meeting the existing housing shortage, and was empowered, as well as to make advances to private house builders, to build houses itself either for sale or for letting, under the State Housing Acts, 1945 to 1961. A person to be eligible must be the proprietor of a suitable building site, must not already own a dwelling and must undertake to use the completed dwelling as a home for himself and family. The present maximum advances allowable under the Acts are £3,000 for a timber-frame building, £3,100 for a brick veneer and £3,350 for a brick or concrete building. The rate of interest on advances is 5½ per cent. a year. Repayment may be made at the option of the borrower over either a 30-year or a 45-year period. A borrower or purchaser who elects to repay over a 30-year period, who is under 40 years of age, and who has passed a prescribed medical examination, is entitled to free life insurance cover to an amount sufficient to liquidate his indebtedness to the Commission in the event of his death before his loan has been fully repaid, provided that the maximum benefit payable under such insurance cover does not exceed £2,250. In the sixteen years ended 30th June, 1961, 24,120 houses were completed under all schemes administered by the Commission. Of the completed houses, 13,491 are being acquired under home-ownership schemes and 10,629 are for rental.

(b) *Workers' Dwellings.* The maximum advances under this scheme were increased to £3,000 for a timber dwelling, £3,100 for a brick veneer, and £3,350 for a brick or concrete dwelling from 19th May, 1960. During 1960-61, 593 workers' dwellings were erected. Since the inception of this scheme in 1910 to 30th June, 1961, 27,304 dwellings have been completed, and total advances made for those dwellings amounted to £23,011,569.

(c) *Workers' Homes.* Workers' homes are erected by the Queensland Housing Commission under the Workers' Homes Act 1919-1957. These homes are intended for persons who are not the owners of building sites, and applications are confined to persons with a net annual income for taxation purposes of not more than £800. The Housing Commission builds the home to suit the applicant's needs, on Crown Land or on land purchased for the purpose, which is then converted to perpetual leasehold tenure. An applicant pays a deposit of 5 per cent. of the purchase price of the home and the balance by monthly rent over a term of 30 to 45 years. The rate of interest is 5½ per cent. a year. The number of houses constructed under this Act up to 30th June, 1960, was 2,347.

On 29th March, 1961, the Workers' Homes Acts were repealed, and no further applications for homes to be erected under this scheme can be accepted.

(v) *South Australia.* In South Australia, the Housing Trust builds houses for both rental and sale and, in addition, administers an emergency dwelling scheme for the South Australian Government. From July, 1946 to 30th June, 1961, 40,801 houses were erected by the Trust in both city and country areas.

- (a) *Rental Houses.* In the main, houses built for rental by the Trust are built with funds provided under the Housing Agreement. However, in 1958, the State Government made available funds for the purpose of providing houses in the country towns for people who cannot afford to pay an economic rent, and to 30th June, 1961, 155 houses had been built.

Upon request by State Government Departments the Trust will erect houses for purchase by those Departments for the accommodation of their employees. During the financial year 1960-61, 175 houses were built for Education, Police, Highways and Woods and Forests Departments, etc. Rents for the houses are determined by the Public Service Board. Rents charged for other accommodation are generally based on the overall cost of construction, and vary not only according to the size of the dwelling but also according to date of erection. As at 1st November, 1961, the rents of 5-roomed houses (i.e., 3 bedrooms) ranged from £2 2s. a week for houses of an older type to £3 12s. 6d. a week for houses then being completed. Factors taken into consideration when allotting rental houses include date of application, housing need and suitability of tenant. Persons with high incomes are asked to consider purchasing their own homes.

- (b) *Sales Scheme.* Houses built under this scheme, which was inaugurated in 1946, are of solid or timber-frame construction. More than 19,000 have been completed in both metropolitan and country areas since the scheme began. When houses are sold, the usual practice is for the Trust to recover the total cost of the house and land by the purchaser paying the total amount in cash or (as is usually the case) paying a deposit (which varies according to the type of house and locality—at present £350 for a timber-frame house and £550 for a 5-roomed brick house—and the purchaser's ability to pay) and raising the balance by way of mortgage. In cases where the deposit and first mortgage are insufficient, the Trust may advance the balance by way of a second mortgage, the repayment term of which is a maximum of 30 years, interest being at the rate of 6 per cent. a year. In 1956, the Trust began the erection of houses, which may be of solid or timber-frame construction or a mixture of both, for individuals on their own land. Houses are built by contract under the Trust's supervision. Prices for building and supervision of the standard houses covered by the scheme in late 1961 ranged from £3,350 for a 2-bedroom brick house to £5,500 for a 6-roomed house.
- (c) *Rural Housing.* In order to assist primary producers, the Trust will erect houses on the applicant's own land for his own use or that of his employees, either using local materials or transporting prefabricated houses to the site. At the 30th June, 1961, prices for houses erected on level sites within 100 miles of Adelaide ranged from £2,300 for a 2-bedroom minimum type timber house to £3,000 for a 3-bedroom, asbestos cement sheeted timber house.

(vi) *Western Australia.* The State Housing Commission is encouraging home ownership under the State Housing Act 1946-1961, which is a continuation of the Workers' Home Board Act, originally promulgated in 1911.

Purchases can be arranged under—(a) a freehold scheme, either by way of mortgage or contract of sale, and (b) leasehold on either a perpetual Crown Lease or a lease for a term of years from the Commission. Under the leasehold scheme purchasers can convert to freehold conditions upon having a 10 per cent. equity in the improvements and agreeing to purchase the land at the valuation originally determined at the date of commencement of the lease.

The housing authority builds the houses by private contract on land provided by the applicant or the Commission. The maximum loan is £2,500 under State Housing Act except for houses built north of the 26th parallel of latitude, in which case the Minister can approve of an advance exceeding £2,500.

To proceed under the mortgage conditions, a deposit of not less than 10 per cent. is required, but under the contract of sale or leasehold provisions the minimum deposit is £100. The interest rate in both cases is 5½ per cent. per annum and the repayment period is 45 years. To obtain assistance, an applicant cannot have an income exceeding £1,230 a year, plus £25 for each dependent child under 16 years of age. This figure varies according to the movement of the basic wage. North of the 26th parallel, the Minister may allow a higher income family to be assisted.

A second mortgage scheme exists under the State Housing Act which provides that assistance be limited to those applicants who are building or purchasing new residential improvements, the cost of which does not exceed £3,000. By policy decision, the Commission limits the second mortgages to a maximum of £1,000.

The number of houses completed under this Act to 30th June, 1961 was—freehold 1,514, leasehold 2,932, assistance by second mortgage 705.

(vii) *Tasmania*. The Agricultural Bank is authorized under the terms of the Homes Act 1935 to make loans to eligible persons for home building on the security of a first mortgage over the property. To be eligible, a person must be married or be about to marry or have dependants for whom it is necessary to provide a home. At present, there are no statutory limitations as to the maximum income which an eligible applicant may receive. However, it is the policy of the Bank not to make loans to persons who are well able to provide houses for themselves. The maximum amount which the Bank will lend at present is £3,300 on homes built in proclaimed brick areas, and £3,000 on timber houses. The rate of interest at present charged is 5½ per cent. a year. Present policy is to allow a maximum of 31 years for repayment of loans.

4. **Housing Schemes in Commonwealth Territories.**—(i) *Northern Territory*. In 1946, control of all Government-owned residences in the Territory (excluding those belonging to the Defence Services, Commonwealth Railways or attached to post offices) was vested in the Administration. The Administration provides houses for rental to Commonwealth employees.

- (a) In 1953, a Housing Scheme was inaugurated under which potential house builders may obtain loans of up to £2,750 for the erection of houses, the purchase or extension of existing houses or the discharge of mortgages on houses. Up to 30th June, 1961, 665 loans totalling £1,696,220 had been approved. These were for:—construction, 487; purchase 132; discharge of mortgage, 46.
- (b) In January, 1959, an Ordinance was passed to set up a Housing Commission to construct houses for letting at an economic rental to low income groups. At 22nd July, 1960, the first 20 Housing Commission homes were completed at Alice Springs.
- (c) The Administration is prepared to sell to its tenants the houses they occupy for cash or on terms with a minimum deposit of 5 per cent. of the first £2,000, and 10 per cent. of the balance. The maximum advance by mortgage is £2,750. Repayment is over a maximum of 45 years, and interest is at present 4½ per cent.

(ii) *Australian Capital Territory.* The Commonwealth Government provides houses primarily for rental to employees of Government organizations and to persons privately employed in the Australian Capital Territory.

From 1st July, 1945, to 30th June, 1961, 8,333 houses and flats were erected for the Department of the Interior for letting.

Government rental houses may be purchased by tenants, and the basis of sale is a minimum deposit of 10 per cent. of the purchase price fixed by the Department of the Interior, with no limit to the amount which may be held on mortgage. Repayment may be made over a maximum period of 45 years. Interest charged on loans is 4½ per cent. per annum. Since 1950, 1,874 houses have been sold to tenants.

Loans may be granted by the Commissioner for Housing to enable persons to purchase, erect or enlarge houses in the Territory or to discharge mortgages. Where the Commissioner's valuation of the property concerned does not exceed £2,000 the maximum loan may not exceed 95 per cent. of the valuation. If the Commissioner's valuation exceeds £2,000 the maximum loan is 95 per cent. of the first £2,000 and 90 per cent. of the balance (but in no case can the amount lent exceed £3,500). Repayment may be made over a maximum period of 45 years. The current rate of interest is 5½ per cent. per annum. From 1st July, 1950, to 30th June, 1961, 1,052 loans were granted. Before 16th May, 1962, the maximum amount of loan was £2,750.

(iii) *Papua and New Guinea.* The Housing Loans Ordinance 1953–58 permits the advance of loans of up to £2,750 to any member of the community for the erection of a house or the purchase or extension of an existing house. The loans are limited to declared township areas and are repayable over a maximum period of 35 years. The effective rate of interest is 5 per cent. per annum. Up to 30th June, 1961, 172 loans totalling £394,683 had been approved.

In 1960, the Administration started a project for providing 50 low-cost houses for rental to indigenes and mixed-bloods. These houses were completed during August, 1960, and an additional 20 houses were completed by November, 1960.

**5. War Service Homes.**—The provision of War Service Homes is a function of the War Service Homes Division of the Department of National Development, and the administration of the War Service Homes Act is under the control of the Director of War Service Homes.

The War Service Homes Act 1918–1961 is a measure for the provision of homes for Australian ex-servicemen who served during the 1914–1918 War or the 1939–1945 War and to persons with service in Korea or Malaya. Provision is made also for assistance to the female dependants of Australian ex-servicemen and other classes of eligible persons as defined in the Act. Assistance may be granted to an eligible person and the wife or husband of that person as joint tenants.

The maximum amount of loan or advance which may be granted under the Act is £3,500. The period of repayment may be approved up to 45 years. In the case of a widow or widowed mother of an Australian ex-serviceman, the period may be extended to a maximum of 50 years.

The War Service Homes Division does not provide homes for occupation purely on a tenancy basis.

The following table gives details of the operations of the War Service Homes Division from the inception of the Scheme on 6th March, 1919, to 30th June, 1961, and also details of the activities for the year 1960–61.

## WAR SERVICE HOMES DIVISION: SUMMARY OF OPERATIONS.

Particulars.	Eligibility Established from Service in:—		Total.
	1914-18 War.	1939-45 War, Korea or Malaya.	

## FROM INCEPTION TO 30TH JUNE, 1961.

Applications received .. .. .	No.	112,708	314,982	427,690
Applications approved .. .. .	"	54,122	172,583	226,705
Homes purchased .. .. .	"	17,346	80,533	97,879
Homes built, or assistance given to build them .. .. .	"	23,664	58,036	81,700
Mortgages discharged .. .. .	"	3,828	20,828	24,656
Total homes provided .. .. .	"	44,838	159,397	204,235
Transfers or resales .. .. .	"	9,079	9,540	18,619
Total capital expenditure .. .. .	£'000	..	..	400,108
Total receipts .. .. .	"	..	..	179,916

## 1960-61.

Applications received .. .. .	No.	944	14,944	15,888
Applications approved .. .. .	"	758	13,106	13,864
Homes purchased .. .. .	"	424	7,581	8,005
Homes built, or assistance given to build them .. .. .	"	143	2,648	2,791
Mortgages discharged .. .. .	"	75	2,136	2,211
Total homes provided .. .. .	"	642	12,365	13,007
Transfers or resales .. .. .	"	83	931	1,014
Total capital expenditure .. .. .	£'000	..	..	35,042
Total receipts .. .. .	"	..	..	21,014

In addition to the homes provided under the War Service Homes Act, 1,921 homes which had been provided originally under the Housing Agreements with the States have been taken over in accordance with those Agreements, 129 being taken over during 1960-61.

At 30th June, 1961, the arrears of instalments due on loans made available under the Act totalled £594,442, making an average of £4 0s. 9d. per account.

Insurances in force under the Act as at 30th June, 1961, including cover notes, amounted to £512,433,573. Expenditure from the Insurance Trust Account during the year ended 30th June, 1961, totalled £207,065, whilst the premiums received during the same period amounted to £253,639, giving a surplus of £46,574.

6. Other Forms of Government Assistance.—(i) *General.* In addition to the assistance given to housing as outlined above, the Commonwealth and State Governments, through advances by government banks and the exercise of certain guarantees of the operations of Co-operative Terminating Building Societies by State Governments, further assist in making finance available for the erection and purchase of houses.

(ii) *Government Banks.* The terms and conditions governing the making of advances may be altered from time to time; consequently, no attempt has been made to tabulate them. However, the usual loan for a house of solid construction (brick, etc.) is generally between £2,500 and £3,000. The average loan for a timber-frame house is £2,250. Interest rates charged range from 5½ per cent to 6½ per cent. a year. In some institutions, this may be changed, usually after from 5 years to 10 years from the date of the loan. The maximum period of repayment ranges from about 20 years for timber-frame houses to 30 to 40 years for a house of more solid construction.

Details of loans made by the Commonwealth Trading Bank of Australia and major Private Trading Banks for the building or purchasing of homes may be found in Chapter XX.—Private Finance.

(iii) *Building Societies.* There are over 2,000 building societies in Australia, 95 per cent. of which are of the terminating type. Most of the terminating societies are in New South Wales and Victoria. The Government of the State guarantees loans made to the societies in New South Wales, Victoria, Queensland, Western Australia and Tasmania. Terminating societies also operate in the Australian Capital Territory, where legislation was introduced in May, 1959, to provide a government guarantee for loans made to them.

In addition to the terminating societies, there are a number of permanent building societies operating in all States under State legislation. State Governments do not generally guarantee the borrowings or lendings of these societies. However, in Western Australia the Housing Loan Guarantee Act, 1957, provided for guarantees in respect of loans made by approved lending institutions (including permanent building societies) to individuals on the security of a mortgage. A premium, one-quarter of 1 per cent. of the balance of the loan outstanding at set intervals, is payable by the lender in return for the guarantee.

In Tasmania, guarantees have been given by the Treasurer to enable permanent building societies to receive substantial bank overdrafts.

Further details of the number, liabilities and assets of registered building societies in Australia may be obtained from Chapter XX.—Private Finance.

### § 3. Building.

1. *General.*—(i) *Statistics of Building Approved.* Statistics of building approvals have been compiled from (a) permits issued by local government authorities in the areas subject to building control by these authorities, and (b) contracts let or work commenced and day labour projects authorized by governmental authorities. *They relate only to approvals for buildings as distinct from the construction of roads, bridges, railways, earth works, water storage, etc.* Values shown represent the estimated cost when completed (excluding cost of land) of new buildings and alterations and additions to existing buildings. Additions of £5,000 and over are included with new buildings in all States, except New South Wales, where they are included in “alterations and additions”.

These statistics are available from the year 1953-54.

(ii) *Statistics of Building Commenced, Completed and Under Construction.* These relate to building by private contractors, Government authorities and owner-builders.

The following outlines the scope of the statistics: (a) *only the erection of new buildings as distinct from the construction of railways, bridges, earthworks, water storage, etc., is covered;* (b) major new additions to existing buildings are included as new buildings; (c) minor additions, alterations, renovations and repairs are excluded because of the difficulty of obtaining details of this work; (d) temporary dwellings are excluded; (e) figures for houses exclude flats and dwellings attached to other new buildings (the value of dwellings attached to other new buildings is included with the value of buildings to which they are attached; figures for flats include “home units”); (f) imported prefabricated houses are included; (g) details obtained from Government authorities and building contractors refer to all areas whereas details for owner-builders cover only areas subject to building control by Local Government Authorities.

The following definitions of terms used in this section are necessary for interpretation of the data presented.

*Private or Government.* A building is classified as "private" or "government" according to ownership.

*Owner-built.* An "owner-built" house is one actually erected or being erected by the owner or under the owner's direction without the services of a contractor who is responsible for the whole job.

*Contract-built.* Includes the operations of all building contractors and Government instrumentalities which undertake the erection of new buildings.

*Commenced.* A building is regarded as having been commenced when work on foundations has begun. Owing to the difficulty of defining the exact point that this represents in building operations, classifications made by informants may not be entirely uniform.

*Completed.* A building is regarded as having been completed when the contractor has fulfilled the terms of the contract. As with commencements, the classifications made may not be entirely uniform.

*Employment.* Figures relate to persons actually working on the jobs of contractors who undertake the erection of new buildings and of Government instrumentalities which erect new buildings on their own account. They include persons actually engaged on alterations, additions, repairs and maintenance when these jobs are undertaken by such contractors and instrumentalities. The figures include working principals and their employees, men working as or for sub-contractors, and men temporarily laid off on account of weather.

Contractors are asked to give details of the persons employed *on a specified day*, but, because of frequent movement between jobs and because some persons (such as electricians, etc.) may work on several jobs which are under construction simultaneously, some duplication may occur.

The figures exclude persons working on owner-built houses, and employees of builders who undertake only alterations, additions, repairs and maintenance.

*Values.* All values shown exclude the value of land and represent the estimated value of buildings on completion.

2. New Houses.—(i) *Approved, Commenced, Completed and Under Construction, 1960-61.* The next table provides a summary of the number of new houses approved, commenced, completed and under construction in each State and Territory.

A graph showing the number of new houses commenced, completed and under construction for the period 1949-50 to 1960-61, will be found on page 379.

### NEW HOUSES: NUMBER, 1960-61.

(INCLUDING OWNER-BUILT HOUSES.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
Approved ..	28,254	18,432	10,359	9,946	5,685	2,273	390	1,517	76,856
Commenced ..	27,654	18,517	9,198	9,268	5,693	2,248	415	1,177	74,170
Completed ..	29,778	22,094	9,391	9,376	5,973	2,487	403	1,273	80,775
Under Construction at end of year ..	12,487	12,010	2,713	5,006	3,016	1,578	274	1,078	38,162

(a) Includes flats.

(ii) *Approved, Government and Private, 1956-57 to 1960-61.* The following table shows the number of new houses approved in each State or Territory, according to government and private ownership.

## NEW HOUSES APPROVED: NUMBER.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
GOVERNMENT.									
1956-57	4,172	2,168	860	2,209	1,910	490	28	361	12,198
1957-58	3,438	2,315	978	3,928	1,076	490	161	928	13,314
1958-59	3,890	2,274	724	2,452	1,089	477	146	765	11,817
1959-60	2,873	2,552	983	2,103	1,229	452	181	862	11,235
1960-61	3,844	1,923	1,583	4,332	1,264	413	216	878	14,453
PRIVATE.									
1956-57	21,999	17,700	8,425	4,488	4,189	2,234	136	173	59,344
1957-58	24,499	20,404	8,876	4,859	4,418	1,980	160	259	65,455
1958-59	27,026	20,552	9,041	5,376	4,173	1,929	228	394	68,719
1959-60	29,365	22,033	9,645	6,234	4,853	2,094	259	526	75,009
1960-61	24,410	16,509	8,776	5,614	4,421	1,860	174	639	62,403
TOTAL.									
1956-57	26,171	19,868	9,285	6,697	6,099	2,724	164	534	71,542
1957-58	27,937	22,719	9,854	8,787	5,494	2,470	321	1,187	78,769
1958-59	30,916	22,826	9,765	7,828	5,262	2,406	374	1,159	80,536
1959-60	32,238	24,585	10,628	8,337	6,082	2,546	440	1,388	86,244
1960-61	28,254	18,432	10,359	9,946	5,685	2,273	390	1,517	76,856

(a) Includes flats.

(iii) *Commenced, 1956-57 to 1960-61.* The number of new houses commenced in each State and Territory by contractors and owner-builders is shown in the following table.

## NEW HOUSES COMMENCED: NUMBER.

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T. (a)	A.C.T.	Aust.
CONTRACT-BUILT.(b)									
1956-57	14,607	12,371	6,006	5,053	4,455	1,465	177	408	44,542
1957-58	15,729	15,654	5,559	5,523	4,284	1,291	227	975	49,242
1958-59	18,582	17,188	6,387	6,873	4,231	1,508	257	993	56,019
1959-60	19,784	19,372	7,349	8,032	5,067	1,491	321	1,286	62,702
1960-61	19,950	15,261	7,364	8,448	4,902	1,405	321	962	58,613
OWNER-BUILT.									
1956-57	8,870	7,278	1,566	1,779	1,110	1,126	74	101	21,904
1957-58	8,448	6,279	1,491	1,428	1,044	1,087	84	164	20,025
1958-59	8,049	5,255	1,613	1,252	1,011	1,055	77	172	18,484
1959-60	8,283	3,829	1,610	877	879	866	105	139	16,588
1960-61	7,704	3,256	1,834	820	791	843	94	215	15,557
TOTAL.									
1956-57	23,477	19,649	7,572	6,832	5,565	2,591	251	509	66,446
1957-58	24,177	21,933	7,050	6,951	5,328	2,378	311	1,139	69,267
1958-59	26,631	22,443	8,000	8,125	5,242	2,563	334	1,165	74,503
1959-60	28,067	23,201	8,959	8,909	5,946	2,357	426	1,425	79,290
1960-61	27,654	18,517	9,198	9,268	5,693	2,248	415	1,177	74,170

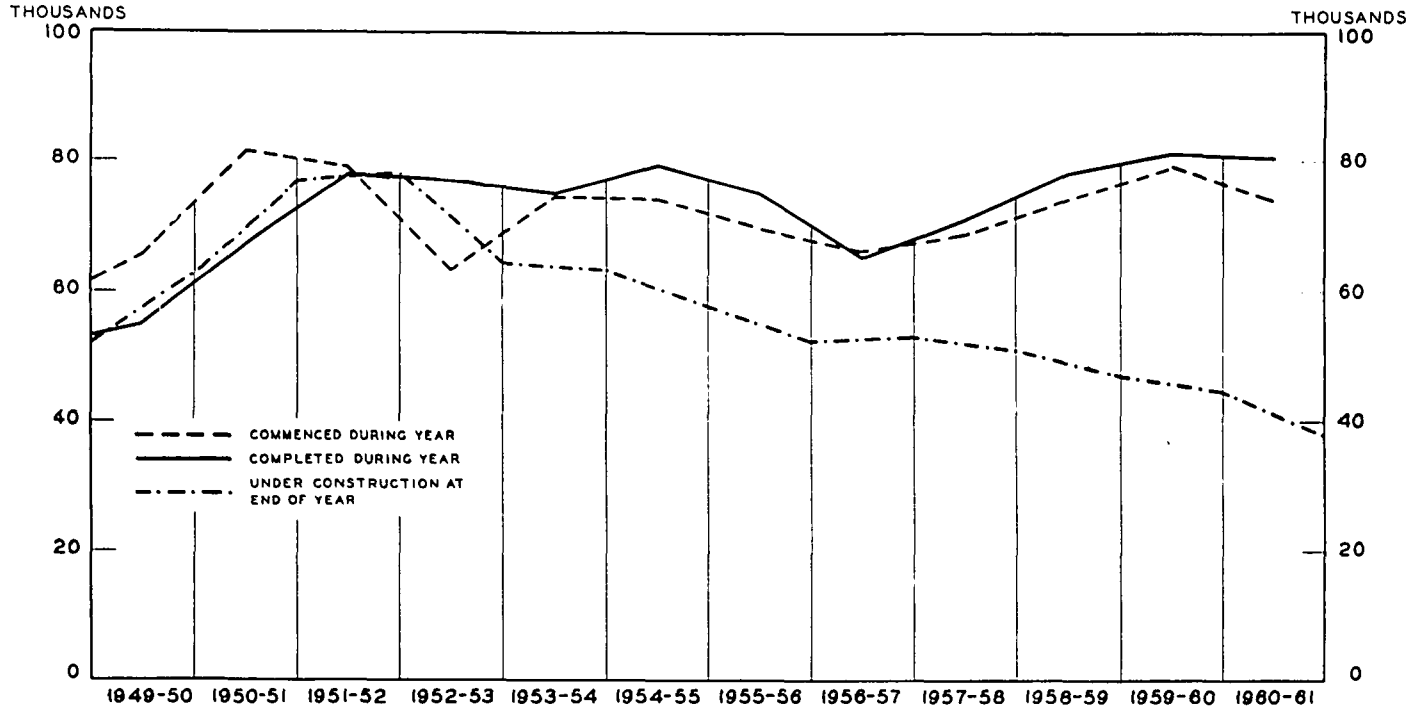
(a) Includes flats.

(b) Includes operations of Government Authorities.



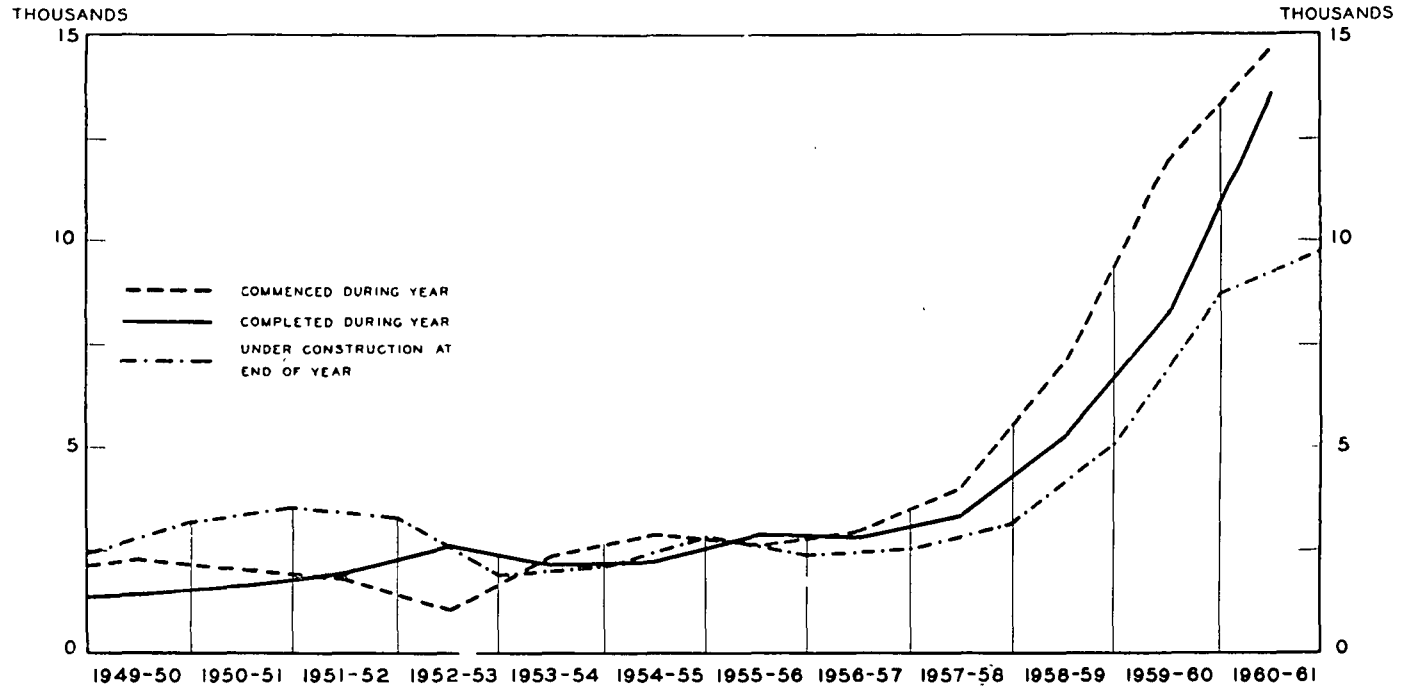
# NEW HOUSES: AUSTRALIA

1949-50 TO 1960-61



# NEW FLATS: AUSTRALIA

1949-50 TO 1960-61



(iv) *Completed.* (a) 1956-57 to 1960-61. The following table shows the number of new houses completed in each State and Territory by contractors and owner-builders.

## NEW HOUSES COMPLETED: NUMBER.

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T. (a)	A.C.T.	Aust.
CONTRACT-BUILT.(b)									
1956-57 ..	13,657	13,159	5,649	5,491	3,537	1,460	262	505	43,720
1957-58 ..	16,186	14,630	5,830	5,733	4,921	1,449	201	614	49,564
1958-59 ..	18,111	17,444	6,411	6,452	4,337	1,429	270	1,105	55,559
1959-60 ..	20,104	18,200	7,339	7,714	4,765	1,473	262	974	60,831
1960-61 ..	20,099	17,276	7,564	8,309	4,997	1,520	286	1,123	61,174
OWNER-BUILT.									
1956-57 ..	8,610	7,026	1,568	1,702	1,493	1,299	66	56	21,820
1957-58 ..	8,928	6,737	1,527	1,873	1,275	1,117	74	84	21,615
1958-59 ..	9,984	6,885	1,795	1,691	1,509	1,148	86	140	23,238
1959-60 ..	9,434	5,957	1,662	1,262	1,232	1,002	79	171	20,799
1960-61 ..	9,679	4,818	1,827	1,067	976	967	117	150	19,601
TOTAL.									
1956-57 ..	22,267	20,185	7,217	7,193	5,030	2,759	328	561	65,540
1957-58 ..	25,114	21,367	7,357	7,606	6,196	2,566	275	698	71,179
1958-59 ..	28,095	24,329	8,206	8,143	5,846	2,577	356	1,245	78,797
1959-60 ..	29,538	24,157	9,001	8,976	5,997	2,475	341	1,145	81,630
1960-61 ..	29,778	22,094	9,391	9,376	5,973	2,487	403	1,273	80,775

(a) Includes flats.

(b) Includes operations of Government Authorities.

(b) *Material of Outer Walls, 1960-61.* The following table shows the number of new houses completed in each State and Territory during 1960-61, classified according to the material of their outer walls.

## NEW HOUSES COMPLETED: NUMBER, 1960-61.

(INCLUDING OWNER-BUILT HOUSES.)

Material of Outer Walls.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	N.T. (a)	A.C.T.	Aust.
Brick, Brick Veneer, Concrete and Stone ..	7,043	12,458	1,235	8,388	4,475	845	106	1,236	35,786
Wood (Weatherboard, etc.) ..	8,984	7,748	6,360	60	13	1,562	2	35	24,764
Fibro Cement ..	13,712	1,689	1,685	919	1,462	80	281	2	19,830
Other ..	39	199	111	9	23	..	14	..	395
Total ..	29,778	22,094	9,391	9,376	5,973	2,487	403	1,273	80,775

(a) Includes flats.

(c) *Material of Outer Walls, 1956-57 to 1960-61.* The following table shows the number of new houses completed in Australia, classified according to the material of their outer walls.

## NEW HOUSES(a) COMPLETED: NUMBER, AUSTRALIA.

(INCLUDING OWNER-BUILT HOUSES.)

Material of Outer Walls.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Brick, Brick Veneer, Concrete and Stone ..	21,956	25,876	29,443	33,003	35,786
Wood (Weatherboard, etc.) ..	25,670	26,854	28,690	26,857	24,764
Fibro Cement ..	17,408	17,864	20,009	21,314	19,830
Other ..	506	385	655	456	395
Total ..	65,540	71,179	78,797	81,630	80,775

(a) Includes Northern Territory flats.

(v) *Under Construction, 1956-57 to 1960-61.* The number of new houses under construction at the end of each year 1956-57 to 1960-61 in each State and Territory is shown in the following table.

**NEW HOUSES UNDER CONSTRUCTION: NUMBER.**  
(INCLUDING OWNER-BUILT HOUSES.)

At end of Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T. (a)	A.C.T.	Aust.
1956-57 ..	18,483	17,863	3,461	5,854	4,819	2,137	163	533	53,313
1957-58 ..	17,546	18,429	3,154	5,199	3,951	1,949	199	974	51,401
1958-59 ..	16,082	16,543	2,948	5,181	3,347	1,935	177	894	47,107
1959-60 ..	14,611	15,587	2,906	5,114	3,296	1,817	262	1,174	44,767
1960-61 ..	12,487	12,010	2,713	5,006	3,016	1,578	274	1,078	38,162

(a) Includes flats.

3. *New Flats.*—The figures in the foregoing tables, except those for the Northern Territory, do not include particulars of new flats. The summary below shows the number of new flats approved, commenced, completed and under construction for the years 1956-57 to 1960-61. It should be noted: (a) that the figures are additional to the numbers of houses shown in other tables, (b) that each flat is counted as a separate unit, and the numbers shown therefore relate to individual flats, (c) that new flats only are included, i.e., the conversions of old buildings into flats are omitted, and (d) "home units" are included as flats.

A graph showing the number of new flats commenced, completed and under construction for the period 1949-50 to 1960-61 will be found on page 380.

**NEW FLATS: NUMBER.**  
(INDIVIDUAL FLATS.)

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
APPROVED—GOVERNMENT.									
1956-57 ..	281	575	..	104	44	8	(a)	249	1,261
1957-58 ..	182	341	..	96	140	18	(a)	84	861
1958-59 ..	953	728	..	187	23	65	(a)	502	2,458
1959-60 ..	600	452	111	252	..	40	(a)	107	1,562
1960-61 ..	674	456	100	230	63	24	(a)	262	1,809

APPROVED—PRIVATE.

1956-57 ..	1,258	684	613	210	152	12	(a)	..	2,929
1957-58 ..	1,942	1,039	1,033	470	155	56	(a)	2	4,697
1958-59 ..	3,274	1,237	1,658	476	176	154	(a)	..	6,975
1959-60 ..	8,973	4,028	1,733	739	365	146	(a)	47	16,031
1960-61 ..	7,773	4,700	1,454	526	370	128	(a)	..	14,951

APPROVED—TOTAL.

1956-57 ..	1,539	1,259	613	314	196	20	(a)	249	4,190
1957-58 ..	2,124	1,380	1,033	566	295	74	(a)	86	5,558
1958-59 ..	4,227	1,965	1,658	663	199	219	(a)	502	9,433
1959-60 ..	9,573	4,480	1,844	991	365	186	(a)	154	17,593
1960-61 ..	8,447	5,156	1,554	756	433	152	(a)	262	16,760

COMMENCED—TOTAL.

1956-57 ..	844	1,110	280	295	153	69	(a)	260	3,011
1957-58 ..	1,668	1,283	295	499	234	85	(a)	16	4,080
1958-59 ..	2,855	1,826	887	751	229	206	(a)	430	7,184
1959-60 ..	5,744	3,521	1,319	816	316	184	(a)	154	12,054
1960-61 ..	7,578	4,672	1,153	571	358	129	(a)	258	14,719

(a) Not available for publication. Included with houses.

NEW FLATS: NUMBER.—*continued.*

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
COMPLETED—TOTAL.									
1956-57 ..	861	897	174	230	365	105	(a)	264	2,896
1957-58 ..	1,331	1,104	331	372	171	41	(a)	56	3,406
1958-59 ..	1,935	1,434	651	640	212	131	(a)	358	5,361
1959-60 ..	3,870	2,062	922	603	263	197	(a)	474	8,391
1960-61 ..	6,619	4,183	1,212	887	440	175	(a)	174	13,690
UNDER CONSTRUCTION AT END OF YEAR—TOTAL.									
1956-57 ..	765	792	213	184	100	34	(a)	468	2,556
1957-58 ..	1,094	971	177	311	163	78	(a)	428	3,222
1958-59 ..	2,021	1,363	413	422	180	153	(a)	500	5,052
1959-60 ..	3,890	2,822	810	635	233	140	(a)	180	8,710
1960-61 ..	4,849	3,311	751	319	151	94	(a)	264	9,739

(a) Not available for publication. Included with houses.

4. Value of New Buildings.—(i) *Approved, Commenced, Completed and Under Construction, 1956-57 to 1960-61.* The following table summarizes the values of all new buildings, approved, commenced, completed and under construction in each State and Territory.

**NEW BUILDINGS: VALUE.**  
(INCLUDING ESTIMATED VALUE OF OWNER-BUILT HOUSES.)  
(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
APPROVED.									
1956-57 ..	114,019	103,633	41,027	30,741	25,528	14,264	1,255	5,767	336,234
1957-58 ..	129,261	121,250	47,289	37,624	24,906	12,668	2,265	8,485	383,748
1958-59 ..	147,871	135,143	47,216	41,068	25,760	12,984	2,565	12,643	425,250
1959-60 ..	192,802	160,644	55,112	46,734	31,766	18,700	3,641	13,031	522,430
1960-61 ..	185,016	147,692	64,294	60,709	32,957	14,284	2,878	15,912	523,742
COMMENCED.									
1956-57 ..	135,798	109,334	37,841	31,888	22,901	14,138	1,765	5,959	359,624
1957-58 ..	137,189	122,133	37,128	35,659	24,790	12,733	2,259	8,588	380,479
1958-59 ..	161,731	131,607	42,829	42,738	26,717	14,409	2,237	10,104	432,372
1959-60 ..	202,250	153,604	50,560	49,468	31,716	18,243	2,778	15,292	523,911
1960-61 ..	213,737	155,376	57,820	57,923	33,282	14,140	4,434	15,307	552,019
COMPLETED.									
1956-57 ..	133,094	114,830	35,383	33,997	23,424	12,609	2,285	5,940	361,562
1957-58 ..	169,240	131,756	38,043	38,047	27,262	12,840	2,110	5,841	425,139
1958-59 ..	159,841	137,437	45,000	44,394	30,262	13,450	2,588	10,999	443,971
1959-60 ..	177,745	148,162	50,205	47,640	30,120	15,803	2,561	14,909	487,145
1960-61 ..	209,186	163,152	59,304	53,866	36,025	17,014	3,118	13,155	554,820
UNDER CONSTRUCTION AT END OF YEAR.									
1956-57 ..	138,792	127,943	31,332	36,792	26,217	12,085	1,555	11,520	386,236
1957-58 ..	113,548	122,750	30,968	35,337	24,312	11,946	1,745	14,589	355,195
1958-59 ..	119,473	120,179	29,709	34,104	21,285	13,053	1,721	13,929	353,453
1959-60 ..	146,819	127,773	30,620	36,822	23,331	15,591	1,998	15,502	398,456
1960-61 ..	157,932	122,187	29,961	41,727	20,922	12,964	3,410	18,080	407,183

(ii) *Completed, 1960-61.* The following table shows the value of all new buildings completed in each State and Territory during 1960-61, according to the kind of building. It should be remembered that all values shown exclude the value of land and represent the estimated value of buildings on completion.

**NEW BUILDINGS COMPLETED: VALUE, 1960-61.**  
(INCLUDING ESTIMATED VALUE OF OWNER-BUILT HOUSES.)  
(£'000.)

Type of Building.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
<b>Houses—</b>										
Brick, Brick Veneer, Concrete and Stone	33,891	50,256	5,027	29,245	15,176	3,386	442	6,333	143,756	
Wood (Weatherboard, etc.)	28,989	23,557	20,200	223	30	4,616	} 1,012	158 {	77,771	
Fibro Cement	34,842	4,307	3,923	2,497	3,826	125			55	50,624
Other	124	678	344	23	19	..				..
<i>Total, Houses</i>	<i>97,846</i>	<i>78,798</i>	<i>29,494</i>	<i>31,988</i>	<i>19,051</i>	<i>8,127</i>	<i>(a)1,599</i>	<i>6,491</i>	<i>273,394</i>	
<b>Flats ..</b>	19,064	13,536	3,094	2,462	790	476	(b)	900	40,322	
<b>Hotels, Guest Houses, etc. ..</b>	5,517	2,492	3,700	(c)	552	484	(c)	759	14,580	
<b>Shops ..</b>	10,777	6,901	1,953	1,746	678	823	145	122	23,145	
<b>Factories ..</b>	26,940	26,581	3,434	3,487	2,368	1,441	223	314	64,788	
<b>Business Premises—</b>										
Office ..	12,241	11,123	1,988	2,161	2,059	1,069	284	1,419	32,344	
Other ..	8,011	6,070	3,372	2,600	1,955	1,041	88	316	23,453	
Educational ..	10,694	7,700	4,460	3,830	3,978	2,503	311	1,842	35,318	
Religious ..	3,181	1,625	1,105	(c)	475	183	(c)	114	7,159	
Health ..	4,438	2,724	2,954	1,948	1,471	447	90	..	14,072	
Entertainment and Recreation	6,004	1,240	744	488	877	180	117	99	9,749	
Miscellaneous ..	4,473	4,362	3,006	1,650	1,771	240	215	779	16,496	
<i>Total, Other Buildings</i>	<i>111,340</i>	<i>84,354</i>	<i>29,810</i>	<i>21,878</i>	<i>16,974</i>	<i>8,887</i>	<i>1,519</i>	<i>6,664</i>	<i>281,426</i>	
<b>Total, New Buildings</b>	<b>209,186</b>	<b>163,152</b>	<b>59,304</b>	<b>53,866</b>	<b>36,025</b>	<b>17,014</b>	<b>3,118</b>	<b>13,155</b>	<b>554,820</b>	

(a) Includes flats. (b) Included with houses. (c) Not available for publication.

(iii) *Completed, 1956-57 to 1960-61.* The following table shows the value of all new buildings completed in Australia.

**NEW BUILDINGS COMPLETED: VALUE.**  
(INCLUDING ESTIMATED VALUE OF OWNER-BUILT HOUSES.)  
(£'000.)

Type of Building.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Houses—</b>					
Brick, Brick Veneer, Concrete and Stone ..	84,505	98,131	113,187	127,580	143,756
Wood (Weatherboard, etc.) ..	74,361	79,631	85,306	80,851	77,771
Fibro Cement ..	42,286	43,836	49,088	52,694	50,624
Other ..	1,339	1,662	1,947	1,430	1,243
<i>Total, Houses</i> ..	<i>202,491</i>	<i>223,260</i>	<i>249,528</i>	<i>262,555</i>	<i>273,394</i>
<b>Flats ..</b>	7,245	8,238	14,146	22,930	40,322
<b>Hotels, Guest Houses, etc. ..</b>	8,239	6,768	7,204	8,525	14,580
<b>Shops ..</b>	12,527	13,588	15,825	16,326	23,145
<b>Factories ..</b>	43,253	59,883	40,637	49,476	64,788
<b>Business Premises—</b>					
Office ..	16,827	33,678	25,450	24,767	32,344
Other ..	18,863	17,302	20,458	28,126	23,453
Educational ..	14,840	19,630	25,569	32,227	35,318
Religious ..	3,507	4,825	5,994	6,458	7,159
Health ..	13,113	19,889	18,841	11,216	14,072
Entertainment and Recreation	9,481	8,815	8,975	8,622	9,749
Miscellaneous ..	11,176	9,263	11,344	15,917	16,496
<i>Total, Other Buildings</i> ..	<i>159,071</i>	<i>201,879</i>	<i>194,443</i>	<i>224,590</i>	<i>281,426</i>
<b>Total, New Buildings</b> ..	<b>361,562</b>	<b>425,139</b>	<b>443,971</b>	<b>487,145</b>	<b>554,820</b>

5. Value of Building Approved.—The following table shows the values of approvals for houses and flats, other new buildings, and alterations and additions in Australia for the years 1956–57 to 1960–61.

**BUILDING APPROVED: VALUE, AUSTRALIA.**  
(£'000.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Houses and Flats .. .. .	218,451	249,347	267,548	319,341	300,393
Other New Buildings .. .. .	117,783	134,401	157,702	203,089	223,349
<i>Total, New Buildings</i> .. .. .	<i>336,234</i>	<i>383,748</i>	<i>425,250</i>	<i>522,430</i>	<i>523,742</i>
Alterations and Additions .. .. .	57,861	61,961	70,516	81,284	78,400
<i>Total, Building</i> .. .. .	<i>394,095</i>	<i>445,709</i>	<i>495,766</i>	<i>603,714</i>	<i>602,142</i>
Government .. .. .	83,330	95,632	103,929	115,800	133,863
Private .. .. .	310,765	350,077	391,837	487,914	468,279

6. Persons engaged in New Building.—(i) At 30th June, 1961. The following table shows the number of contractors, sub-contractors and wage earners engaged on jobs carried out by builders of new buildings at 30th June, 1961. It also shows the numbers of these persons classified according to their main building occupations and the type of building in which they were engaged.

**PERSONS ENGAGED ON JOBS CARRIED OUT BY BUILDERS OF NEW BUILDINGS, 30th JUNE, 1961.**

(EXCLUDING PERSONS WORKING ON OWNER-BUILT HOUSES.)

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Contractors(a) .. .. .	2,712	2,390	2,208	644	502	385	63	142	9,046
Sub-contractors(a) .. .. .	6,167	4,949	1,916	2,257	1,311	614	114	391	17,719
Wage earners .. .. .	31,102	24,856	14,068	9,515	6,643	3,794	431	2,440	92,849
<i>Total</i> .. .. .	<i>39,981</i>	<i>32,195</i>	<i>18,192</i>	<i>12,416</i>	<i>8,456</i>	<i>4,793</i>	<i>608</i>	<i>2,973</i>	<i>119,614</i>
Carpenters .. .. .	14,351	12,049	8,561	3,332	2,737	2,156	212	922	44,320
Bricklayers .. .. .	3,556	3,081	1,093	1,905	971	333	46	216	11,201
Painters .. .. .	3,202	2,872	1,489	1,093	800	384	49	339	10,228
Electricians .. .. .	2,178	1,466	815	646	483	220	56	180	6,044
Plumbers .. .. .	3,350	2,702	1,356	1,110	742	273	52	236	9,821
Builders' Labourers .. .. .	7,101	4,794	2,791	2,018	1,470	888	98	563	19,723
Other .. .. .	6,243	5,231	2,087	2,312	1,253	539	95	517	18,277
<i>Total</i> .. .. .	<i>39,981</i>	<i>32,195</i>	<i>18,192</i>	<i>12,416</i>	<i>8,456</i>	<i>4,793</i>	<i>608</i>	<i>2,973</i>	<i>119,614</i>
New Houses and Flats .. .. .	15,495	14,162	7,151	6,687	3,696	1,941	277	1,514	50,923
Other New Buildings .. .. .	<i>b</i> 22,184	14,213	7,171	4,338	2,532	2,395	284	1,025	54,142
Alterations and Additions .. .. .	(c) 2,527	2,751	1,141	1,390	177	43	156	8,185	
Repairs and Maintenance .. .. .	2,302	1,293	1,119	250	838	280	4	278	6,364
<i>Total</i> .. .. .	<i>39,981</i>	<i>32,195</i>	<i>18,192</i>	<i>12,416</i>	<i>8,456</i>	<i>4,793</i>	<i>608</i>	<i>2,973</i>	<i>119,614</i>

(a) Actually working on jobs.

(b) Includes persons engaged in alterations and additions.

(c) Included with other new buildings.

(ii) *Summary, 1957 to 1961.* The number of persons (including contractors and sub-contractors actually working on jobs) engaged in each State and Territory on jobs *carried out by builders of new buildings* is shown in the following table.

**PERSONS ENGAGED ON JOBS CARRIED OUT BY BUILDERS OF NEW BUILDINGS.**

(EXCLUDING PERSONS WORKING ON OWNER-BUILT HOUSES.)

At 30th June—	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1957(a) ..	37,337	30,543	18,425	11,036	9,439	4,684	384	2,004	113,852
1958 .. ..	32,673	31,634	17,886	10,687	8,924	4,460	370	2,982	109,616
1959 .. ..	36,281	32,626	20,691	12,636	9,092	5,310	401	2,900	119,937
1960 .. ..	41,102	37,533	22,199	13,306	9,195	5,432	405	3,456	132,628
1961 .. ..	39,981	32,195	18,192	12,416	8,456	4,793	608	2,973	119,614

(a) At 28th June.



## CHAPTER XII.

### LABOUR, WAGES AND PRICES.

**NOTE.**—Reference is made in this chapter to retail and wholesale price indexes. For particulars of the Export Price Index, see Chapter XIII., Trade, and of the Farm Production Price Index, see Chapter XXX., Miscellaneous.

For further information on the subjects dealt with in this Chapter, see the *Labour Report*, issued by this Bureau. For current information, see the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, and the *Quarterly Summary of Australian Statistics*, also the mimeograph statements *Monthly Bulletin of Employment Statistics*, *Consumer Price Index* and *Wholesale Price (Basic Materials and Foodstuffs) Index*.

In addition, the following relevant special publications have been issued in mimeograph form:—*New Indexes of Minimum Weekly Wage Rates—Adult Males and Adult Females* (S.B. 786); *Minimum Weekly Wage Rate Index—Adult Males: Components of Total Wage Rate* (S.B. 902); *Minimum Weekly Wage Rates, January, 1957 to June, 1961*; *Survey of Wage Rates and Earnings, September, 1960* (S.B. 904); *Survey of Weekly Earnings—Australia, October, 1961* (S.B. 22); *Wage and Salary Earners in Employment, June, 1947 to June, 1960*.

#### A. RETAIL PRICES AND PRICE INDEXES.

##### § 1. General.

Retail prices of food and groceries and average rentals of houses for years extending back to 1901 were collected by the Commonwealth Statistician, and in some cases have been recorded by the Statisticians of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been ascertained at frequent and regular intervals since 1923 for each of the six State capital cities and for 27 of the more important towns of Australia. Comparable information is available for the month of November in each year from 1914 to 1922 for each of the six State capital cities. The list of items currently priced for index purposes is published in *Labour Report* No. 48, 1960.

Average retail prices of certain food and grocery items in current periods are published in the annual *Labour Report* and in the *Quarterly Summary of Australian Statistics*.

An explanation of the nature and purposes of retail price indexes is given in the various editions of the annual *Labour Report*, together with further particulars of indexes then current. In § 2 below, previous retail price indexes for Australia are briefly outlined. The current retail price index, entitled the Consumer Price Index, was published for the first time in August, 1960. It was compiled retrospectively to 1948–49. An account of the Consumer Price Index is given in § 3 on page 388.

##### § 2. Previous Retail Price Indexes.

1. **General.**—Five series of retail price indexes had been compiled at various times for Australia by the Commonwealth Statistician prior to 1960. Each of these was continued until changed conditions required the compilation of indexes more directly relevant to current conditions. The respective indexes were as follows.

- (i) The "A" Series Index (covering food, groceries and house rents) was first compiled in 1912 with the year 1911 as base = 1,000. It was discontinued in June, 1938.
- (ii) The "B" Series Index (covering food, groceries and rent of 4 and 5 roomed houses) was first compiled in 1925 and continued until December Quarter, 1953. It was the food and rent constituent of the "C" Series Index and was designed to replace the "A" Series Index for general statistical purposes.

- (iii) *The "C" Series Index* (covering food and groceries, rent of 4 and 5 roomed houses, clothing, household drapery, household utensils, fuel, lighting, fares, smoking and some other miscellaneous items) was first compiled in 1921. It was last issued on its original basis for December quarter, 1960. For certain transitional purposes the "C" Series Index was issued for some quarters after that. This was calculated by varying the index numbers of December quarter, 1960, in ratio to movements shown by the Consumer Price Index.
- (iv) *The "D" Series Index*, derived by combining the "A" and "C" Series Indexes, was used by the Commonwealth Court of Conciliation and Arbitration from May, 1933, to May, 1934, and then discontinued.
- (v) *The Interim Index* (covering food and groceries, rent of 4 and 5 roomed houses, clothing, household drapery, household utensils, fuel, lighting, fares, smoking, certain services and some miscellaneous items) was first compiled in 1954 with the year 1952-53 as base year = 100. As its title indicated, it was constructed as a transitional index. Its compilation was discontinued following its replacement by the Consumer Price Index in June quarter, 1960.

2. **The "Court" Index.**—In 1937, the Commonwealth Court of Conciliation and Arbitration introduced a "Court" Index for the purpose of its system of making automatic quarterly adjustments to the basic wage within its jurisdiction. By decision of the Court, the "Court" Index ceased to be issued by the Industrial Registrar as at December Quarter, 1953. "Court" index numbers were an arithmetical conversion of the "C" Series Index.

### § 3. The Consumer Price Index.

1. **General.**—This retail price index was first compiled in 1960, retrospectively to September quarter, 1948. A comprehensive account of the index is given in Labour Report No. 48, 1960.

2. **Origin.**—The list of component items and the weighting pattern of the "C" Series Retail Price Index, first adopted in 1921, were slightly revised by Conference of Statisticians in 1936 but otherwise continued almost unchanged until the index was discontinued in 1960. The reasons for this, and the circumstances which led to the present Consumer Price Index, appear from ensuing paragraphs.

From the outbreak of war in 1939 to late in 1948, periodic policy changes in regard to various war-time controls (including rationing) caused recurrent changes in consumption and in the pattern of expenditure. This rendered changes desirable but made it impracticable either to produce a new index, or to revise the old one, on any basis that would render the index more representative than it already was of the changing pattern of household expenditure in those years.

When commodity rationing had virtually ceased in the latter part of 1948, action was taken by the Statistician to collect price data of about 100 additional items and to gather information as to current consumption and expenditure patterns. This was done to facilitate review of the component items and weighting system of the "C" Series Retail Price Index, in the light of the new pattern of wage earner expenditure and consumption that appeared to be then emerging. But there supervened, in the next few years, conditions which caused wide price dispersion coupled with a very rapid rise in prices and a new sequence of changes in consumption and the pattern of wage earner expenditure. Under these conditions, it was not possible to devise any new weighting pattern likely to be more continuously representative of conditions then current than was the existing "C" Series Index on the 1936 revision.

A Conference of Statisticians considered the matter in June, 1953, and resolved (in part) as follows:—

- "(a) That, in view of the persistence of recurrent changes in the pattern of consumer expenditure in the post-war period, it is undesirable to make a general revision of the list of items and weighting system of the "C" Series Retail Price Index at present, unless industrial tribunals expressly desire some revision for special purposes.

- (b) That an Interim Retail Price Index be compiled with putative weights and components representative, as nearly as may be, of the post-war pattern of consumer usage and expenditure."

The "C" Series Index continued to be compiled on its pre-war basis without significant change in procedures. The Interim Retail Price Index (1952-53 base year) was introduced in 1954 and continued until March quarter, 1960.

This Interim Index was a transitional index designed to measure retail price variations on the "C" Series model in terms of post-war consumption weights, as emerging in the early 1950's. It embraced a wider range of commodities and services than did the "C" Series Index, but it did not take into account successive major changes in the pattern of expenditure and modes of living that began to occur early in 1950 and through to 1960. These changes could not, in fact, be detected and measured promptly, and incorporated into an index, concurrently with their happening in those years. Nor was it envisaged as desirable to adopt fundamentally new procedures in price index construction until it was fully evident that far-reaching procedural changes were necessary to meet the situation that had developed between about 1950 and 1960.

In this period home owning largely replaced house renting, the use of the motor car greatly increased and partly replaced use of public transport, and various items of electrical household equipment and television came into widespread use. The impact of these and other changes in usage upon the pattern of household expenditure was heightened by disparate movements in prices. Together they rendered nugatory the attempt to meet the situation by devising a single Interim Retail Price Index. As studies progressed and new data became available, it was clear that no single list of items and no single set of fixed weights would be adequately representative as a basis for measuring retail price changes at all times throughout the post-war period. In consequence, the situation was met by compiling the Consumer Price Index constructed as a chain of linked indexes with significant changes in composition and weighting effected at short intervals during the period 1950-1960.

3. Purpose, Scope and Composition.—(i) *General.* The Consumer Price Index is a quarterly measure of variations in retail prices for goods and services representing a high proportion of the expenditures of wage earner households. The weighting pattern relates to estimated aggregates of wage earner household expenditures and not to estimated expenditures of an "average" or individual household of specified size, type, or mode of living. In this way it is possible to give appropriate representation to owner-occupied houses as well as rented houses and to include motor cars, television sets, and other major expenditures which relate to some households and not to others.

Consumer (retail) price indexes are sometimes loosely called "cost of living indexes" and are thought to measure changes in the "cost of living". Neither the Consumer Price Index, nor any other retail price index, measures those changes in the cost of living that result directly from changes in the mode or level of living. Changes of that kind are matters for consideration apart from price indexes. But the change in prices of goods and services is a very important part of the change in the cost of living and this part is measured by consumer (retail) price indexes.

The Consumer Price Index covers a wide range of commodities and services arranged in the following five major groups:—

- Food;
- Clothing and Drapery;
- Housing;
- Household Supplies and Equipment;
- Miscellaneous.

These groups do not include every item of household spending. It is both impracticable and unnecessary for them to do so. Prices are collected regularly for specified quantities and qualities of a large and representative selection of commodities and services. Movements in the prices of these items, when combined in suitable proportions, provide a representative measure of price change as affecting a high proportion of the expenditure of wage earner households.

(ii) *Composition and Weighting.* A comprehensive view of the present composition and weighting of the Consumer Price Index is given in the table below. The weights shown are those comprised in the index for the six State capital cities combined. Broadly, they are in proportion to estimated consumption in 1956-57 (see (iii) "*Basis of Weighting*" on p. 391), valued at the relevant prices of March quarter, 1960.

## THE CONSUMER PRICE INDEX.

COMPOSITION AND WEIGHTING PATTERN AS AT MARCH QUARTER, 1960 FOR THE SIX STATE CAPITAL CITIES COMBINED.

Group, Section, etc.	Percentage Weight.	
	Section, etc.	Group.
<i>Food</i> — .. .. .	..	32.1
Cereal Products—Bread, flour, biscuits, rice, and breakfast foods .. .. .	4.1	..
Dairy Produce—Milk, cheese, butter, and eggs .. .. .	7.5	..
Potatoes, Onions, Preserved Fruit and Vegetables—Potatoes and onions, canned and dried fruits, and canned vegetables .. .. .	1.9	..
Soft Drink, Ice Cream and Confectionery .. .. .	4.0	..
Other (except Meat)—Sugar, jam, margarine, tea, coffee, baby foods, and sundry canned and other foods .. .. .	4.2	..
Meat—Butcher's (Beef, mutton, lamb and pork) .. .. .	8.8	..
Processed (Bacon, smallgoods and canned meat) .. .. .	1.6	..
<i>Clothing and Drapery</i> — .. .. .	..	19.0
Men's Clothing .. .. .	4.5	..
Women's Clothing .. .. .	7.4	..
Boys' Clothing .. .. .	0.6	..
Girls' Clothing .. .. .	0.9	..
Piecegoods, etc.—Wool, cotton and rayon cloth, nursery squares and knitting wool .. .. .	1.1	..
Footwear—Men's, women's and children's .. .. .	3.4	..
Household Drapery—Bedclothes, towels, tablecloth, etc. .. .. .	1.1	..
<i>Housing</i> — .. .. .	..	10.7
Rent—Privately owned houses .. .. .	2.0	..
Government owned houses .. .. .	0.9	..
Home Ownership—House price .. .. .	4.7	..
Rates .. .. .	2.1	..
Repairs and Maintenance .. .. .	1.0	..
<i>Household Supplies and Equipment</i> — .. .. .	..	13.2
Fuel and Light—Electricity .. .. .	1.9	..
Gas .. .. .	1.5	..
Other (Firewood and kerosene) .. .. .	0.8	..
Household Appliances—Refrigerator, washing machine, stoves, radio set, television set, vacuum cleaner, electric iron, etc. .. .. .	4.5	..
Other Household Articles— .. .. .	..	..
Floor Coverings .. .. .	0.5	..
Kitchen and Other Utensils, Gardening and Small Tools .. .. .	1.0	..
Household Sundries (Household soaps, etc.) .. .. .	1.1	..
Personal Requisites (Toilet soap, cosmetics, etc.) .. .. .	1.0	..
Proprietary Medicines .. .. .	0.8	..
School Requisites .. .. .	0.1	..
<i>Miscellaneous</i> — .. .. .	..	25.0
Transport—Fares—Train .. .. .	1.6	..
Tram and bus .. .. .	2.8	..
Private Motoring—Car purchase .. .. .	3.0	..
Car operation .. .. .	3.9	..
Tobacco and Cigarettes .. .. .	3.9	..
Beer .. .. .	4.1	..
Services—Hairdressing (Haircuts, wave, etc.) .. .. .	0.9	..
Drycleaning .. .. .	0.5	..
Shoe Repairs .. .. .	0.3	..
Postal and Telephone Services .. .. .	0.8	..
Other—Radio and Television operation .. .. .	1.6	..
Cinema Admission .. .. .	0.6	..
Newspapers .. .. .	1.0	..
Total .. .. .	100.0	100.0

4. *Structure.*—(i) *A Chain of Linked Indexes.*—Substantial changes occurred in consumer usage and patterns of expenditure following the 1939–45 War. In order to keep the weighting pattern representative of current expenditures it became necessary to construct indexes with additional items and changes in the weighting pattern at intervals, rather than on the basis of a list of items and set of weights that remained unchanged throughout the whole period covered. Four new series for short periods (namely, from the September quarter of 1948 to the June quarter of 1952, from the June quarter of 1952 to the June quarter of 1956, from the June quarter of 1956 to the March quarter of 1960, and from the March quarter of 1960 onwards) were therefore constructed and linked to form a continuous retail price index series to be known as the Consumer Price Index. During each period between links the items and weighting remained unchanged. At times of linking the weighting pattern was altered and new items that had become significant in household expenditure were introduced.

Under this method, in effect, average percentage price movements are assessed on one pattern up to the time of the link and on another pattern thereafter. The process of linking ensures that the series reflects price variations only and not differences in cost of the old and new lists of items. The introduction of new items and weights by linking does not, of itself, raise or lower the level of the index.

(ii) *Comparison of the Four Linked Series.* The Consumer Price Index is a chain of “fixed weight aggregative” indexes, with significant changes in composition and weighting effected at June quarter, 1952, June quarter, 1956, and March quarter, 1960. The principal changes are:—

- (a) the introduction of private motoring (June quarter, 1952) and of television (March quarter, 1960);
- (b) altered proportions of houses under the various modes of occupancy (June quarters, 1952 and 1956); and
- (c) changes in weights of fuel and fares (June quarters of 1952 and 1956) and of private motoring (June quarter, 1956).

It is envisaged that future links will be made in the index when significant changes in the pattern of household expenditure render it necessary to do so.

(iii) *Basis of Weighting.* For most of the items included in the index, the weights used are based on the pattern of consumption of the years 1952–53 to 1956–57, which for these items is broadly representative of the whole period for which the index has been compiled. In some important fields, no single set of items and weights was adequately representative throughout the whole period. Weights relevant to short-term conditions in these fields were therefore used in each of the four linked series which constitute the Consumer Price Index. The principal fields affected are Fuel and Light, Transport, Household Appliances, and Housing.

The resultant sets of index weights are broadly typical of the patterns of consumption of:—

- 1948–49: for periods up to June quarter, 1952;
- 1952–53: for periods from June quarter, 1952 to June quarter, 1956;
- 1956–57: for periods from June quarter, 1956.

The weighting of the index from the beginning of the current linked series (i.e. March quarter, 1960) is representative of a 1956–57 pattern of consumption as adjusted to incorporate television in the index from March quarter, 1960.

The sets of weights used for the successive periods covered by the index have been derived from analyses of statistics of production and consumption, the general Censuses of 1947 and 1954, the Censuses of Retail Establishments of 1948–49, 1952–53 and 1956–57 and the continuing Survey of Retail Establishments; from information supplied by manufacturing, commercial, and other relevant sources; and from special surveys.

In the main, the weights for items are derived from estimates of average household consumption or expenditure for the community as a whole. The following are the principal exceptions:—

- (a) The proportionate weighting of the various modes of occupancy of houses, and the weighting generally in the Housing Group, are as estimated for wage and salary earner households (in the individual cities).
- (b) The weights for private motoring, tobacco and cigarettes, beer and some services have been adapted to accord with notional estimates of expenditure by wage earner households.
- (c) Local weights for the individual cities are used for some items (e.g. housing, fuel, and fares).

Basic data for many of the item weights were obtained initially from particulars of quantities consumed. Refinements were made where necessary so that item weights would reflect the approximate relative importance of the items (sometimes including similar items not directly priced) in terms of expenditure. Group and section weights were checked

as far as possible against independent estimates of expenditure. Nevertheless, the index is essentially a combination of selected items under various headings and not a dissection of total household expenditure into its component parts. Tables showing the index weighting are provided to assist prospective users in an understanding of the index. The weights are designed as suitable for measuring changes in retail prices within the definition of the index and do not purport to be valid estimates for any other purpose.

#### § 4. Tabular Statements of Retail Price Index Numbers.

1. The Consumer Price Index.—(i) *General.* The index has been compiled for each quarter from September quarter, 1948, and for each financial year from 1948–49. "All Groups" index numbers and "Group" index numbers for each of the five major groups are compiled and published regularly for the six State capital cities separately and combined. The reference base for each of these indexes is: year 1952–53 = 100 0. Figures appearing after the decimal point possess little significance for general statistical purposes. They are inserted merely to avoid the minor distortions that would occur in rounding off the figures to the nearest whole number.

Index numbers for each quarter are first issued in mimeograph statistical bulletins available from the Commonwealth Statistician about three weeks after the end of the quarter. These bulletins contain comment on the index and on price movements in that quarter. Tables showing index numbers for preceding quarters and years are presented.

Tables of Consumer Price Index Numbers up to the latest available date appear regularly in the following publications: *Digest of Current Economic Statistics* (monthly), *Monthly Review of Business Statistics*, *Quarterly Summary of Australian Statistics*, *Labour Report* (annual).

(ii) *Consumer Price Index Numbers.* The following table shows Consumer Price Index Numbers (Total All Groups), for the six State capital cities separately and combined, for periods from the year 1948–49.

#### CONSUMER PRICE INDEX: ALL GROUPS INDEX NUMBERS. SIX CAPITAL CITIES, SEPARATELY AND COMBINED.

(Base of each Index: Year 1952–53 = 100 0.)

NOTE.—The separate city indexes measure price movements within each city individually. They do not compare price levels as between cities.

Period.	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Six Capital Cities. (Weighted Average.)
<b>Year ended June—</b>							
1949 .. ..	60.5	61.0	62.1	61.6	60.6	60.7	60.9
1950 .. ..	65.6	66.2	67.1	66.2	66.2	64.7	66.0
1951 .. ..	74.5	74.6	75.1	74.7	74.4	73.3	74.6
1952 .. ..	91.9	91.0	91.8	91.4	90.4	90.4	91.4
1953 .. ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1954 .. ..	101.6	102.0	102.0	102.3	103.0	105.0	102.0
1955 .. ..	102.3	102.0	102.9	103.5	105.2	104.9	102.6
1956 .. ..	105.7	108.1	106.3	106.9	107.9	110.2	106.9
1957 .. ..	112.9	114.0	112.0	111.1	112.9	116.9	113.1
1958 .. ..	114.5	114.4	114.4	111.9	113.6	117.0	114.2
1959 .. ..	115.3	116.6	118.2	114.5	114.7	118.7	116.0
1960 .. ..	117.8	120.0	121.2	118.0	116.9	120.8	118.9
1961 .. ..	122.1	125.9	125.4	122.9	121.2	127.5	123.8
<b>Quarter—</b>							
1958—March ..	115.0	114.2	115.0	111.5	113.2	117.1	114.3
June .. ..	115.1	114.6	115.9	112.7	114.1	117.3	114.8
September ..	114.8	114.9	116.7	113.5	114.4	117.7	114.9
December ..	115.2	116.4	117.9	114.2	114.3	118.7	115.8
1959—March ..	115.5	117.1	119.0	115.0	114.7	119.1	116.3
June .. ..	115.8	117.9	119.1	115.3	115.5	119.3	116.8
September ..	116.3	118.2	120.2	116.3	115.9	119.7	117.3
December ..	117.2	118.8	120.8	116.9	115.7	120.1	118.0
1960—March ..	118.2	119.8	121.6	118.3	117.1	120.8	119.0
June .. ..	119.6	123.0	122.3	120.6	119.0	122.6	121.1
September ..	120.8	124.9	123.6	121.5	119.8	125.8	122.5
December ..	121.6	125.5	125.1	122.4	120.8	127.1	123.3
1961—March ..	122.5	126.1	126.7	123.4	121.9	128.3	124.2
June .. ..	123.4	127.1	126.1	124.3	122.4	128.9	125.0
September ..	123.1	126.8	127.0	123.5	121.7	129.1	124.8
December ..	122.5	126.5	127.1	122.5	121.3	128.3	124.3

The following table shows Consumer Price Index Group Index Numbers, for the six State capital cities combined, for periods from the year 1948-49.

**CONSUMER PRICE INDEX: GROUP INDEX NUMBERS.**

**WEIGHTED AVERAGE OF SIX CAPITAL CITIES.**

(Base of each Index: Year 1952-53 = 100.0.)

NOTE.—The group indexes measure price movements of each group individually, and compare the degree of price change in the different groups.

Period.	Food.	Clothing and Drapery.	Housing.	Household Supplies and Equipment.	Miscellaneous.	All Groups.
<b>Year ended June—</b>						
1949 .. ..	54.1	58.4	72.5	67.0	66.6	60.9
1950 .. ..	58.6	67.4	76.1	71.1	69.6	66.0
1951 .. ..	68.6	77.8	81.0	78.1	76.3	74.6
1952 .. ..	89.9	93.5	89.1	92.9	92.3	91.4
1953 .. ..	100.0	100.0	100.0	100.0	100.0	100.0
1954 .. ..	103.5	100.7	104.8	101.6	99.9	102.0
1955 .. ..	104.3	101.0	108.4	101.4	99.9	102.6
1956 .. ..	110.2	102.0	115.1	101.6	105.9	106.9
1957 .. ..	115.3	103.9	122.1	105.8	118.0	113.1
1958 .. ..	113.3	107.0	127.3	107.5	119.7	114.2
1959 .. ..	115.4	108.2	130.6	108.7	121.2	116.0
1960 .. ..	119.8	109.4	135.2	109.8	123.9	118.9
1961 .. ..	127.7	111.6	144.8	111.2	127.3	123.8
<b>Quarter—</b>						
1957—March ..	112.9	104.2	122.3	107.0	118.6	112.6
June ..	113.8	105.6	124.5	107.1	119.3	113.7
September	113.4	106.2	125.6	107.6	119.6	113.9
December	112.1	106.7	127.0	108.0	119.6	113.7
1958—March ..	113.9	106.7	127.6	107.1	119.6	114.3
June ..	113.9	108.2	128.8	107.3	119.8	114.8
September	113.7	108.2	129.2	107.9	120.1	114.9
December	114.6	108.4	130.4	108.7	121.3	115.8
1959—March ..	116.3	108.1	130.9	108.9	121.5	116.3
June ..	117.1	107.9	131.9	109.1	121.9	116.8
September	117.9	108.3	132.5	109.4	122.3	117.3
December	118.4	109.2	133.9	109.6	123.0	118.0
1960—March ..	120.3	109.5	134.8	110.0	123.8	119.0
June ..	122.6	110.5	139.4	110.2	126.4	121.1
September	126.0	110.7	141.4	110.6	126.7	122.5
December	126.7	111.5	144.1	111.0	127.2	123.3
1961—March ..	128.6	111.7	145.7	111.3	127.5	124.2
June ..	129.4	112.4	148.0	111.9	127.7	125.0
September	128.1	112.4	148.5	112.6	127.9	124.8
December	125.3	112.9	150.5	112.7	128.3	124.3

The following table shows Consumer Price Index Group Index Numbers for each State capital city for recent years and quarters.

### CONSUMER PRICE INDEX: GROUP INDEX NUMBERS.

(Base of each Index: Year 1952-53 = 100.0.)

Note.—The index numbers hereunder are designed to measure movements in retail prices of specified groups of items for specified cities individually. They measure variations from time to time and not differences in price level as between cities nor comparative costs of groups of items.

City.	Year ended June—						1961.			
	1949.	1953.	1958.	1959.	1960.	1961.	Mar. Qtr.	June Qtr.	Sept. Qtr.	Dec. Qtr.
<b>FOOD GROUP.</b>										
Sydney ..	52.2	100.0	112.8	113.4	117.5	124.4	125.3	126.1	124.6	121.9
Melbourne ..	54.9	100.0	114.3	116.1	120.8	130.2	130.4	132.0	130.9	128.1
Brisbane ..	56.4	100.0	113.0	119.8	124.2	130.4	134.0	130.5	132.5	129.7
Adelaide ..	56.1	100.0	111.8	117.5	123.1	132.2	132.8	134.8	131.3	127.2
Perth ..	55.0	100.0	114.4	115.2	118.4	124.4	125.3	126.4	123.8	122.5
Hobart ..	56.0	100.0	115.1	116.8	118.5	132.1	133.9	134.4	132.9	129.5
Six Capitals(a) ..	54.1	100.0	113.3	115.4	119.8	127.7	128.6	129.4	128.1	125.3

<b>CLOTHING AND DRAPERY GROUP.</b>										
Sydney ..	58.0	100.0	106.4	107.5	108.5	110.3	110.3	111.0	111.1	111.5
Melbourne ..	58.6	100.0	108.4	109.6	110.7	112.8	112.9	113.6	113.6	114.1
Brisbane ..	59.2	100.0	107.8	109.4	111.9	115.1	115.3	116.1	116.3	116.7
Adelaide ..	58.3	100.0	104.4	105.4	106.8	109.5	109.7	110.6	110.6	111.2
Perth ..	59.6	100.0	105.7	107.2	108.2	110.8	110.9	111.6	111.6	111.9
Hobart ..	58.0	100.0	108.7	109.8	110.7	112.4	112.5	113.3	113.4	114.0
Six Capitals(a) ..	58.4	100.0	107.0	108.2	109.4	111.6	111.7	112.4	112.4	112.9

<b>HOUSING GROUP.</b>										
Sydney ..	74.2	100.0	126.3	130.2	133.8	140.7	140.7	144.4	145.0	147.1
Melbourne ..	76.0	100.0	127.3	129.4	135.8	151.2	152.5	154.9	155.0	157.7
Brisbane ..	67.1	100.0	123.9	128.4	132.6	137.6	138.4	139.0	139.7	140.2
Adelaide ..	68.7	100.0	133.9	137.1	140.0	148.7	151.1	151.3	152.0	153.7
Perth ..	62.7	100.0	126.0	130.3	133.5	141.7	143.5	144.8	145.1	145.5
Hobart ..	70.3	100.0	137.3	141.3	148.5	156.6	158.0	158.9	160.8	163.7
Six Capitals(a) ..	72.5	100.0	127.3	130.6	135.2	144.8	145.7	148.0	148.5	150.5

<b>HOUSEHOLD SUPPLIES AND EQUIPMENT GROUP.</b>										
Sydney ..	67.0	100.0	109.3	109.1	109.6	111.5	111.8	112.4	113.2	113.2
Melbourne ..	66.1	100.0	106.2	109.2	110.9	112.5	112.3	113.1	113.6	114.3
Brisbane ..	68.6	100.0	108.3	109.0	110.6	111.3	111.5	112.3	113.0	112.9
Adelaide ..	69.5	100.0	104.0	105.0	106.0	106.1	105.9	106.7	107.1	106.5
Perth ..	66.5	100.0	105.7	105.9	107.1	107.3	107.4	107.0	107.5	107.4
Hobart ..	68.1	100.0	116.0	116.8	118.5	121.1	120.8	121.9	124.9	124.1
Six Capitals(a) ..	67.0	100.0	107.5	108.7	109.8	111.2	111.3	111.9	112.6	112.7

<b>MISCELLANEOUS GROUP.</b>										
Sydney ..	67.7	100.0	121.8	121.9	124.0	127.1	127.4	127.7	127.8	127.9
Melbourne ..	64.4	100.0	118.8	122.2	125.5	129.2	129.2	129.3	129.3	129.5
Brisbane ..	69.2	100.0	120.5	123.6	125.6	129.5	129.7	130.3	130.7	134.0
Adelaide ..	67.2	100.0	114.2	114.6	118.8	121.4	121.6	121.4	122.3	122.2
Perth ..	67.7	100.0	118.3	118.7	120.9	125.2	125.8	125.6	125.7	125.5
Hobart ..	63.1	100.0	119.5	121.2	123.3	126.2	126.7	126.5	127.1	127.0
Six Capitals(a) ..	66.6	100.0	119.7	121.2	123.9	127.3	127.5	127.7	127.9	128.3

(a) Weighted average.



### § 5. International Comparisons.

The following table shows index numbers of consumer (retail) prices for various countries. Except where otherwise noted, the average prices for the year 1953 are taken as base (= 100). The figures, which have been taken from the *Monthly Bulletin of Statistics* of the Statistical Office of the United Nations, show fluctuations in prices in each country, and do not measure relative price levels as between countries.

#### INDEX NUMBERS OF CONSUMER (RETAIL) PRICES IN VARIOUS COUNTRIES.

(Source: *Monthly Bulletin of Statistics* of the Statistical Office of the United Nations.)

(Base: 1953 = 100.)

Period.	Argentina (Buenos Aires).	Australia. (a)	Belgium. (b)	Brazil (Sao Paulo).	Canada.	France (Paris).	Germany (Wes- tern).	India.	Indo- nesia (Dja- karta). (c)	Ireland.	Italy.
1952 ..	96	96	100	82	101	101	102	97	..	95	98
1953 ..	100	100	-100-	100	100	100	100	100	..	-100-	-100-
1954 ..	104	101	101	118	101	100	100	95	..	100	103
1955 ..	117	103	101	142	101	101	102	90	..	103	105
1956 ..	132	109	104	173	102	103	104	99	..	107	109
1957 ..	165	112	107	206	106	-106-	107	104	..	112	110
1958 ..	217	113	108	237	108	121	109	109	..	116	113
1959 ..	464	116	110	326	110	129	110	114	100	116	113
1960 ..	590	120	110	439	111	134	111	116	135	117	115
1961 ..	670	123	111	607	112	138	114	118	167	120	118
1961—											
March Qtr.	611	123	110	531	112	136	113	116	143	119	117
June ..	656	123	111	578	112	136	114	117	150	120	117
Sept. ..	693	123	111	623	112	137	115	120	158	121	118
Dec. ..	720	123	111	696	112	140	115	120	216	121	119

Period.	Japan.	Nether- lands.	New Zea- land.	Norway.	Pakistan (Kara- chi).	Philip- pines (Manila).	Sweden.	Switzer- land.	Republic of South Africa. (d)	United King- dom.	United States of America.
1952 ..	94	100	96	98	90	104	99	101	97	-97-	99
1953 ..	100	100	100	100	100	100	100	100	100	100	-100-
1954 ..	106	104	105	104	98	99	(e) 101	101	102	102	100
1955 ..	-105-	106	-107-	105	94	98	104	102	105	105	100
1956 ..	106	108	111	109	97	100	109	103	107	(f)-112-	102
1957 ..	109	115	113	112	106	102	113	105	110	110	105
1958 ..	109	117	118	118	110	105	119	107	-114-	119	108
1959 ..	110	119	123	-120-	106	104	120	106	115	120	109
1960 ..	114	121	124	121	113	109	124	108	117	121	111
1961 ..	120	123	126	124	115	110	128	110	119	125	112
1961—											
March Qtr.	117	122	125	121	113	109	126	109	118	123	111
June ..	117	122	125	123	114	108	127	109	119	124	111
Sept. ..	120	123	127	124	117	112	128	110	120	126	112
Dec. ..	124	124	128	126	116	113	128	112	120	128	112

(a) Consumer Price Index as converted to base 1953 = 100 by Commonwealth Statistician. (b) Rent is not included. (c) Beginning 1959. Base: 1959 = 100. (d) Index for Europeans only. (e) July-December. (f) Linked at January, 1956.

NOTE.—Symbol - on each side of an index number (e.g., -95-) indicates that two series have been linked at that period.

## B. WHOLESALE PRICES AND PRICE INDEXES.

### § 1. General.

Two indexes of wholesale prices have been compiled by the Commonwealth Bureau of Census and Statistics. These are:—

- (i) The Melbourne Wholesale Price Index;
- (ii) The Wholesale Price (Basic Materials and Foodstuffs) Index.

Particulars of the Melbourne Wholesale Price Index, which is now obsolete, are given in § 3 commencing on page 397.

After reviewing the list of items and weighting of this index, the 1930 Conference of Statisticians resolved that a new index of wholesale prices of basic materials and foodstuffs should be compiled. This index—the Wholesale Price (Basic Materials and Foodstuffs) Index—which extends back to the year 1928 and is compiled monthly, is a special purpose index and one of a series of wholesale price indexes designed for special purposes.

## § 2. Wholesale Price (Basic Materials and Foodstuffs) Index.

1. **Price Quotations.**—The prices used in the index have in the main been obtained directly from manufacturers and merchants, and, with a few important exceptions, from Melbourne sources. Apart from locally-produced building materials and one or two minor commodities, however, the price movements may be taken as representative of variations in wholesale prices of basic materials in most Australian markets.

Commodities in the index are priced in their primary or basic form wherever possible and, in respect of imported materials, as nearly as may be at the point where they first make effective impact on the local price structure. Thus the prices of imported goods are not taken at the time of import, but rather on an ex-bond (or into factory) basis.

Broadly, where home-consumption prices exist for local products, they have been used in this index. During the year 1950–51, wool for local manufacture was subsidized, and the home-consumption price for wool was used to calculate the index numbers shown in the table on page 397.

2. **Commodities and Grouping.**—For purposes of this index, “basic” materials (as opposed to certain of the foodstuffs) are commodities in the primary or basic forms in which they first enter into productive processes carried out in Australia. The list of items is divided into seven main groups, each of which is sub-divided into goods which are mainly imported, and goods which are mainly home-produced. The percentage of the total aggregate in 1960–61 contributed by each group was as follows:—Metals and coal, 16.94; oils, fats and waxes, 8.08; textiles, 2.80; chemicals, 3.73; rubber and hides, 1.91; building materials, 10.40; foodstuffs and tobacco, 56.14. Goods principally imported comprised 22.83 per cent. of the total aggregate in 1960–61, and goods principally home-produced, 77.17.

A full list of the commodities and the quantity-multipliers (weights) is published in *Labour Report* No. 48, 1960, pages 31 to 37.

3. **Method of Construction.**—The index is constructed on the simple aggregative fixed-weights formula. The weights (quantity-multipliers) are based on estimates of the average annual consumption of the commodities in Australia during the period 1928–29 to 1934–35 inclusive. Changes in usage, changes of category as between “imported” and “home-produced” for some commodities, and changes in the industrial structure have affected the validity of some of the weights in the index.

During 1956, supplies and prices of potatoes and onions fluctuated violently between abnormally wide limits. These fluctuations were so great as to dominate the movement of the sections of the index in which these items were included, namely, “Foodstuffs and Tobacco”, “Goods Principally Home-produced” and “Total All Groups”. In the circumstances of the case, neither seasonal adjustment nor conversion of the index to a “changing weights” formula could be applied to eliminate these fluctuations. Accordingly, in order to provide a representative measure of general trend in wholesale prices, the index was reconstructed as from July, 1936, by omitting potatoes and onions.

Consideration is being given to the enlargement of the index to cover additional groups and to revision of the weighting pattern of the index.

4. **Index Numbers.**—Index numbers for each group of commodities and for all groups combined for the index of wholesale prices of basic materials and foodstuffs are given in the following table. Current index numbers, on the base: average of three years ended June, 1939 = 100, are published monthly in the mimeograph statistical bulletin *Wholesale Price (Basic Materials and Foodstuffs) Index* and in the *Monthly Review of Business Statistics*. A table showing index numbers computed to the base 1928 = 100 is published in the *Labour Report*.

**WHOLESALE PRICE (BASIC MATERIALS AND FOODSTUFFS) INDEX NUMBERS.**  
*(Base of each Group: Average of 3 years ended June, 1939 = 100.)*

Period.	Basic Materials.							Basic Materials and Foodstuffs.			
	Metals and Coal.	Oils, Fats and Waxes.	Textiles.	Chemicals.	Rubber and Hides.	Building Materials.	Total.	Foodstuffs and Tobacco. (a)	Goods principally Imported. (b)	Goods principally Home-produced. (a)	Total All Groups. (a)
1928-29	127	106	129	121	115	95	114	107	91	118	110
1929-30	126	111	99	116	87	94	107	110	94	118	111
1930-31	116	117	80	117	73	96	105	91	100	99	99
1931-32	108	113	77	119	74	95	101	86	100	92	95
1932-33	104	109	75	119	69	95	98	80	97	87	90
1933-34	103	84	102	111	80	94	92	84	89	89	90
1934-35	97	90	78	102	77	93	89	87	92	89	90
1935-36	92	95	100	99	88	93	90	92	95	92	93
1936-37	96	99	118	99	111	99	99	98	99	98	99
1937-38	101	101	100	100	97	104	102	102	102	101	101
1938-39	103	100	82	101	92	97	99	101	99	100	100
1939-40	105	115	104	107	116	108	109	99	111	101	104
1940-41	107	137	111	124	126	128	122	107	133	106	114
1941-42	117	151	118	137	135	135	133	116	153	112	124
1942-43	129	167	147	142	138	163	149	126	176	120	136
1943-44	131	170	150	143	140	174	153	130	182	122	140
1944-45	131	168	152	143	140	175	152	132	182	124	141
1945-46	130	156	152	142	140	177	149	136	178	127	142
1946-47	132	145	191	140	131	180	149	139	177	130	144
1947-48	146	161	283	148	126	190	166	154	192	145	159
1948-49	185	173	342	159	130	198	188	174	201	172	180
1949-50	214	184	434	187	143	225	214	196	223	196	204
1950-51	256	196	641	242	292	268	264	229	256	240	244
1951-52	343	220	577	314	298	370	321	276	288	300	297
1952-53	392	234	607	350	224	404	350	293	292	331	319
1953-54	388	222	566	323	191	363	332	308	271	339	319
1954-55	391	214	510	314	246	372	330	315	277	340	322
1955-56	404	220	456	317	328	415	345	325	292	352	334
1956-57	409	241	520	344	302	463	367	324	311	357	344
1957-58	398	238	437	349	280	453	355	325	301	355	339
1958-59	392	231	362	327	293	423	340	332	283	358	336
1959-60	395	225	403	331	379	431	347	348	281	375	348
1960-61	399	222	387	331	341	439	346	372	278	394	360
1961-62											
July . . .	393	217	407	333	307	439	343	350	275	377	347
August . .	393	217	407	333	322	439	343	342	274	371	343
September .	393	214	402	333	329	439	342	335	272	366	338
October	393	212	391	333	314	439	340	324	271	357	332
November	393	211	385	333	297	439	339	322	272	354	330
December	393	211	385	333	286	439	339	326	270	358	332
January	393	211	386	333	292	439	339	329	268	361	334
February	390	211	404	333	288	439	339	329	267	362	334
March . . .	390	211	411	334	297	439	340	328	269	360	333

(a) Excluding potatoes and onions. See para. 3 on p. 396. (b) Represents only such imported commodities as are included in the Wholesale Price Index and does not measure changes in the prices of all imports.

### § 3. Melbourne Wholesale Price Index.

1. General.—An index of Melbourne wholesale prices was first computed in 1912. It related chiefly to basic materials and foods weighted in accordance with consumption in the years immediately preceding that date. Neither the components of the list of items nor the weighting have been varied, except as indicated in footnote (a) to the following table. Consequently, the index is outmoded for current use but it has some historical significance as a measure of changes in the prices of its component items combined in the proportions in which they were in common use about the year 1910. It is now published on an annual basis for "All Groups" only and is used mainly as an approximate indication of long-term trends since the year 1861, for which it was first compiled. A description of the index and a list of the commodities included in it were published in *Labour Report* No. 38, 1949, pages 43-5.

2. **Index Numbers.**—Index numbers for each group of commodities as well as for all groups combined are shown in the following table.

**MELBOURNE WHOLESALE PRICE INDEX NUMBERS.**

(Base of each Group: Year 1911 = 1,000.)

Year.	Metals and Coal.	Wool, Cotton, Leather, etc.	Agricultural Produce, etc.	Dairy Produce.	Groceries.	Meat.	Building Materials.	Chemicals.	All Groups.
1861 .. ..	1,438	1,381	1,583	1,008	1,963	..	1,070	2,030	1,538
1871 .. ..	1,096	1,257	1,236	864	1,586	..	1,044	1,409	1,229
1881 .. ..	1,178	1,115	1,012	935	1,421	..	1,091	1,587	1,121
1891 .. ..	895	847	1,024	995	1,032	888	780	1,194	945
1901 .. ..	1,061	774	928	1,029	1,048	1,345	841	917	974
1911 .. ..	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
1921 .. ..	2,173	1,361	1,767	2,000	1,977	2,158	2,733	2,303	1,903
1931 .. ..	1,826	1,040	1,121	1,398	1,794	1,512	2,025	2,166	1,429
1941 .. ..	1,960	1,402	1,721	1,554	1,883	1,776	3,138	2,527	1,796
1949 .. ..	3,502	3,966	2,876	2,309	2,558	3,356	4,611	3,221	3,191
1950 .. ..	3,902	5,464	3,155	2,459	2,829	4,616	(a)5,567	3,263	3,816
1951 .. ..	5,080	7,943	4,512	2,930	2,850	6,438	(a)7,074	3,294	5,098
1952 .. ..	6,481	7,365	5,038	4,024	3,455	6,289	(a)9,338	3,723	5,647
1953 .. ..	6,615	6,950	4,958	4,533	3,767	6,303	(a)8,519	4,691	(b)5,631

(a) The list of items and weighting of the original Building Materials group of this index are outmoded in respect of recent years. The movement shown here for this group between 1949 and 1953 has been calculated in accordance with the movement occurring in the Building Materials group of the Basic Materials and Foodstuffs Index. (b) The "All Groups" index numbers for years subsequent to 1953 were:—1954, 5,384; 1955, 5,548; 1956, 5,916; 1957, 5,814; 1958, 5,575; 1959, 5,394; 1960, 5,857; 1961, 5,909.

**C. CONTROL OF PRICES DURING AND SINCE THE 1939-45 WAR.**

1. **General.**—An account of the measures taken by the Commonwealth Government to control prices from September, 1939 (immediately after the outbreak of war), until 29th May, 1948 (the date of the Prices Referendum), was given in Official Year Book No. 37, pages 458-64.

2. **Transfer of Price Control to the States.**—Consequent upon the rejection of the proposal embodied in the Prices Referendum held on 29th May, 1948, that permanent power to control rents and prices (including charges) be conferred on the Commonwealth Government, responsibility for price fixation was assumed by the State Governments and steps were taken to pass State Prices Acts. These Acts were proclaimed to operate simultaneously on 20th September, 1948. Except in the case of Queensland, each Act was to remain in force for a specific period, but the period varied from State to State.

On 20th September, 1948, each State Government issued declarations covering uniform lists of goods and services, which were brought under price control. Existing Commonwealth Prices Regulation Orders continued to apply to these goods and services until specially varied in accordance with the terms of the State legislation. At the same time, the Commonwealth Government issued an identical list of declared items to operate in the Australian Capital Territory and other Territories of the Commonwealth.

In the operation of State price control, the State Prices Commissioners collaborated closely. Conferences of Commissioners were held at intervals of approximately two months. Thus a large degree of uniformity was attained in controlling and decontrolling items and in the fixation of margins and prices of major items.

Since 1952, price control has been progressively modified in all States. General price control ceased in Western Australia on 31st December, 1953; in Tasmania on 31st October, 1954; in Victoria on 31st December, 1954; in the Australian Capital Territory on 10th February, 1955; and in Queensland during 1961. In New South Wales, general control of prices was suspended on 15th April, 1955, but was temporarily restored on some items from July, 1955, to September, 1956.

3. **Price Stabilization.**—Expenditure by the Commonwealth Government on price stabilization subsidies reached a peak in 1947-48 and since then the Commonwealth Government has progressively reduced the range of commodities eligible for subsidy.

In addition to those subsidies which had been an integral part of the Price Stabilization Plan, the Commonwealth Government paid bounties and subsidies for assistance to primary production, and these payments also had a stabilizing influence on prices.

For particulars of expenditure by the Commonwealth Government on price stabilization, see Official Year Book No. 38, page 414, and for other subsidies and bounties, see Chapter XXI.—Public Finance.

## D. WAGES.

## § 1. Arbitration and Wages Boards Acts and Associated Legislation.

1. **General.**—Particulars regarding the operation of Commonwealth and State Laws for the regulation of wages, hours and conditions of labour were first compiled for the year 1913, and revised particulars have appeared annually in the *Labour Report* and in issues of the Official Year Book prior to No. 38.

2. **Commonwealth.**—Under placitum (xxxv) of section 51 of the Commonwealth of Australia Constitution, the Commonwealth Parliament is empowered to make laws with respect to "conciliation and arbitration for the prevention and settlement of industrial disputes extending beyond the limits of any one State". The Parliament has made such a law, namely the Conciliation and Arbitration Act.

This Act defines an "industrial dispute" as "(a) A dispute (including a threatened, impending or probable dispute) as to industrial matters which extends beyond the limits of any one State; and (b) a situation which is likely to give rise to a dispute as to industrial matters which so extends; and includes—(c) such a dispute in relation to employment in an industry carried on by, or under the control of, a State or an authority of a State; (d) a dispute in relation to employment in an industry carried on by, or under the control of, the Commonwealth or an authority of the Commonwealth, whether or not the dispute extends beyond the limits of any one State; and (e) a claim which an organization is entitled to submit to the Commission under section eleven A of the *Public Service Arbitration Act 1920-1960* or an application or matter which the Public Service Arbitrator has refrained from hearing, or from further hearing, or from determining under section fourteen A of that Act, whether or not there exists in relation to the claim, application or matter a dispute as to industrial matters which extends beyond the limits of any one State."

The Conciliation and Arbitration Act was extensively amended by an Act (No. 44 of 1956) assented to on 30th June, 1956. This amendment altered the structure of the arbitration machinery by separating the judicial functions from the conciliation and arbitration functions. The Commonwealth Industrial Court was established to deal with judicial matters under the Act and the Commonwealth Conciliation and Arbitration Commission to handle the functions of conciliation and arbitration. A summary of the provisions of the Conciliation and Arbitration Act 1904-1961 is given in the following paragraphs.

The Commonwealth Industrial Court is at present composed of a Chief Judge and three other Judges. The jurisdiction of the Court shall be exercised by not less than two Judges, except in the following circumstances. A single Judge may exercise the jurisdiction of the Court with respect to the dismissal or injury of an employee on account of industrial action, interpretation of awards, questions concerning eligibility of membership of an organization, disputes between an organization and its members and a prescribed matter of practice or procedure. A single Judge may refer a question of law for the opinion of the Court constituted by not less than two Judges. The Court is a Superior Court of Record with the same power to punish contempts of its power and authority as is possessed by the High Court. In general, decisions of the Industrial Court are final; however, an appeal lies to the High Court but only when the latter grants leave to appeal. The Act provides for the registration of associations of employees and employers and for inquiries to be held concerning disputed elections in organizations; and certain powers in connexion therewith are, by the Act, given to the Industrial Court. Provision is also made for the Commission to exercise the powers of the Court with regard to an application for cancellation of registration of an organization. Any such change of jurisdiction must be notified by proclamation. This provision could be used if the powers of the Court in this regard were declared, in whole or in part, to be invalid.

Special provision is made concerning the right of audience before the Commonwealth Industrial Court. Briefly, except in proceedings which, in general, involve questions of law or offences against the Act, parties are able to elect whether to appear personally or to be represented by lawyers or officials. Even in proceedings involving questions of law, except appeals from decisions by other Courts to the Industrial Court, on matters arising under this Act or the Public Service Arbitration Act 1920-1960, the parties may, if they wish and the Court grants leave, be represented by officials.

The Commonwealth Conciliation and Arbitration Commission at present consists of a President, five Deputy Presidents, a Senior Commissioner, seven Commissioners and three Conciliators. The Commission is empowered to prevent or settle industrial disputes by conciliation or arbitration, and to make suggestions and to do such things as appear right

and proper for (a) effecting a reconciliation between parties to industrial disputes; (b) preventing and settling industrial disputes by amicable agreement; and (c) preventing and settling, by conciliation or arbitration, industrial disputes not prevented or settled by amicable agreement. The Commission may exercise its powers of its own motion or on the application of a party.

The President may assign a Commissioner to deal with industrial disputes relating to particular industries, or members of the Commission to deal with a particular industrial dispute. However, subject to the approval of the President, it is the duty of the Senior Commissioner to organize and allocate the work of the Commissioners and Conciliators.

When an industrial dispute occurs or is likely to occur, a Commissioner shall take steps for the prompt prevention or settlement of that dispute by conciliation or, if in his opinion conciliation is unlikely to succeed or has failed, by arbitration. A Commissioner may arrange with the Senior Commissioner for a Conciliator to assist the parties to reach an amicable agreement and shall do so if the parties so request. If an agreement is reached, a memorandum of its terms shall be made in writing, and may be certified by the Commission. A certified memorandum shall have the same effect as an award.

The Commission in Presidential Session, that is, the Commission constituted by at least three presidential members nominated by the President and not otherwise, is empowered to deal with making awards, or certifying agreements, in so far as they concern standard hours, basic wages and long-service leave.

Upon application by a party to an industrial dispute, a Commissioner shall consult with the President as to whether in the public interest any matter in dispute should be dealt with by a Commission constituted by not less than three members nominated by the President, at least one of whom shall be a presidential member and one, where practicable, the Commissioner concerned. The President may direct the Commission to hear the matter in dispute; however, after consideration, the Commission may refer the matter in dispute back for determination to the Commissioner originally dealing with the dispute.

An appeal against the decision of a Commissioner shall be heard by not less than three members nominated by the President, of whom at least two shall be presidential members of the Commission. However, an appeal will not be heard unless the Commission considers it is necessary as a matter of public interest. The President, after taking account of the views of the parties to a dispute, may appoint a member of the Commission to take evidence on behalf of the full bench of the Commission, so that the full bench can have this evidence before it when it commences its hearing.

Full benches of the Commission not constituted by the same persons may sit in joint session at the direction of the President when he considers it desirable and has the opinion that a question is common to the matters before those benches. A joint session may be held whether the benches concerned are constituted pursuant to the Conciliation and Arbitration Act or the Public Service Arbitration Act, and whether they are constituted to hear references or appeals. However, it is left to each appropriate full bench to determine any of the matters before it.

Provision is also made in the Act for a presidential member of the Commission to handle industrial matters in connexion with the Maritime Industries, Snowy Mountains Area and Stevedoring Industry, except in those matters for which the Act requires that the Commission shall be constituted by more than one member.

The Commonwealth Conciliation and Arbitration Commission also deals with disputes and industrial matters, interstate or intra-state, associated with undertakings or projects of the Commonwealth Government which have been declared by the Minister to be Commonwealth projects for the purposes of this Act. In effect, this places employees of Commonwealth projects, so declared, under the jurisdiction of the Commission. The Minister has the power to exempt certain persons or classes of persons working on these projects from the jurisdiction of the Commission.

The Commission may make an award in relation to an industrial dispute concerning employees of a Commonwealth project or when the Public Service Arbitrator refrains from dealing with claims made by a Public Service employee organization or consents to the claims being presented to the Commission, though such an award may be inconsistent with a law of the Commonwealth relating to salaries, wages, rates of pay or terms or conditions of service of employees in the Public Service as defined by section 3 of the Public Service Arbitration Act 1920-1960, not being the Commonwealth Employees' Compensation Act 1930-1959, the Commonwealth Employees' Furlough Act 1943-1959, the Superannuation Act 1922-1959 or any other prescribed Act.

The Act provides that where a State law, or an order, award, decision or determination of a State industrial authority, is inconsistent with or deals with a matter dealt with in an award of the Commission, the latter shall prevail, and the former, to the extent of the inconsistency or in relation to the matter dealt with, shall be invalid.

For further particulars regarding Commonwealth arbitration legislation, *see* the annual *Labour Report*.

3. States.—In each State, Industrial Tribunals have been established to regulate and arbitrate in industrial matters. The more important of these are the Industrial Commission of New South Wales, the Industrial Conciliation and Arbitration Commission of Queensland, the Industrial Court of South Australia, and the Western Australian Court of Arbitration, together with Wages Boards for specific industries or occupations which operate in Victoria, South Australia and Tasmania. Further details concerning the functions and powers of these authorities may be found in the *Labour Report*.

## § 2. Rates of Wage and Hours of Work.

1. General.—This section contains indexes (with base: year 1954 = 100) of minimum weekly and hourly rates of wage and standard hours of work for adult males and adult females for Australia and each State. In the indexes, there are 15 industrial groups for adult males and 8 industrial groups for adult females. For relevant periods, these indexes replace cognate indexes (base: year 1911 = 1,000 for males and April, 1914 = 1,000 for females) published in issues prior to No. 46, 1959. The current indexes are based on the occupation structure existing in 1954. Weights for each industry and each occupation were derived from two sample surveys made in that year. The first was the Survey of Awards in April, 1954, which showed the number of employees covered by individual awards, determinations and agreements. This provided employee weights for each industry as well as a basis for the Survey of Award Occupations made in November, 1954. This second survey showed the number of employees in each occupation within selected awards, etc., thereby providing occupation weights.

The industrial classification used in the current indexes, shown in the table on pages 402–3, does not differ basically from the previous classification, the alterations being largely in the arrangement of classes. The former Miscellaneous group was dissected into two component industry groups, "Wholesale and Retail Trade" and "Public Authority (n.e.i.) and Community and Business Services". A new group, "Communication", was included and the former Domestic, Hotels, etc., group was extended to include Amusement, Sport and Recreation. This group is now shown as "Amusement, Hotels, Personal Service, etc.". The "Domestic" part of this group was omitted because of coverage difficulties. The former Pastoral, Agricultural, etc. group is not included in the new index.

The minimum wage rates and standard hours of work used in the current indexes are for representative occupations within each industry. They have been derived entirely from representative awards, determinations and agreements in force at the end of each month or quarter, commencing with 31st March, 1939, for adult males and 31st March, 1951, for adult females. From January, 1957, particulars for adult males have been available as at the end of each month. The index for adult males includes rates and hours for 3,406 award designations. However, as some of these designations are operative within more than one industry, or in more than one State, the total number of individual award occupations is 2,307. For adult females, the corresponding numbers are 1,103 and 518. Using the industry and occupation weights derived from the surveys described above, these rates and hours were combined to give weighted averages for each industrial group for each State and Australia. Weighted averages of the components of the total minimum weekly wage rate, i.e., basic wage, margin and loading, were calculated separately for employees covered by Commonwealth awards, etc., and for those covered by State awards, etc. (*See* page 404.)

Because the indexes are designed to measure movements in prescribed minimum rates of "wages" as distinct from "salaries", awards, etc., relating solely or mainly to salary earners are excluded.

A more detailed description of the current indexes of minimum rates of wage and standard hours of work is given in the *Labour Report*, which also contains an extensive tabular presentation of the minimum rates of wage for adult males and females in the principal occupations in the capital city of each State.

2. Weekly Wage Rates.—(i) *Adult Males—States.* The following table shows, for each State and Australia, the weighted average minimum weekly rates of wage payable to adult male workers for a full week's work, and index numbers at the dates specified.

**WEEKLY WAGE RATES: ADULT MALES, ALL GROUPS.(a)**

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(b) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Date.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
RATES OF WAGE.(c)							
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
31st December, 1945..	122	6	121	1	118	1	116
" " 1950..	206	2	201	9	195	2	197
" " 1955..	305	3	295	7	283	6	285
" " 1960..	362	8	349	10	350	8	342
" " 1961..	373	3	361	10	359	10	354
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
31st December, 1945..	122	6	121	1	118	1	116
" " 1950..	206	2	201	9	195	2	197
" " 1955..	305	3	295	7	283	6	285
" " 1960..	362	8	349	10	350	8	342
" " 1961..	373	3	361	10	359	10	354
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
31st December, 1945..	122	6	121	1	118	1	116
" " 1950..	206	2	201	9	195	2	197
" " 1955..	305	3	295	7	283	6	285
" " 1960..	362	8	349	10	350	8	342
" " 1961..	373	3	361	10	359	10	354

**INDEX NUMBERS.**

(Base: Weighted Average Weekly Wage Rate for Australia, 1954 = 100.)

31st December, 1945..	43.4	42.9	41.8	41.1	42.6	40.9	42.7
" " 1950..	73.0	71.4	69.1	70.1	71.0	70.1	71.5
" " 1955..	108.1	104.7	100.4	100.9	106.3	104.0	105.2
" " 1960..	128.4	123.9	124.2	121.1	126.8	124.6	125.7
" " 1961..	132.2	128.1	127.4	125.6	128.8	128.6	129.4

(a) Excludes rural. (b) As prescribed in awards, determinations and agreements. (c) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

(ii) *Adult Males—Industrial Groups.* The following table shows for Australia the weighted average minimum weekly rates of wage and index numbers in each industrial group and for all groups (excluding rural) at the dates specified.

**WEEKLY WAGE RATES: ADULT MALES, INDUSTRIAL GROUPS, AUSTRALIA.**

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Industrial Group.	31st Dec., 1945.	31st Dec., 1950.	31st Dec., 1955.	31st Dec., 1960.	31st Dec., 1961.
RATES OF WAGE.(b)					
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
Mining and Quarrying ..	138	8	259	7	366
Manufacturing—					
Engineering, Metal Works, etc.	122	2	201	8	294
Textiles, Clothing and Footwear	115	10	197	5	285
Food, Drink and Tobacco ..	119	11	201	5	295
Sawmilling, Furniture, etc. ..	117	11	196	0	288
Paper, Printing, etc. ..	127	8	214	3	312
Other Manufacturing ..	118	7	197	7	291
All Manufacturing Groups ..	120	8	200	10	294
Building and Construction ..	119	8	198	7	295
Railway Services ..	117	9	195	10	290
Road and Air Transport ..	121	7	197	11	294
Shipping and Stevedoring(c) ..	117	7	196	7	276
Communication ..	123	9	213	4	316
Wholesale and Retail Trade ..	119	5	200	10	297
Public Authority (n.e.i.) and Community and Business Services ..	113	9	192	1	289
Amusement, Hotels, Personal Service, etc.	115	3	192	4	283
All Industrial Groups(d) ..	120	7	202	0	297
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
Mining and Quarrying ..	138	8	259	7	366
Manufacturing—					
Engineering, Metal Works, etc.	122	2	201	8	294
Textiles, Clothing and Footwear	115	10	197	5	285
Food, Drink and Tobacco ..	119	11	201	5	295
Sawmilling, Furniture, etc. ..	117	11	196	0	288
Paper, Printing, etc. ..	127	8	214	3	312
Other Manufacturing ..	118	7	197	7	291
All Manufacturing Groups ..	120	8	200	10	294
Building and Construction ..	119	8	198	7	295
Railway Services ..	117	9	195	10	290
Road and Air Transport ..	121	7	197	11	294
Shipping and Stevedoring(c) ..	117	7	196	7	276
Communication ..	123	9	213	4	316
Wholesale and Retail Trade ..	119	5	200	10	297
Public Authority (n.e.i.) and Community and Business Services ..	113	9	192	1	289
Amusement, Hotels, Personal Service, etc.	115	3	192	4	283
All Industrial Groups(d) ..	120	7	202	0	297

For footnotes see next page.



WEEKLY WAGE RATES: ADULT MALES, INDUSTRIAL GROUPS, AUSTRALIA.  
—continued.

Industrial Group.	31st Dec., 1945.	31st Dec., 1950.	31st Dec., 1955.	31st Dec., 1960.	31st Dec., 1961.
INDEX NUMBERS.					
(Base: Weighted Average Weekly Wage Rate for Australia, 1954 = 100.)					
Mining and Quarrying .. ..	49.1	91.9	129.9	147.0	150.3
Manufacturing—					
Engineering, Metal Works, etc. ..	43.3	71.4	104.4	124.0	128.0
Textiles, Clothing and Footwear ..	41.0	69.9	100.9	120.5	124.6
Food, Drink and Tobacco .. ..	42.5	71.3	104.7	124.7	128.5
Sawmilling, Furniture, etc. .. ..	41.8	69.4	102.3	122.6	126.2
Paper, Printing, etc. .. ..	45.2	75.9	110.7	134.0	137.9
Other Manufacturing .. ..	42.0	70.0	103.2	122.9	127.0
All Manufacturing Groups .. ..	42.7	71.1	104.1	124.1	128.0
Building and Construction .. ..	42.4	70.3	104.6	126.5	129.7
Railway Services .. ..	41.7	69.3	103.0	122.7	126.6
Road and Air Transport .. ..	43.0	70.1	104.2	124.8	128.6
Shipping and Stevedoring(c) .. ..	41.6	69.6	98.1	122.0	126.1
Communication .. ..	43.8	75.5	112.1	135.8	140.1
Wholesale and Retail Trade .. ..	42.3	71.1	105.4	126.4	130.1
Public Authority (n.e.i.) and Community and Business Services .. ..	40.3	68.0	102.6	123.2	126.7
Amusement, Hotels, Personal Service, etc.	40.8	68.1	100.4	119.4	123.3
All Industrial Groups(d) .. ..	42.7	71.5	105.2	125.7	129.4

(a) As prescribed in awards, determinations and agreements. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (c) Includes the value of keep, where supplied. (d) Excludes rural.

(iii) *Adult Males—Components of Total Wage Rate.* A dissection of weighted average minimum weekly wage rates for adult males into the three components of the total minimum wage, i.e., basic wage, margin and loading, is given in the following two tables, separate particulars being shown for employees covered by awards, etc., within Commonwealth and State jurisdictions. For the purposes of the index, the Commonwealth jurisdiction embraces awards of, or agreements registered with, the Commonwealth Conciliation and Arbitration Commission, and determinations of the Commonwealth Public Service Arbitrator. State jurisdictions embrace awards or determinations of, or agreements registered with, State industrial tribunals, together with certain unregistered agreements, where these are dominant in the particular industries to which they refer.

The basic wage rates shown herein are weighted averages of the rates prescribed in awards, etc., for the occupations included in the index for each State. For industries other than mining, metropolitan basic wage rates have generally been used. However, there are a number of occupations for which basic wage rates other than the metropolitan rate are prescribed. Also, in some States at various times, State Government employees under Commonwealth awards have been paid State basic wage rates, and the basic wage rates of some employees have been subject to automatic quarterly adjustments while those of other employees within the same jurisdiction have remained unchanged. In all such cases, the basic wage rate actually paid is used in tables below. For these and other reasons, the weighted average basic wage rates differ, in the majority of cases, from the metropolitan basic wage rates shown in other sections of this chapter.

Margins are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for features attaching to their work, such as skill, experience, arduousness and other like factors.

Loadings are minimum amounts, in addition to the basic wage and margin (if any), awarded for various kinds of disabilities associated with the performance of work, or to meet particular circumstances. They include payments such as industry loadings and other general loadings prescribed in awards, etc., for the occupations included in the index.

For a more detailed description of this dissection of weekly wage rates into components and for tables for each State and Australia, according to jurisdiction, extending back to 1939, see Statistical Bulletin 902, *Minimum Weekly Wage Rate Index—Adult Males: Components of Total Wage Rate*. Revised figures for 1958 to 1960, together with monthly figures from January, 1957, to June, 1961, were published in the Statistical Bulletin—*Minimum Weekly Wage Rates, January, 1957 to June, 1961*.

(a) *States.* The following table shows the components of the total minimum weekly wage rate for each State and Australia, as at 31st December, 1961, according to jurisdiction.

**WEEKLY WAGE RATES: ADULT MALES, COMPONENTS OF TOTAL WAGE RATE, 31st DECEMBER, 1961.(a)**

**WEIGHTED AVERAGES OF MINIMUM WEEKLY RATES(b) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME).**

Jurisdiction and Components of Total Wage.(c)	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Commonwealth Awards, etc.—</i>							
Basic Wage .. ..	294 10	287 4	278 7	283 6	288 4	293 8	289 9
Margin .. ..	72 1	67 1	80 3	72 8	86 4	62 1	70 6
Loading .. ..	4 11	2 9	5 2	1 5	2 10	2 0	3 6
<i>Total Wage</i> .. ..	<i>371 10</i>	<i>357 2</i>	<i>364 0</i>	<i>357 7</i>	<i>377 6</i>	<i>357 9</i>	<i>363 9</i>
<i>State Awards, etc.—</i>							
Basic Wage .. ..	300 10	287 10	284 11	283 1	298 2	294 2	293 5
Margin .. ..	67 11	79 10	69 6	56 9	60 7	68 2	68 10
Loading .. ..	6 1	4 8	4 5	7 10	3 3	9 5	5 3
<i>Total Wage</i> .. ..	<i>374 10</i>	<i>372 4</i>	<i>358 10</i>	<i>347 8</i>	<i>362 0</i>	<i>371 9</i>	<i>367 6</i>
<i>All Awards, etc.—</i>							
Basic Wage .. ..	297 8	287 6	283 9	283 5	297 1	293 10	291 6
Margin .. ..	70 1	71 0	71 6	67 10	63 6	64 6	69 8
Loading .. ..	5 6	3 4	4 7	3 4	3 2	4 11	4 5
<i>Total Wage</i> .. ..	<i>373 3</i>	<i>361 10</i>	<i>359 10</i>	<i>354 7</i>	<i>363 9</i>	<i>363 3</i>	<i>365 7</i>

(a) Excludes rural. The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (b) As prescribed in awards, determinations and agreements. (c) For definitions, see text above.

(b) *Australia, 1939 to 1961.* The components of the total minimum weekly wage rate for Australia, according to jurisdiction, are shown in the following table.

**WEEKLY WAGE RATES: ADULT MALES, COMPONENTS OF TOTAL WAGE RATE, AUSTRALIA.(a)**

**WEIGHTED AVERAGES OF MINIMUM WEEKLY RATES(b) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME).**

Jurisdiction and Components of Total Wage.(c)	31st Dec., 1939.	31st Dec., 1945.	31st Dec., 1950.	31st Dec., 1955.	31st Dec., 1960.	31st Dec., 1961.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
<i>Commonwealth Awards, etc.—</i>						
Basic Wage .. ..	79 5	97 3	162 2	239 0	278 2	289 9
Margin .. ..	17 3	19 4	35 8	52 8	70 0	70 6
Loading .. ..	0 4	4 1	3 11	2 4	3 2	3 6
<i>Total Wage</i> .. ..	<i>97 0</i>	<i>120 8</i>	<i>201 9</i>	<i>294 0</i>	<i>351 4</i>	<i>363 9</i>
<i>State Awards, etc.—</i>						
Basic Wage .. ..	81 11	98 1	161 8	244 8	285 2	293 5
Margin .. ..	17 4	20 0	35 3	50 6	68 4	68 10
Loading .. ..	0 6	2 5	5 5	5 0	5 3	5 3
<i>Total Wage</i> .. ..	<i>99 9</i>	<i>120 6</i>	<i>202 4</i>	<i>300 2</i>	<i>358 9</i>	<i>367 6</i>
<i>All Awards, etc.—</i>						
Basic Wage .. ..	80 8	97 8	161 11	241 10	281 7	291 6
Margin .. ..	17 3	19 8	35 6	51 7	69 2	69 8
Loading .. ..	0 5	3 3	4 7	3 7	4 2	4 5
<i>Total Wage</i> .. ..	<i>98 4</i>	<i>120 7</i>	<i>202 0</i>	<i>297 0</i>	<i>354 11</i>	<i>365 7</i>

For footnotes, see table above.

(iv) *Adult Females—States.* The following table shows, for each State and Australia, the weighted average minimum weekly rates of wage payable to adult female workers for a full week's work, and index numbers at the dates specified. This series has not been compiled for years prior to 1951.

WEEKLY WAGE RATES: ADULT FEMALES.

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Date.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
RATES OF WAGE.(b)							
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
31st December, 1951..	172	4	172	2	161	2	170
" " 1953..	200	6	201	4	188	2	199
" " 1955..	209	8	210	5	194	3	201
" " 1960..	261	3	246	7	239	4	242
" " 1961..	268	10	256	6	255	7	251

INDEX NUMBERS.

(Base: Weighted Average Weekly Wage Rate for Australia, 1954 = 100.)

31st December, 1951..	86.6	86.5	81.0	85.5	81.6	83.2	85.6
" " 1953..	100.7	101.1	94.5	100.0	95.5	99.0	99.8
" " 1955..	105.3	105.7	97.6	101.3	99.3	100.5	103.9
" " 1960..	131.2	123.9	120.2	122.0	126.2	119.9	126.4
" " 1961..	135.0	128.8	128.4	126.5	128.9	124.7	131.1

(a) As prescribed in awards, determinations and agreements. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

(v) *Adult Females—Industrial Groups.* The following table shows for Australia weighted average minimum weekly rates of wage and index numbers in each of the industrial groups in which the number of females employed is important, and the weighted average for all groups combined, at the dates specified.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIAL GROUPS, AUSTRALIA.

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Industrial Group.	31st Dec., 1951.	31st Dec., 1953.	31st Dec., 1955.	31st Dec., 1960.	31st Dec., 1961.
RATES OF WAGE.(b)					
	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>
Manufacturing—					
Engineering, Metal Works, etc.	170	11	200	7	206
Textiles, Clothing and Footwear	171	2	198	9	200
Food, Drink and Tobacco	165	9	194	6	206
Other Manufacturing	168	9	197	7	203
All Manufacturing Groups	169	11	198	3	203
Transport and Communication	177	6	206	5	213
Wholesale and Retail Trade	171	1	199	7	213
Public Authority (n.e.i.) and Community and Business Services	170	1	199	1	209
Amusement, Hotels, Personal Service, etc.	166	9	194	10	201
All Industrial Groups..	170	4	198	9	206

For footnotes, see next page.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIAL GROUPS,  
AUSTRALIA—*continued.*

Industrial Group.	31st Dec., 1951.	31st Dec., 1953.	31st Dec., 1955.	31st Dec., 1960.	31st Dec., 1961.
INDEX NUMBERS.					
(Base: Weighted Average Weekly Wage Rate for Australia, 1954 = 100.)					
Manufacturing—					
Engineering, Metal Works, etc. ..	85.9	100.8	103.7	125.5	129.8
Textiles, Clothing and Footwear ..	86.0	99.8	100.9	120.9	125.3
Food, Drink and Tobacco ..	83.3	97.7	103.9	123.7	128.5
Other Manufacturing ..	84.8	99.2	102.3	124.6	129.1
All Manufacturing Groups ..	85.4	99.6	102.1	122.9	127.4
Transport and Communication ..	89.2	103.7	107.4	130.5	135.4
Wholesale and Retail Trade ..	85.9	100.3	107.0	132.4	137.4
Public Authority (n.e.i.) and Community and Business Services ..	85.4	100.0	105.3	129.5	133.9
Amusement, Hotels, Personal Service, etc. ..	83.8	97.9	101.3	123.1	127.7
All Industrial Groups ..	85.6	99.8	103.9	126.4	131.1

(a) As prescribed in awards, determinations and agreements. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

3. **Standard Hours of Work.**—(i) *General.* In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages and index numbers on pages 407-9. The main features of the reduction of hours to 44 and later to 40 per week are summarized below. In considering such changes, it must be remembered that even within individual States the authority to alter conditions of work is divided between Commonwealth and State industrial tribunals and the various legislatures, and that the State legislation usually does not apply to employees covered by awards of the Commonwealth Conciliation and Arbitration Commission. However, it may do so in respect of matters not treated in Commonwealth awards.

(ii) *The 44-hour Week.* No permanent reduction to a 44-hour week was effected until 1925, although temporary reductions had been achieved earlier. In 1920, the New South Wales legislature granted a 44-hour week to most industries, but in the following year this provision was withdrawn. Also in 1920, the President of the Commonwealth Court of Conciliation and Arbitration (Higgins J.), after inquiry, granted a 44-hour week to the Timber Workers' Union, and in the following year extended the same privilege to the Amalgamated Society of Engineers. In 1921, however, a reconstituted Commonwealth Court of Conciliation and Arbitration unanimously rejected applications by five trade unions for the shorter standard week and reintroduced the 48-hour week in the case of the above-mentioned two unions then working 44 hours. During 1924, the Queensland Parliament passed legislation to operate from 1st July, 1925, granting the 44-hour standard week to employees whose conditions of work were regulated by awards and agreements of the Queensland State industrial authority. Similar legislative action in New South Wales led to the re-introduction of the 44-hour week in that State as from 4th January, 1926.

In 1927, after an exhaustive inquiry, the Commonwealth Court of Conciliation and Arbitration granted a 44-hour week to the Amalgamated Engineering Union and intimated that this reduction in standard hours of work would be extended to industries operating under conditions similar to those in the engineering industry. Applications for the shorter hours by other unions were, however, treated individually, the nature of the industry, the problem of production, the financial status and the amount of foreign competition being fully investigated. The economic depression delayed the extension of the standard 44-hour week until the subsequent improvement in economic conditions made possible its general extension to employees under Commonwealth awards.

In States other than New South Wales and Queensland, no legislation was passed to reduce the standard hours of work, so that, for employees not covered by Commonwealth awards, the change had to be effected by decisions of the appropriate industrial tribunals. In these cases, the date on which the reduction to 44 hours was implemented depended on the decision of the tribunals in particular industries, employees in some industries receiving the benefit of the reduced hours years ahead of those in others. In these States, the change to the shorter week extended over the years from 1926 to 1941.

(iii) *The 40-hour Week.* (a) *Standard Hours Inquiry, 1947.* Soon after the end of the 1939-45 War, applications were made to the Commonwealth Court of Conciliation and

Arbitration for the introduction of a 40-hour week, and the hearing by the Court commenced in October, 1945. Before the Court gave its decision, the New South Wales Parliament passed legislation granting a 40-hour week, operative from 1st July, 1947, to industries and trades regulated by State awards and agreements, and in Queensland similar legislation was introduced in Parliament providing for the 40-hour week to operate from 1st January, 1948.

The Commonwealth Court of Conciliation and Arbitration, in its judgment on 8th September, 1947, granted the reduction to the 40-hour week from the beginning of the first pay-period commencing in January, 1948. The Queensland Act was passed, and was proclaimed on 10th October, 1947. On 27th October, 1947, the South Australian Industrial Court, after hearing applications by unions, approved the incorporation of the 40-hour standard week in awards of that State. The Court of Arbitration of Western Australia on 6th November, 1947, approved that, on application, provision for a 40-hour week could be incorporated in awards of the Court, commencing from 1st January, 1948.

In Victoria and Tasmania, the Wages Boards met and also incorporated the shorter working week in their determinations, so that from the beginning of 1948 practically all employees in Australia whose conditions of labour were regulated by industrial authorities had the advantages of a standard working week of 40 hours or, in certain cases, less.

(b) *Basic Wage and Standard Hours Inquiry, 1952-53.* In the 1952-53 Basic Wage and Standard Hours Inquiry, the employers sought an increase in the standard hours of work per week, claiming that one of the chief causes of the high costs and inflation had been the loss of production due to the introduction of the 40-hour week. This claim was rejected by the Court as it considered that the employers had not proved that the existing economic situation called for a reduction of general standards in the matter of the ordinary working week. (See also § 5, para. 2 (iv).)

(c) *Basic Wage and Standard Hours Inquiry, 1961.* In this case the employers sought an increase in the number of ordinary working hours from 40 to 42 per week, with a concomitant increase in weekly wages by an amount equal to two hours' pay at ordinary rates. This was to be a temporary measure to have effect for four years, after which time hours would revert to forty and the increased wage would remain. The employers submitted that such a measure was called for by the balance of payments crisis, that it would lead to increased productivity at stable prices, and that work in excess of forty hours would be more evenly distributed with consequent financial relief for men not getting overtime work. The Commonwealth Conciliation and Arbitration Commission, which heard the application, was not persuaded that the anticipated consequences would follow, and the claim was rejected. (See also § 5, para. 2 (xi).)

4. *Hourly Wage Rates.*—(i) *General.* The average rates of wage in the preceding tables are based on the minimum rates prescribed for selected occupations in awards, etc., for a full week's work, excluding overtime. However, the number of hours constituting a full week's work differs in some instances between various occupations in each State, and between the same occupations in the several States. For some purposes, a better comparison may be obtained by reducing the results in the preceding paragraphs to a common basis, namely, the rate of wage per hour. The particulars of weighted average minimum hourly rates of wage given in the following tables relate to all industrial groups except Rural, and Shipping and Stevedoring. The Rural industry is not included in the index and Shipping and Stevedoring has been excluded because, for some of the occupations in this group, definite particulars for the computation of average working hours and hourly rates of wage are not available.

(ii) *Adult Males—States.* The following table shows the weighted average minimum hourly rates of wage payable to adult male workers, and index numbers of hourly rates in each State.

HOURLY WAGE RATES(a) : ADULT MALES.

WEIGHTED AVERAGE MINIMUM HOURLY RATES PAYABLE AND INDEX NUMBERS OF HOURLY RATES.

Date.	N.S.W.	Vic.	Q'land.	S. A.	W. A.	Tas.	Aust.
RATES OF WAGE.(b)							
(Pence.)							
31st December, 1945..	33.64	33.05	32.63	31.72	32.83	31.71	33.05
" " 1950..	61.96	60.58	58.60	59.44	60.35	59.42	60.70
" " 1955..	91.89	88.87	85.22	85.68	90.50	88.45	89.36
" " 1960..	109.04	105.05	105.35	102.70	107.87	105.83	106.68
" " 1961..	112.24	108.66	108.05	106.46	109.53	109.23	109.86

For footnotes, see next page.

HOURLY WAGE RATES(a): ADULT MALES—*continued.*

Date.	N.S.W.	Vic.	Q'land.	S. A.	W. A.	Tas.	Aust.
INDEX NUMBERS.							
(Base: <i>Weighted Average Hourly Wage Rate for Australia, 1954 = 100.</i> )							
31st December, 1945..	39.6	38.9	38.4	37.4	38.7	37.3	38.9
" " 1950..	73.0	71.4	69.0	70.0	71.1	70.0	71.5
" " 1955..	108.2	104.7	100.4	100.9	106.6	104.2	105.3
" " 1960..	128.4	123.7	124.1	121.0	127.1	124.7	125.7
" " 1961..	132.2	128.0	127.3	125.4	129.0	128.7	129.4

(a) Weighted average hourly rates of wage for all industrial groups except rural, and shipping and stevedoring. See para. 4 (i) on previous page. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

(iii) *Adult Females—States.* The following table shows the weighted average minimum hourly rates of wage payable to adult female workers, and index numbers of hourly rates in each State.

## HOURLY WAGE RATES: ADULT FEMALES.

## WEIGHTED AVERAGE MINIMUM HOURLY RATES PAYABLE AND INDEX NUMBERS OF HOURLY RATES.

Date.	N.S.W.	Vic.	Q'land.	S. A.	W. A.	Tas.	Aust.
RATES OF WAGE.(a)							
(Pence.)							
31st December, 1951..	52.30	51.90	48.72	51.37	49.02	50.23	51.51
" " 1953..	60.87	60.69	56.88	60.07	57.37	59.81	60.12
" " 1955..	63.65	63.43	58.72	60.88	59.65	60.67	62.59
" " 1960..	79.31	74.33	72.34	73.27	75.77	72.42	76.13
" " 1961..	81.61	77.32	77.25	76.01	77.40	75.28	78.95

## INDEX NUMBERS.

(Base: *Weighted Average Hourly Wage Rate for Australia, 1954 = 100.*)

31st December, 1951..	86.9	86.2	80.9	85.3	81.4	83.4	85.6
" " 1953..	101.1	100.8	94.5	99.8	95.3	99.3	99.9
" " 1955..	105.7	105.3	97.5	101.1	99.1	100.8	104.0
" " 1960..	131.7	123.5	120.1	121.7	125.8	120.3	126.4
" " 1961..	135.5	128.4	128.3	126.2	128.5	125.0	131.1

(a) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

5. *Weighted Average Standard Weekly Hours of Work.*—The 40-hour week has operated in Australia generally from 1st January, 1948, and in New South Wales from 1st July, 1947 (see para. 3 (iii), page 406). However, as stated in para. 4 (i) on page 407, the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or between States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and agreements for a full working week, in respect of adult male workers in all industrial groups except Rural, and Shipping and Stevedoring, at 31st December, 1961, were:—New South Wales, 39.95; Victoria, 39.97;

Queensland, 39.98; South Australia, 39.96; Western Australia, 39.89; Tasmania, 39.97; Australia, 39.96. Corresponding figures for adult female workers at 31st December, 1961 were:—New South Wales, 39.53; Victoria, 39.81; Queensland, 39.70; South Australia, 39.77; Western Australia, 39.78; Tasmania, 39.56; Australia, 39.67.

### § 3. Average Weekly Earnings.

1. Average Weekly Total Wages and Salaries Paid and Average Earnings, All Industries.—The following figures are derived from employment and wages recorded on Pay-roll Tax returns, from other direct collections and from estimates of the unrecorded balance. Pay of members of the Defence Forces is not included. Corresponding figures for each quarter are published in the *Monthly Review of Business Statistics* and the *Monthly Bulletin of Employment Statistics*, and particulars for each quarter from September quarter, 1947, may be found in the Appendix to *Labour Report* No. 48, 1960.

#### AVERAGE WEEKLY TOTAL WAGES AND SALARIES PAID AND AVERAGE EARNINGS.(a)

Year.	N.S.W. (b)	Vic.	Qld.	S. Aust. (c)	W. Aust.	Tas.	Aust.
AVERAGE WEEKLY TOTAL WAGES AND SALARIES PAID. (£'000.)							
1956-57 .. ..	20,943	14,925	6,457	4,507	3,177	1,635	51,644
1957-58 .. ..	21,664	15,510	6,585	4,635	3,284	1,671	53,349
1958-59 .. ..	22,414	16,240	6,970	4,823	3,347	1,725	55,519
1959-60 .. ..	24,816	18,123	7,441	5,392	3,618	1,878	61,268
1960-61 .. ..	26,823	19,204	7,819	5,661	3,886	1,969	65,362
AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT.(d) (£.)							
1956-57 .. ..	19.89	19.70	17.50	18.28	17.48	18.79	19.16
1957-58 .. ..	20.44	20.22	17.94	18.68	18.05	18.95	19.67
1958-59 .. ..	21.04	20.69	18.63	19.10	18.19	19.33	20.19
1959-60 .. ..	22.77	22.28	19.89	20.61	19.46	20.71	21.76
1960-61 .. ..	24.03	23.32	21.00	21.33	20.57	21.42	22.86

(a) Includes, in addition to wages at award rates, earnings of salaried employees, overtime earnings, over-award and bonus payments, etc. (b) Includes the Australian Capital Territory. (c) Includes the Northern Territory. (d) Total wages and salaries, etc., divided by total civilian employment expressed in male units. Male units represent total male employment plus a proportion of female employment based on the approximate ratio of female to male earnings. As it is not possible to estimate the ratio of female to male earnings in the several States, the same ratio has been used for each State. Because the actual ratio may vary between States, precise comparisons between average earnings in different States cannot be made on the basis of the figures above.

2. Average Weekly Earnings Index Numbers.—The following table shows, for "All Industries" and for "Manufacturing", the movement in average weekly earnings from 1947-48 to the March Quarter, 1962. The "All Industries" index is based on Pay-roll Tax returns and other data. The index for manufacturing industries for the years 1947-48 to 1960-61 is based on the average earnings of male wage and salary earners employed in factories as disclosed by annual factory censuses (see Chapter VI.—Manufacturing Industry, § 8, para. 2 (iii)); figures for quarters subsequent to June quarter, 1961, are preliminary estimates based on Pay-roll Tax returns.

The index numbers show for "All Industries" and "Manufacturing" the movement in average earnings over a period of time. However, they do not give, at any point of time, a comparison of actual earnings in the two groups. The base of each series is the year 1953-54 = 100 and both series have been seasonally adjusted.

Particulars for each quarter from September quarter, 1947, were published in *Labour Report* No. 48, 1960.

**AVERAGE WEEKLY WAGE EARNINGS(a) INDEX NUMBERS: AUSTRALIA.**  
SEASONALLY ADJUSTED.

(Base of each Series: 1953-54 = 100.)

Year.	All Industries.(b)	Manufacturing.	Quarter.		All Industries.(b)	Manufacturing.
1947-48..	47.5	48.0	1959-60—September	Quarter	129.7	131.8
1948-49..	53.9	54.3	December	„	130.5	132.7
1949-50..	59.3	60.0	March	„	135.5	137.5
1950-51..	71.1	72.0	June	„	138.5	139.5
1951-52..	87.1	88.4				
			1960-61—September	„	138.2	140.2
1952-53..	95.2	95.4	December	„	141.3	141.7
1953-54..	100.0	100.0	March	„	141.3	142.4
1954-55..	105.4	106.9	June	„	141.1	140.2
1955-56..	112.2	113.8				
1956-57..	118.2	118.3	1961-62—September	„	141.8	142.2
			December	„	144.6	144.1
1957-58..	121.3	122.0	March	„	145.3	145.8
1958-59..	124.5	125.6				
1959-60..	133.6	135.4				
1960-61..	140.5	141.1				

(a) See note (a) to table on previous page. (b) Average earnings per male unit employed. Male units represent total male employment plus a proportion of female employment based on the approximate ratio of female to male earnings.

#### § 4. Surveys of Wage Rates and Earnings.

1. **General.**—Towards the end of 1960, a statistical survey of the wage structure of Australia was undertaken by this Bureau. The object of the survey was to obtain information as to marginal rates of wage and actual weekly earnings of adult male employees (excluding part-time and casual employees) for the last pay-period in September, 1960. The results of this survey are summarized in para. 2 below.

A survey as at the last pay-period in October, 1961, provided similar information as to actual weekly earnings. Because marginal rates of wage had changed very little since the Margins Cases of 1959 (see § 6, para. 3), this survey was confined to weekly earnings only. A summary of the results is given in para. 3.

Both surveys were based on returns from stratified random samples of private employers subject to Pay-roll Tax. They did not include government or semi-government employment. Because of insufficient data, employees in rural industry and private domestic service were excluded, as also were employees of religious, benevolent and other similar bodies exempt from Pay-roll Tax. In addition, the 1960 survey excluded the shipping and stevedoring industry, the motion picture industry, certain businesses such as those of accountants, consultant engineers, and trade associations, etc.

2. **Survey of Wage Rates and Earnings, September, 1960.**—The results of this survey were based on returns received from more than 3,000 employers, representing a response rate of about 90 per cent. of those approached. The sample was designed to provide accurate particulars only for Australia as a whole; hence no State details are shown in the tables below.

Definitions relevant to the survey are as follows:—

- (a) *Number of Employees* refers to adult male employees on the pay-roll of the last pay-day in September, 1960, and includes employees who, although under 21 years of age, were paid at the adult rate prescribed in the appropriate award. Part-time and casual employees and those absent in the defence forces were excluded.
- (b) The term *awards*, as used herein, denotes awards or determinations of, or agreements registered with, Commonwealth or State industrial tribunals. Employees whose rates of pay and working conditions were not regulated by awards, and employees covered by formal, though unregistered, agreements between employee organizations and employers, are shown as “not covered by awards”.
- (c) *Margins* are minimum amounts, in addition to the basic wage, awarded to particular classifications of employees for features attaching to their work, such as skill, experience, arduousness or other like factors. For the purposes of this survey the following were not included in margins:—special allowances prescribed in awards, such as shift, dirt, and height money, leading hand allowances, etc.; and other payments such as commission, payments above



the minimum rate for contract and piece work, etc. (see paragraphs (e) and (g) below and also § 6. Wage Margins). In the case of contract work, etc., the margin was determined by the minimum amount prescribed in the award for the class of work performed. Where the marginal rate of wage for an occupation was not specified in an award, the margin was assumed to be the difference between the total minimum prescribed rate of wage for the occupation and the appropriate Commonwealth or State basic wage. For employees not covered by awards, and whose margins were not specified in unregistered agreements, the margin was assumed to be the difference between the appropriate basic wage in the State jurisdiction and the agreed rate of pay for a standard working week (or the weekly equivalent of the agreed rate).

- (d) *Total Weekly Earnings* include ordinary time earnings at award rates (and, for employees not covered by awards, payments at agreed rates for a standard working week), overtime earnings and all other payments. Annual or other periodical bonuses were included only at the appropriate proportion for one week. For employees paid other than weekly, only the proportion of earnings equivalent to one week was included.
- (e) *Ordinary Time Earnings at Award Rates* represent the total weekly payment to adult male employees (excluding part-time and casual employees) for hours of work paid for up to the standard or award hours, calculated at award rates of pay. They include payments for sick leave, proportion of annual leave, special allowances prescribed in awards, etc. (see sub. para. (c) above). For employees not covered by awards, they include payments at agreed rates for a standard working week.
- (f) *Overtime Earnings* represent the total weekly payment to adult male employees (excluding part-time and casual employees) for time worked in excess of award or agreed hours.
- (g) *Other Earnings* include all payments other than those in paragraphs (e) and (f) above, such as commission, payments above the minimum rate for contract work, incentive scheme, piece-work and profit-sharing scheme payments, proportion of annual or other periodical bonuses, points system payments, attendance or good time-keeping bonuses, etc. (see sub. para. (c) above).

(i) *Marginal Rates of Wage. (a) Industrial Groups.* In the following table, adult male employees in each of the main industrial groups are classified according to weekly margin above the basic wage.

**ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL EMPLOYEES) CLASSIFIED ACCORDING TO MARGINAL RATES OF WAGE: INDUSTRIAL GROUPS, AUSTRALIA, SEPTEMBER, 1960.(a)**

Weekly Margin.(b)	Manufacturing.			Building and Construction. (c)	Wholesale and Retail Trade.	Other Industries.	Total.
	Engineering, Metal Works, etc.	Other Manufacturing.	Total Manufacturing.				
<b>NUMBER OF EMPLOYEES ('000).(b)</b>							
Amount above Basic Wage—							
Less than 20s. (incl. nil)	6.1	9.0	15.1	0.9	3.3	6.1	25.4
20s. and less than 30s.	32.6	21.0	53.6	4.6	4.6	9.9	72.7
30s. " " " 40s.	26.2	25.7	51.9	2.9	5.5	6.5	66.8
40s. " " " 60s.	41.3	68.3	109.6	7.0	31.4	19.5	167.5
60s. " " " 80s.	37.5	54.0	91.5	12.1	48.0	21.5	173.1
80s. " " " 100s.	65.7	51.2	116.9	11.6	30.4	28.3	187.2
100s. " " " 120s.	26.9	29.5	56.4	10.5	22.9	17.8	107.6
120s. and over ..	52.5	87.8	140.3	31.3	68.5	64.2	304.3
<b>Total .. ..</b>	<b>288.8</b>	<b>346.5</b>	<b>635.3</b>	<b>80.9</b>	<b>214.6</b>	<b>173.8</b>	<b>1,104.6</b>
<b>PROPORTION OF TOTAL (PER CENT.).</b>							
Amount above Basic Wage—							
Less than 20s. (incl. nil)	2.1	2.5	2.4	1.2	1.6	3.5	2.3
20s. and less than 30s.	11.3	6.1	8.4	5.6	2.1	5.7	6.6
30s. " " " 40s.	9.1	7.4	8.2	3.5	2.6	3.7	6.0
40s. " " " 60s.	14.3	19.7	17.2	8.6	14.6	11.2	15.2
60s. " " " 80s.	13.0	15.6	14.4	15.0	22.4	12.4	15.7
80s. " " " 100s.	22.7	14.8	18.4	14.4	14.2	16.3	17.0
100s. " " " 120s.	9.3	8.5	8.9	13.0	10.6	10.3	9.7
120s. and over ..	18.2	25.4	22.1	38.7	31.9	36.9	27.5
<b>Total .. ..</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) See page 410 for particulars of the coverage of the survey. (b) For definitions, see text above. (c) For some employees, allowances for sick leave, public holidays, etc. have been included in the marginal rates shown.

(b) *Jurisdiction.* In the following table, adult male employees are classified according to weekly margin above the basic wage, separate particulars being shown for employees under Commonwealth or State jurisdiction and for those not covered by awards.

**ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL EMPLOYEES) CLASSIFIED ACCORDING TO MARGINAL RATES OF WAGE: JURISDICTION, AUSTRALIA, SEPTEMBER, 1960.(a)**

Weekly Margin.(b)	Number of Employees ('000).(b)				Proportion of Total (Per Cent.).			
	Under Commonwealth Awards.	Under State Awards.	Not Covered by Awards.	Total.	Under Commonwealth Awards.	Under State Awards.	Not Covered by Awards.	Total.
<b>Amount above Basic Wage—</b>								
Less than 20s. (incl. nil) ..	12.2	11.4	1.8	25.4	2.7	2.4	1.0	2.3
20s. and less than 30s. ..	42.3	29.5	0.9	72.7	9.3	6.2	0.5	6.6
30s. " " " 40s. ..	32.6	32.7	1.5	66.8	7.2	6.9	0.8	6.0
40s. " " " 60s. ..	73.5	91.2	2.8	167.5	16.2	19.2	1.6	15.2
60s. " " " 80s. ..	72.1	96.7	4.3	173.1	15.9	20.4	2.5	15.7
80s. " " " 100s. ..	110.8	71.8	4.6	187.2	24.4	15.1	2.6	17.0
100s. " " " 120s. ..	48.0	54.0	5.6	107.6	10.6	11.4	3.2	9.7
120s. and over ..	61.9	87.3	155.1	304.3	13.7	18.4	87.8	27.5
<b>Total .. ..</b>	<b>453.4</b>	<b>474.6</b>	<b>176.6</b>	<b>1,104.6</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) See page 410 for particulars of the coverage of the survey.

(b) For definitions, see page 410.

(ii) *Total Weekly Earnings.* (a) *Ordinary Time, Overtime and Other Earnings.* In the following table, the total wages and salaries paid to adult male employees during the last pay-week in September, 1960, are shown for the main industrial groups, separate particulars being given for ordinary time earnings at award rates, overtime earnings and all other earnings.

**TOTAL WAGES AND SALARIES PAID TO ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL EMPLOYEES) DURING LAST PAY-WEEK IN SEPTEMBER, 1960: INDUSTRIAL GROUPS, AUSTRALIA.(a)**

Industrial Group.	Ordinary Time Earnings at Award Rates. (b)	Overtime Earnings.(b)	Other Earnings.(b)	Total.
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(£'000.)

<b>Manufacturing—</b>				
Engineering, Metal Works, etc. ..	5,469	1,012	724	7,205
Other Manufacturing ..	6,961	849	700	8,510
<i>Total Manufacturing</i> ..	<i>12,430</i>	<i>1,861</i>	<i>1,424</i>	<i>15,715</i>
Building and Construction ..	1,061	150	92	1,303
Wholesale and Retail Trade ..	4,521	238	425	5,184
Other Industries ..	4,448	493	552	5,493
<b>Total .. ..</b>	<b>22,460</b>	<b>2,742</b>	<b>2,493</b>	<b>27,695</b>

**PROPORTION OF TOTAL (PER CENT.).**

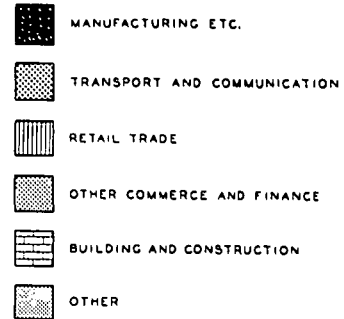
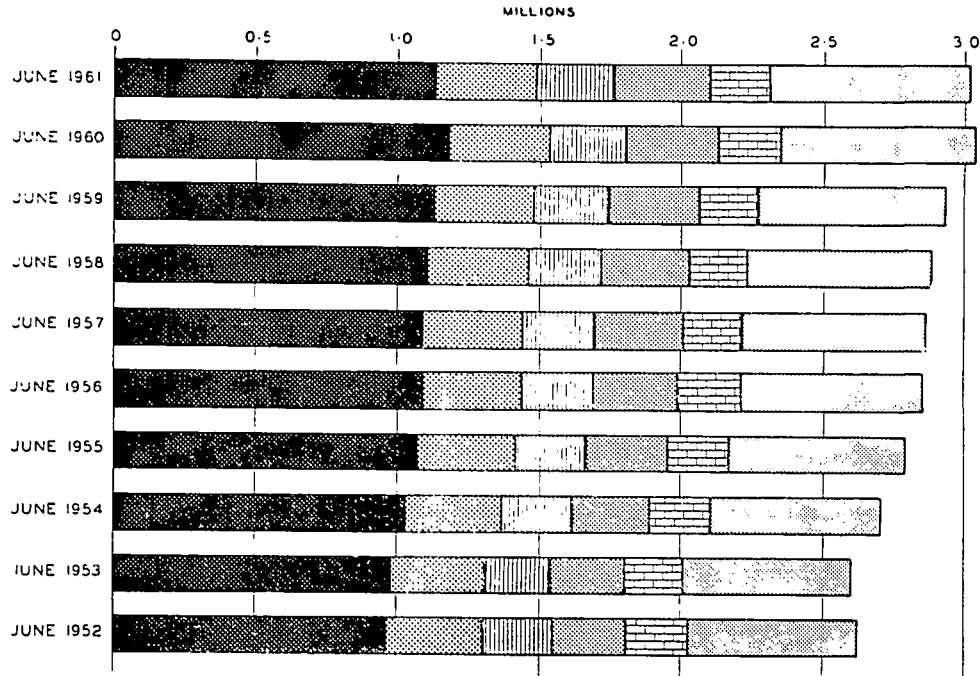
<b>Manufacturing—</b>				
Engineering, Metal Works, etc. ..	75.9	14.0	10.1	100.0
Other Manufacturing ..	81.8	10.0	8.2	100.0
<i>Total Manufacturing</i> ..	<i>79.1</i>	<i>11.8</i>	<i>9.1</i>	<i>100.0</i>
Building and Construction ..	81.4	11.5	7.1	100.0
Wholesale and Retail Trade ..	87.2	4.6	8.2	100.0
Other Industries ..	81.0	9.0	10.0	100.0
<b>Total .. ..</b>	<b>81.1</b>	<b>9.9</b>	<b>9.0</b>	<b>100.0</b>

(a) See page 410 for particulars of the coverage of the survey.

(b) For definitions, see page 411.

# WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT \*

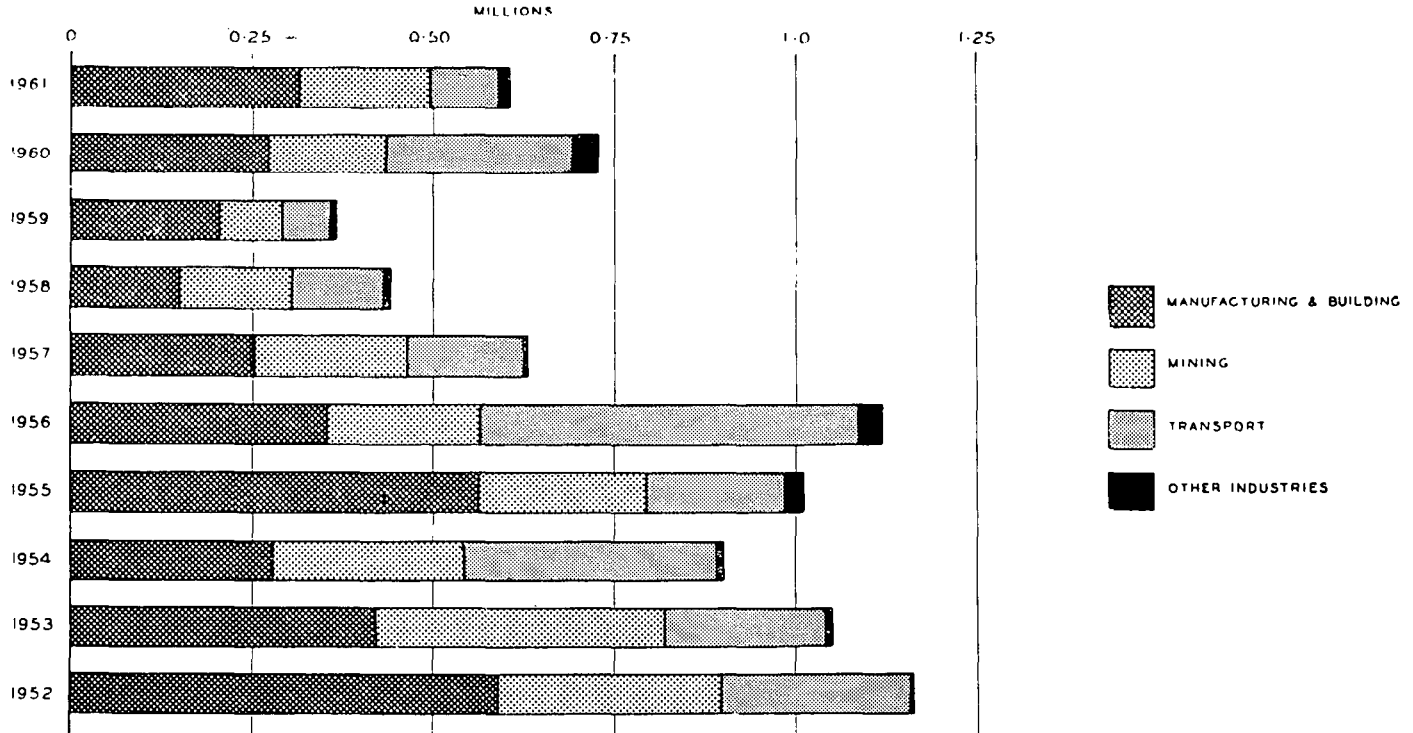
AUSTRALIA, 1952 TO 1961



\* EXCLUDES RURAL WAGE EARNERS, FEMALE PRIVATE DOMESTICS, PERSONNEL IN DEFENCE FORCES AND NATIONAL SERVICE TRAINEES IN CAMP.

# INDUSTRIAL DISPUTES, AUSTRALIA, 1952 TO 1961

WORKING DAYS LOST - INDUSTRIAL GROUPS



(b) *Industrial Groups.* Adult male employees in the main industrial groups covered by the survey are classified in the following table according to total weekly earnings.

**ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL EMPLOYEES) CLASSIFIED ACCORDING TO TOTAL WEEKLY EARNINGS INDUSTRIAL GROUPS, AUSTRALIA, SEPTEMBER, 1960.(a)**

Total Weekly Earnings.(b)	Manufacturing.					Wholesale and Retail Trade.	Other Industries.	Total.
	Engineering, Metal Works, etc.	Other Manufacturing.	Total Manufacturing.	Building and Construction.				
NUMBER OF EMPLOYEES ('000).(b)								
Less than £14(c)	6.6	7.2	13.8	1.7	1.7	1.9	19.1	
£14 and less than £16	8.9	16.7	25.6	1.4	4.4	5.0	36.4	
£16 " " " £18	23.9	44.7	68.6	5.2	37.4	16.0	127.2	
£18 " " " £20	33.4	55.1	88.5	9.0	42.2	21.3	161.0	
£20 " " " £22	37.9	47.8	85.7	11.0	31.9	20.2	148.8	
£22 " " " £24	36.3	38.5	74.8	14.3	23.1	18.3	130.5	
£24 " " " £26	30.5	34.2	64.7	8.0	17.1	17.4	107.2	
£26 " " " £30	47.7	40.8	88.5	11.5	23.6	26.0	149.6	
£30 " " " £35	34.3	29.0	63.3	9.7	14.4	21.5	108.9	
£35 and over	29.3	32.5	61.8	9.1	18.8	26.2	115.9	
Total	288.8	346.5	635.3	80.9	214.6	173.8	1,104.6	

PROPORTION OF TOTAL (PER CENT.).

Less than £14(c)	2.3	2.1	2.2	2.2	0.8	1.1	1.7
£14 and less than £16	3.1	4.8	4.0	1.7	2.0	2.9	3.3
£16 " " " £18	8.3	12.9	10.8	6.5	17.4	9.2	11.5
£18 " " " £20	11.6	15.9	13.9	11.1	19.7	12.3	14.6
£20 " " " £22	13.2	13.8	13.5	13.6	14.9	11.6	13.5
£22 " " " £24	12.6	11.1	11.8	17.7	10.7	10.5	11.8
£24 " " " £26	10.4	9.9	10.2	9.8	8.0	10.0	9.7
£26 " " " £30	16.5	11.8	13.9	14.2	11.0	14.9	13.5
£30 " " " £35	11.9	8.3	10.0	12.0	6.7	12.4	9.9
£35 and over	10.1	9.4	9.7	11.2	8.8	15.1	10.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See page 410, for particulars of the coverage of the survey.

(b) For definitions, see page 410.

(c) Inquiry indicated that many of the adult males in this group were absent for part of the week.

3. *Survey of Weekly Earnings, October, 1961.*—For this survey, returns were received from all employers selected in the sample, numbering more than 3,500. The sample was designed so that particulars of the distribution of earnings in each State could be obtained as well as those for Australia (see below), but it was not possible, without a considerable increase in the number of returns, to obtain particulars for each industry group in each State. State details were therefore restricted to the two major groups, manufacturing and non-manufacturing; those for Australia were obtained for eight separate industry groups. Because of limitations of space, it has not been possible to include all figures in the tables herein. For further details, reference should be made to Statistical Bulletin No. 22—*Survey of Weekly Earnings, October, 1961*, 14th February, 1962.

Within each State, each published industry group was divided into eight size groups, using male employment as recorded on the Pay-roll Tax returns for March, 1961, as a measure of size. This measure was also used to improve the reliability of the sample estimate, using ratio estimation. This technique involved estimating the ratio of adult male employment in a particular earnings class in October, 1961, within each industry group and State, to total male employment in March, 1961, in that industry group and State (derived from expansion of the sample). Since total male employment by industry group and State in March, 1961, was known accurately from Pay-roll Tax records, estimates of adult male employment in

these earning classes in October, 1961, were obtained by applying the estimated ratios to the corresponding known totals. The estimates thus obtained were considerably more reliable than any which could have been produced had this supplementary information not been taken into account.

The businesses selected in the sample were allocated by States and by industry and size groups in such a way that the precision of the sample estimates for total manufacturing and total non-manufacturing, expressed as percentages of the estimates themselves, would be approximately the same in each State.

Definitions relevant to the survey are as follows:—

*Number of Employees* refers to adult male employees on the pay-roll of the last pay-period in October, 1961, and includes employees who, although under 21 years of age, were paid at the adult rate prescribed for their particular occupation. Part-time and casual employees and those absent in the defence forces were excluded. Executive, clerical and sales staff were included, as were employees working short time who would normally have been full-time employees.

*Total Weekly Earnings* (i.e., gross earnings before taxation and other deductions) include ordinary time earnings, overtime earnings and all other payments, such as holiday and sick pay, commission, payments above the minimum rate for contract work, incentive scheme, piece-work and profit-sharing scheme payments, points system payments, attendance bonuses, etc. Annual or other periodical bonuses have been included only at the appropriate proportion for one week. For employees paid other than weekly, only the proportion of earnings equivalent to one week has been included.

(i) *States. (a) All Industries.* In the following table adult male employees in each State are classified according to total weekly earnings. The proportions of employees in each earnings group and at various levels of earnings are also shown.

**ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL  
EMPLOYEES) CLASSIFIED ACCORDING TO TOTAL WEEKLY  
EARNINGS, OCTOBER, 1961.(a)**

Total Weekly Earnings.(b)	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
NUMBER OF EMPLOYEES.(b)							
Less than £14(c) ..	4,699	2,911	870	793	209	395	9,877
£14 and less than £16 ..	4,239	5,542	4,175	1,991	1,698	670	18,315
£16 " " " £18 ..	28,596	30,362	18,119	10,802	8,103	3,699	99,681
£18 " " " £20 ..	57,709	48,429	23,737	16,865	10,906	5,115	162,761
£20 " " " £22 ..	58,261	49,596	18,100	16,290	9,379	4,777	156,403
£22 " " " £24 ..	54,108	44,498	10,834	12,070	6,665	4,163	132,338
£24 " " " £26 ..	50,563	36,034	9,626	9,206	5,019	3,335	113,783
£26 " " " £30 ..	65,691	42,401	12,046	11,701	6,546	3,803	142,188
£30 " " " £35 ..	49,649	33,157	9,471	8,509	4,463	2,806	108,055
£35 and over ..	59,894	40,418	10,642	7,674	5,410	2,949	126,987
<b>Total ..</b>	<b>433,409</b>	<b>333,348</b>	<b>117,620</b>	<b>95,901</b>	<b>58,398</b>	<b>31,712</b>	<b>1,070,388</b>

PROPORTION OF TOTAL (PER CENT.).

Less than £14(c) ..	1.1	0.9	0.8	0.8	0.3	1.2	0.9
£14 and less than £16 ..	1.0	1.7	3.6	2.1	2.9	2.1	1.7
£16 " " " £18 ..	6.6	9.1	15.3	11.2	13.9	11.7	9.3
£18 " " " £20 ..	13.3	14.5	20.0	17.6	18.7	16.1	15.2
£20 " " " £22 ..	13.4	14.9	15.3	17.0	16.1	15.1	14.6
£22 " " " £24 ..	12.5	13.4	9.3	12.6	11.4	13.1	12.4
£24 " " " £26 ..	11.7	10.8	8.2	9.6	8.6	10.5	10.6
£26 " " " £30 ..	15.2	12.7	10.3	12.2	11.2	12.0	13.3
£30 " " " £35 ..	11.4	9.9	8.1	8.9	7.6	8.9	10.1
£35 and over ..	13.8	12.1	9.1	8.0	9.3	9.3	11.9
<b>Total ..</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

NOTE.—See next page for footnotes.

ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL  
EMPLOYEES) CLASSIFIED ACCORDING TO TOTAL WEEKLY  
EARNINGS, OCTOBER, 1961 (a)—continued.

Total Weekly Earnings.(b)	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
CUMULATIVE PROPORTION OF TOTAL (PER CENT.).(d)							
£35 and over .. ..	13.8	12.1	9.1	8.0	9.3	9.3	11.9
£30 " " " " " "	25.2	22.0	17.2	16.9	16.9	18.2	22.0
£26 " " " " " "	40.4	34.7	27.5	29.1	28.1	30.2	35.3
£24 " " " " " "	52.1	45.5	35.7	38.7	36.7	40.7	45.9
£22 " " " " " "	64.6	58.9	45.0	51.3	48.1	53.8	58.3
£20 " " " " " "	78.0	73.8	60.3	68.3	64.2	68.9	72.9
£18 " " " " " "	91.3	88.3	80.3	85.9	82.9	85.0	88.1
£16 " " " " " "	97.9	97.4	95.6	97.1	96.8	96.7	97.4
£14 " " " " " "	98.9	99.1	99.2	99.2	99.7	98.8	99.1

(a) See page 415 for particulars of the coverage of the survey.

(b) For definitions, see page 416.

(c) Inquiry indicated that the majority of the adult males in this group did not work a full week because of absenteeism, changing jobs, etc. Others were working short time.

(d) These percentages indicate the proportion of the total employees in each State whose weekly earnings were as shown.

(b) *Manufacturing and Non-manufacturing.* The proportion of adult male employees in each earnings group is shown for manufacturing and non-manufacturing industries in the following table.

ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL  
EMPLOYEES) CLASSIFIED ACCORDING TO TOTAL WEEKLY EARNINGS:  
MANUFACTURING AND NON-MANUFACTURING INDUSTRIES, OCTOBER,  
1961.(a)

PROPORTION OF TOTAL (PER CENT.).

Total Weekly Earnings.(b)	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Total.
MANUFACTURING.							
Less than £14(c) .. ..	1.2	1.0	1.3	1.1	0.4	1.5	1.1
£14 and less than £16 ..	1.2	2.1	5.3	2.2	4.2	2.0	2.1
£16 " " " £18 .. ..	7.8	11.0	18.3	10.6	16.8	12.3	10.5
£18 " " " £20 .. ..	12.6	14.6	20.6	17.5	20.2	13.8	14.8
£20 " " " £22 .. ..	13.9	15.5	16.8	17.2	17.6	15.5	15.2
£22 " " " £24 .. ..	13.7	12.8	9.2	13.1	10.5	12.6	12.8
£24 " " " £26 .. ..	11.5	10.6	8.0	10.0	8.2	11.4	10.6
£26 " " " £30 .. ..	15.5	12.5	9.4	12.3	10.0	12.8	13.4
£30 " " " £35 .. ..	11.0	9.6	5.8	9.0	5.9	8.9	9.6
£35 and over .. ..	11.6	10.3	5.3	7.0	6.2	9.2	9.9
Total .. ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0

NON-MANUFACTURING.

Less than £14(c) .. ..	0.9	0.6	0.4	0.5	0.3	0.8	0.7
£14 and less than £16 ..	0.7	1.0	2.2	2.0	2.0	2.3	1.2
£16 " " " £18 .. ..	5.0	6.2	13.0	12.1	11.9	10.8	7.7
£18 " " " £20 .. ..	14.3	14.5	19.6	17.7	17.7	19.2	15.8
£20 " " " £22 .. ..	12.8	13.9	14.2	16.8	15.0	14.5	13.9
£22 " " " £24 .. ..	10.8	14.2	9.3	11.8	12.0	13.8	11.8
£24 " " " £26 .. ..	11.8	11.1	8.5	9.1	8.8	9.4	10.6
£26 " " " £30 .. ..	14.7	13.1	11.0	12.0	12.1	11.0	13.2
£30 " " " £35 .. ..	12.1	10.5	9.8	8.7	8.8	8.8	10.7
£35 and over .. ..	16.9	14.9	12.0	9.3	11.4	9.4	14.4
Total .. ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) See page 415 for particulars of the coverage of the survey.

(b) For definitions, see page 416.

(c) Inquiry indicated that the majority of the adult males in this group did not work a full week because of absenteeism, changing jobs, etc. Others were working short time.

(ii) *Australia, Industrial Groups.* Adult male employees in the main industrial groups covered by the survey are classified in the following table according to total weekly earnings.

**ADULT MALE EMPLOYEES (EXCLUDING PART-TIME AND CASUAL EMPLOYEES) CLASSIFIED ACCORDING TO TOTAL WEEKLY EARNINGS: INDUSTRIAL GROUPS, AUSTRALIA, OCTOBER, 1961.(a)**

Total Weekly Earnings.(b)	Manufacturing.				Building and Construction.	Wholesale and Retail Trade.	Other Industries.	Total.
	Engineering, Metal Works, etc.	Food, Drink and Tobacco.	Other Manufacturing.	Total Manufacturing.				
NUMBER OF EMPLOYEES.(b)								
Less than £14(c)	3,391	1,143	2,260	6,794	1,020	884	1,179	9,877
£14 and less than £16	4,397	1,974	6,028	12,399	713	2,718	2,485	18,315
£16 " " " £18	21,334	10,175	31,617	63,126	2,704	21,669	12,182	99,681
£18 " " " £20	36,358	17,249	34,769	88,376	7,616	45,930	20,839	162,761
£20 " " " £22	42,864	12,838	35,286	90,988	11,048	33,436	20,931	156,403
£22 " " " £24	37,473	10,458	28,772	76,703	12,733	25,644	17,258	132,338
£24 " " " £26	28,827	9,029	25,844	63,700	11,396	20,912	17,775	113,783
£26 " " " £30	36,221	11,351	32,359	79,931	9,083	25,264	27,910	142,188
£30 " " " £35	26,198	7,646	23,680	57,524	6,317	17,616	26,598	108,055
£35 and over	25,540	7,005	26,739	59,284	7,664	23,999	36,040	126,987
<b>Total</b>	<b>262,603</b>	<b>88,868</b>	<b>247,354</b>	<b>598,825</b>	<b>70,294</b>	<b>218,072</b>	<b>183,197</b>	<b>1,070,388</b>

PROPORTION OF TOTAL (PER CENT.).								
Less than £14(c)	1.3	1.3	0.9	1.1	1.5	0.4	0.6	0.9
£14 and less than £16	1.7	2.2	2.4	2.1	1.0	1.2	1.4	1.7
£16 " " " £18	8.1	11.4	12.8	10.5	3.9	9.9	6.7	9.3
£18 " " " £20	13.8	19.4	14.1	14.8	10.8	21.1	11.4	15.2
£20 " " " £22	16.3	14.4	14.3	15.2	15.7	15.3	11.4	14.6
£22 " " " £24	14.2	11.8	11.6	12.8	18.1	11.8	9.4	12.4
£24 " " " £26	11.0	10.2	10.4	10.6	16.2	9.6	9.7	10.6
£26 " " " £30	13.8	12.8	13.1	13.4	12.9	11.6	15.2	13.3
£30 " " " £35	10.0	8.6	9.6	9.6	9.0	8.1	14.5	10.1
£35 and over	9.8	7.9	10.8	9.9	10.9	11.0	19.7	11.9
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

CUMULATIVE PROPORTION OF TOTAL (PER CENT.).(d)								
£35 and over	9.8	7.9	10.8	9.9	10.9	11.0	19.7	11.9
£30	19.8	16.5	20.4	19.5	19.9	19.1	34.2	22.0
£26	33.6	29.3	33.5	32.9	32.8	30.7	49.4	35.3
£24	44.6	39.5	43.9	43.5	49.0	40.3	59.1	45.9
£22	58.8	51.3	55.5	56.3	67.1	52.1	68.5	58.3
£20	75.1	65.7	69.8	71.5	82.8	67.4	79.9	72.9
£18	88.9	85.1	83.9	86.3	93.6	88.5	91.3	88.1
£16	97.0	96.5	96.7	96.8	97.5	98.4	98.0	97.4
£14	98.7	98.7	99.1	98.9	98.5	99.6	99.4	99.1

(a) See page 415 for particulars of the coverage of the survey. (b) For definitions, see page 416. (c) Inquiry indicated that the majority of the adult males in this group did not work a full week because of absenteeism, changing jobs, etc. Others were working short time. (d) These percentages indicate the proportion of the total employees in each industry group whose weekly earnings were as shown.

### § 5. Basic Wages in Australia.

1. **General.**—The concept of a "basic" or "living" wage is common to rates of wage determined by industrial authorities in Australia. Initially the concept was interpreted as the "minimum" or "basic" wage necessary to maintain an average employee and his family in a reasonable state of comfort. However, it is now generally accepted "that the wage should be fixed at the highest amount which the economy can sustain and that the 'dominant factor' is the capacity of the community to carry the resultant wage levels".\*

\* Commonwealth Arbitration Reports, Vol. 77, p. 494.



Under the Commonwealth Conciliation and Arbitration Act 1904-1961 (*see* page 339) the Commonwealth Conciliation and Arbitration Commission (previously the Commonwealth Court of Conciliation and Arbitration) may, for the purpose of preventing or settling an industrial dispute extending beyond the limits of any State, make an order or award "altering the basic wage (that is to say, that wage or that part of the wage, which is just and reasonable for an adult male [female], without regard to any circumstance pertaining to the work upon which, or the industry in which he [she] is employed) or the principles upon which it is computed".

In the past, the Commonwealth Court of Conciliation and Arbitration held general basic wage inquiries from time to time and its findings applied to industrial awards within its jurisdiction. Prior to the decision of the Commonwealth Court of Conciliation and Arbitration, announced on 12th September, 1953, discontinuing the automatic adjustment of basic wages in Commonwealth awards in accordance with variations occurring in retail price index numbers, the relevant basic wage of the Commonwealth Court of Conciliation and Arbitration was adopted to a considerable extent by State Industrial Tribunals. In New South Wales and South Australia, the State industrial authorities adopted the relevant Commonwealth basic wage. In Victoria and Tasmania, where Wages Boards systems operate, no provision was included in the industrial Acts for the declaration of a basic wage, although, in the past, Wages Boards generally adopted basic wages based on those of the Commonwealth Court. In Queensland and Western Australia, the determination of a basic wage is a function of the respective State Industrial or Arbitration Courts and (subject to State law) they took into account the rates determined by the Commonwealth Court. Following the decision of the Commonwealth Court of Conciliation and Arbitration to discontinue automatic quarterly adjustments to the basic wage, the various State industrial authorities have determined State basic wages in accordance with the provisions of their respective State industrial legislation. Details of the action taken in each State and subsequent variations in State basic wages are set out in para. 5 (*see* pages 436-41.)

In addition to the basic wage, "secondary" wage payments, including margins for skill, loadings and other special considerations peculiar to the occupations or industry, are determined by these authorities. The basic wage, and the "secondary" wage, where prescribed, make up the "minimum" wage for a particular occupation. The term "minimum wage" as distinct from the basic wage is used currently to express the lowest rate payable for a particular occupation or industry. (*See also* § 2, para. 2. (iii) *Adult Males—Components of Total Wage Rate*, pages 403-4.)

2. **The Commonwealth Basic Wage.**—(i) *Early Judgments.* The principle of a living or basic wage was propounded as far back as 1890, but it was not until 1907 that a wage, as such, was declared by a Court in Australia. The declaration was made by way of an order in terms of section 2 (d) of the Excise Tariff 1906 in the matter of an application by H. V. McKay that the remuneration of labour employed by him at the Sunshine Harvester Works, Victoria, was "fair and reasonable". Mr. Justice Higgins, President of the Commonwealth Court of Conciliation and Arbitration, defined the standard of a "fair and reasonable" minimum wage for unskilled labourers as that standard appropriate to "the normal needs of the average employee, regarded as a human being living in a civilized community".\* The rate declared was 7s. a day or £2 2s. a week for Melbourne, the amount considered reasonable for "a family of about five".

The "Harvester" standard was adopted by the Commonwealth Court of Conciliation and Arbitration for incorporation in its awards, and practically the same rates continued until 1913, when the Court took cognizance of retail price index numbers, covering food and groceries and rent of all houses ("A" Series) for the 30 more important towns of Australia, which had been published by the Commonwealth Statistician for the first time in the preceding year. The basic wage rates for towns were thereafter varied in accordance with the respective retail price index numbers. Court practice was to equate the retail price index number 875 for Melbourne for the year 1907 to the "Harvester" rate of 42s. a week (or the base of the index (1,000) to 48s. a week). At intervals thereafter as awards came before it for review, the Court usually revised the basic wage rate of the award in proportion to variations in the retail price index. In some country towns, certain "loadings" were added by the Court to wage rates so derived to offset the effect of lower housing standards, and consequently of house rents, on the index numbers for these towns.

\* *Commonwealth Arbitration Reports*, Vol. 2, p. 3.

Over the period of its operation, the adequacy or otherwise of the "Harvester standard" was the subject of much discussion, the author of the judgment himself urging on several occasions the need for its review. During the period of rapidly rising prices towards the end of the 1914-18 War, strong criticism developed that this system did not adequately maintain the "Harvester" equivalent. A Royal Commission was appointed in 1919 to inquire as to what it would actually cost a man, wife and three children under fourteen years of age to live in a reasonable standard of comfort, and as to how the basic wage might be automatically adjusted to maintain purchasing power. The Commission's Reports were presented in 1920 and 1921. An application by the unions to have the amounts arrived at by the inquiry declared as the basic wage was not accepted by the Court because they were considerably in advance of existing rates, and grave doubts were expressed by members of the Court as to the ability of industry to pay such rates. Further details of the recommendations of the Commission were given in *Labour Report* No. 41, page 102.

The system of making automatic quarterly adjustments to the basic wage in direct ratio to variations in the retail price index ("A" Series) was first introduced in 1921. The practice then adopted was to calculate the adjustments to the basic wage quarterly on the index number for the preceding quarter. Previously, adjustments had been made sporadically in relation to retail price indexes for the previous calendar year or the year ended with the preceding quarter. The new method would have resulted in a basic wage lower than that to which employees would have been entitled had the previous practice been continued, and in 1922\* the Court added to the basic wage a general loading of 3s. (known as the "Powers 3s."), "a sum . . . which did, to the extent of 3s. per week, relieve the employees from the detrimental effect so far as they were concerned of the change which the Court was then making in its method of fixing the basic wage".† This loading continued until 1934. The practice adopted by the Commonwealth Court in 1921 of making automatic quarterly adjustments continued until the Court's judgment of 12th September, 1953 (*see* page 422).

For a description of the several series of retail price indexes referred to in these paragraphs, *see* page 387 of this Chapter.

(ii) *Basic Wage Inquiries*, 1930 to 1946. No change was made in the method of fixation and adjustment of the basic wage until the onset of the depression in 1930, when applications were made to the Court for a reduction of wages. From 1st February, 1931, the Court reduced all wages under its jurisdiction by 10 per cent. Subsequent applications in 1932 and 1933 for cancellation of this reduction were refused. In May, 1933, the Court transferred the basis of the quarterly adjustment of the basic wage from the "A" Series to the "D" Series Retail Price Index. Further particulars may be found in the *Labour Report*, Nos. 22 and 23.

The "Harvester" standard, adjusted by variations in retail price index numbers, continued to be the theoretical basis of the wage of the Commonwealth Court until the judgment of 17th April, 1934, when automatic adjustment was transferred to the "C" Series Retail Price Index, the base of the index being taken as equal to 81s. a week. The new rate for the six capital cities, £3 5s., was in effect the same as that previously paid under the "A" Series, without the "Powers 3s." and without the 10 per cent. reduction, which then ceased to operate. (*See Labour Report* No. 25, 1934.)

The following were the main features of the judgment of the 1937 Inquiry. (a) Amounts were added to the basic wage not as an integral, and therefore adjustable, part of that wage, but as "loadings" additional to the rates payable under the 1934 judgment (referred to as the "needs" portion of the basic wage). These loadings, commonly referred to as "Prosperity" loadings, ranged, for capital cities, from 4s. to 6s., that for the six capitals being 5s. (b) The minimum adjustment of the basic wage was fixed at 1s. a week instead of 2s. (c) The basis of the adjustment of the "needs" portion of the wage in accordance with the variations shown by retail price index numbers was transferred from the "C" Series to a special "Court" Series based upon the "C" Series. (d) Female and junior rates were left for adjustment by individual Judges when dealing with specific awards. (*See Labour Report* No. 28, pages 77-87.)

In 1940 the combined unions applied to have the value of 1,000 (the base of the "C" Series Index upon which the "Court" Series was based) raised from 81s. to 100s. a week, and the "Prosperity" loadings incorporated in the new rate. In its judgment of 7th

\* *Commonwealth Arbitration Reports*, Vol. 16, p. 32.

† *Ibid.*, p. 841.

February, 1941, the Court unanimously refused to grant any increase, owing mainly to the uncertainty of the economic outlook under existing war conditions. The application was stood over for further consideration. (*See below.*) In the course of the judgment the Chief Judge suggested that the basic wage might be graded according to family responsibilities by means of a comprehensive system of child endowment, and that if a scheme of this nature were established, future fixations of the basic wage would be greatly simplified. (The Commonwealth Child Endowment Act came into operation on 1st July, 1941. For details *see* Chapter XVIII.—Welfare Services.)

In 1946 an application was made for restoration of the adjourned 1940 hearing (*see above*). During the protracted hearing of the Standard Hours Inquiry (*see* page 406) it became apparent that reconsideration of the amount of the basic wage was, in the public interest, a matter of increasing urgency, and the unions therefore applied for an "interim" basic wage declaration. Judgment was delivered on 13th December, 1946, whereby an increase of 7s. a week was granted in the "needs" portion of the basic wage, the rate for the six capital cities as a whole being increased from 93s. to 100s. a week. For automatic quarterly adjustments, a new "Court" Index (Second Series) (Base 1923-27 = 87.0) was adopted. All "loadings" on the basic wage were retained. Further particulars of this judgment may be obtained from *Labour Report* No. 38, page 79.

For more detailed descriptions of the foregoing inquiries, reference should be made to earlier issues of the *Labour Report* and the Official Year Book.

(iii) *Basic Wage Inquiry, 1949-50.* This finalized the case begun in 1940 and continued in 1946 (*see above*). In 1946, during the hearing of the Standard Hours Inquiry and following the restoration to the Full Court List of applications for an increased basic wage, the Chief Judge ruled that the claim for an increase in the basic wage should be heard concurrently with the "40-hour week" claims then before the Court. The unions, however, objected to this course being followed, and, on appeal to the High Court, that Court in March, 1947, gave a decision which resulted in the Arbitration Court proceeding with the "Hours" Case to its conclusion.

The Basic Wage Inquiry, 1949-50, finally opened in February, 1949, and the general hearing of the unions' claims was commenced on 17th May, 1949. Separate judgments were delivered on 12th October, 1950;\* in the judgments, which were in the nature of general declarations, a majority of the Court (Foster and Dunphy *JJ.*) was of the opinion that the basic wage for adult males should be increased by £1 a week, and that for adult females should be 75 per cent. of the adult male rate. Kelly *C.J.*, dissenting, considered that no increase in either the male or the female wage was justified.

The Court on 24th October and 17th and 23rd November, 1950, made further declarations concerning the "Prosperity" and other loadings. The "Prosperity" loading of 1937 (*see* page 420), which was being paid at rates of between 3s. and 6s. a week according to localities, was standardized at a uniform rate of 5s. a week for all localities and was declared to be an adjustable part of the basic wage, the "War" loadings were declared to be not part of the basic wage, and any other loading declared to be part of the basic wage ceased to be paid as a separate entity.

The new rates operated from the beginning of the first pay-period in December, 1950, in all cases being the rate based on the Court Index (2nd Series) for the September quarter, 1950, plus a flat-rate addition of £1, together with the standardized "Prosperity" loading of 5s. The new basic wage rate for the six capital cities (weighted average) was £8 2s., comprising £6 17s. Court (2nd Series) plus 5s. uniform "Prosperity" loading plus the £1 addition. The declaration provided that the whole of this basic wage would be subject to automatic quarterly adjustments as from the beginning of the first pay-period commencing in February, 1951, on the basis of the index numbers for the December quarter, 1950. For this purpose, the new rate of £8 2s. was equated to the "C" Series retail price index number 1,572 for the six capital cities (weighted average) for the September quarter, 1950. From this equation was derived a new "Court" Index (Third Series) with 103.0 equated to 1,000 in the "C" Series Index.

Further particulars of the judgment may be found in *Labour Report* No. 39, page 81.

\* *Commonwealth Arbitration Reports*, Vol. 68, p. 698.

(iv) *Basic Wage and Standard Hours Inquiry, 1952-53.* On 5th August, 1952, the Commonwealth Court of Conciliation and Arbitration began hearing claims by employers' organizations that (a) the basic wage for adult males be reduced; (b) the basic wage for adult females be reduced; (c) the standard hours of work be increased; (d) the system of adjusting the basic wages in accordance with variations occurring in retail price index numbers be abandoned; and by employees' organizations, that the basic wage for adult males be increased.\*

The decision of the Court, announced on 12th September, 1953, was as follows:—the employers' applications for reduction of the basic wages for adult males and females and for an increase of the standard hours of work were refused; the employers' applications for omission or deletion of clauses or sub-clauses providing for the adjustment of basic wages were granted; and the unions' applications for increases of basic wages were refused.

The Court in the course of its judgment said that nothing had been put before it during the inquiry in support of a departure from its well-established principle that the basic wage should be the highest that the capacity of the community as a whole could sustain. If the Court is at any time asked to fix a basic wage on a true needs basis, the question of whether such a method is correct in principle and all questions as to the size of the family unit remain open.

In order to remove certain misconceptions about its function, the Court stated that it was neither a social nor an economic legislature, and that its function under section 25 of the Act was to prevent or settle specific industrial disputes. However, these must be settled upon terms which seem just to the Court, having regard to conditions which exist at the time of its decision.

The Court intimated that time would be saved in future inquiries if the parties to the disputes, in discussing the principle of the "capacity to pay", directed their attention to the broader aspects of the economy, as indicated by a study of employment, investment, production and productivity, oversea trade, oversea balances, the competitive position of secondary industry and retail trade.

In accordance with its decision, the Court, commencing on 21st October, 1953, amended all Commonwealth awards by deleting the clauses providing for the automatic adjustment of the basic wage. Subsequently, the power of the Court to vary awards not the subject of an application by one of the parties was unsuccessfully challenged in the High Court of Australia.

For further particulars of the judgment, see *Labour Report* No. 46, page 64.

(v) *Basic Wage Inquiry, 1956.* On 14th February, 1956, the Commonwealth Court of Conciliation and Arbitration commenced hearing an application by trade unions for an increase in the basic wage to the amount it would have reached if automatic quarterly adjustments deleted in September, 1953, had remained in force, plus a further £1; the re-introduction of automatic quarterly adjustments; and the abolition of what was known as the 3s. country differential. This application was regarded as a general application for variation of the basic wage in all Commonwealth awards.

All the claims made by the unions were opposed by the respondent employers. The Commonwealth Government in the public interest intervened and opposed the re-introduction of automatic adjustments. The States of New South Wales, Queensland, Western Australia and Tasmania supported the unions' claims for the re-establishment of the system of automatic adjustments and the raising of the basic wage to the levels indicated by the current "C" Series Index numbers, but the State of South Australia opposed these claims. The State of Victoria neither supported nor opposed the unions' claims.

The judgment was delivered on 26th May, 1956. The Court rejected each claim made by the unions, but decided to increase the adult male basic wage by 10s. a week, payable from the beginning of the first pay-period in June. As a result of this decision, the basic wage for adult females was increased by 7s. 6d. a week with proportionate increases for juniors of both sexes and for apprentices.

The Court took the view that its decision in 1953 to abandon the system of quarterly adjustments was clearly right and that "so long as the assessment of the basic wage is made as the highest which the capacity of the economy can sustain, the automatic adjustment of that basic wage upon price index numbers cannot be justified, since movements in the index

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\* *Commonwealth Arbitration Reports*, Vol. 77, p. 477.

have no relation to the movements in the capacity of the economy".\* After examining the state of the economy and the possible disastrous extension of inflation, the Court decided that the nation had not the capacity to pay a basic wage of the amount to which automatic quarterly adjustments would have brought it.

In its judgment the Court stated that in future a yearly assessment of the capacity of Australia for the purpose of fixing a basic wage would be most appropriate and that it would encourage any steps to have the Court fulfil such a task each year.

For further details, see *Labour Report* No. 46, page 67.

(vi) *Basic Wage Inquiry, 1956-57.* On 13th November, 1956, the Commonwealth Conciliation and Arbitration Commission in Presidential Session commenced to hear claims by the combined unions for an increase of the basic wage to the amount it would have reached if automatic quarterly adjustments had remained in force and for the restoration of automatic quarterly adjustments.† This application was treated by the Commission as a general application for alteration of the basic wage in all Commonwealth awards.

The unions' claims were opposed by the respondent employers. Victoria and South Australia were the only States to appear before the Commission and the Commonwealth Government intervened in the public interest. Victoria neither supported nor opposed the application by the unions. South Australia opposed the unions' claims and suggested that, if an increase in the basic wage were granted, the Commission should decide on the increase to be added to the six capitals basic wage, and then apportion that increase amongst the six capital cities on a basis accurately reflecting the differences in their cost of living. The Commonwealth opposed the restoration of the automatic adjustment system, whatever index was used for this purpose.

After hearing submissions by counsel for the unions that automatic quarterly adjustments of the basic wage should be restored and argument as to the appropriateness of using the "C" Series Index for this purpose, the Commission reaffirmed the decision of the Court in 1953, which, it said, "was primarily based on the view that there is no justification for automatically adjusting in accordance with a price index a wage assessed as the highest that the capacity of the community as a whole can sustain".‡ Accordingly, the claim for restoration of automatic quarterly adjustments was refused.

The Commission, having considered all aspects of the state of the economy, decided that the adult male basic wage should be increased by 10s. a week, payable from the first pay-period to commence on or after 15th May, 1957. The basic wage for adult females was increased by 7s. 6d., with proportionate increases for juniors and apprentices.

The historical background of differential rates of basic wage for respective cities and towns was examined by the Commission and it acknowledged that the Federal basic wage had two components. The first and greater component differed for each capital city and represented a rate of wage calculated by the use of "C" Series retail price index numbers for the June quarter, 1953, and the second component, common to all places, was the uniform 10s. awarded by the Court in 1956. On the question of whether the increase should be of a uniform amount, the alternative open to the Commission appeared to be either to follow what the Court did in 1956, or to recalculate the inter-capital-city differentials of the newly-fixed standard basic wage according to the latest "C" Series index numbers. The Commission decided to grant an increase of a uniform amount.

Judgment was delivered on 27th April, 1957. The Commission advised that it approved an annual review of the basic wage and would be available for this purpose in February, 1958. However, although favouring an annual review of the basic wage, the Commission considered that "it would not be proper for it nor would it wish to curtail the existing right of disputants to make an application at whatever time they think it necessary to do so".§

A more detailed summary of the judgment may be found in *Labour Report* No. 46, pages 68-71.

(vii) *Basic Wage Inquiry, 1958.* On 18th February, 1958, the Conciliation and Arbitration Commission commenced hearing an application by unions respondent to the Metal Trades Award for an increase of the basic wage to the amount it would have reached had the quarterly adjustment system been retained, plus an addition of 10s., and for restoration of quarterly adjustments.||

\* *Commonwealth Arbitration Reports*, Vol. 84, p. 175. † 87 C.A.R., p. 439. ‡ *Commonwealth Arbitration Reports*, Vol. 87, p. 445. § *Ibid.*, p. 459. || 89 C.A.R., p. 287.

These claims were opposed by private employers and by the State of South Australia, which also contended that, as the cost of living was much lower in Adelaide than in Melbourne and Sydney, greater disparities in basic wage rates than then existed should be determined if, against its submission, any general increase in the basic wage were decided upon. Tasmania, the only other State represented, made no submissions. The Attorney-General of the Commonwealth intervened in the public interest, and leave to intervene was granted to a number of professional, salaried and public service organizations.

In its judgment, delivered on 12th May, 1958, the Commission rejected the submission by the Professional Officers' Association that consideration should be given to the question whether increased capacity should be reflected in an increased basic wage only or extended also to the marginal or secondary contents of aggregate wages and salaries. The Commission also rejected the submission by the Australian Council of Salaried and Professional Associations that when the Commission looked at the capacity of industry to pay and gave an increase in the basic wage, it always kept something in reserve for a subsequent marginal claim.

The claim of the unions for the restoration of the 1953 basic wage standard was rejected by the Commission on the same ground as in its 1957 judgment, i.e., that it was unsafe to assume that the economy could sustain the 1953 rate as a "standard" in real terms.

The Commission then considered the three specific issues before it, namely, (a) should the system of automatic adjustments be restored? (b) should the basic wage be increased, and if so, by what amount? and (c) should there be uniform or disparate increases?

Counsel for the unions submitted that the unions still regarded the "C" Series Index as a proper guide for the determination of basic wage levels, but that if this contention were unacceptable to the Commission, there should be an immediate decision upon principle, and later, if need be, an inquiry in an effort to ascertain a proper price index. He also submitted that there should be, from time to time, additions to wages to afford to workers their proper share of increased productivity and efficiency, and that although the unions had never claimed that increments for increased productivity could under present circumstances be made by way of automatic adjustment, the objective of wage increases commensurate with price increases could best be achieved by the use of an automatic adjustment system. After having considered the submissions and without hearing arguments against the proposition, the Commission rejected the application for the restoration of automatic adjustments and for a deferred inquiry thereon. In the reasons for its judgment, the Commission stated that there was nothing in the submission to justify a departure from the decisions of 1953, 1956 and 1957 to reject automatic wage adjustments. The Commission also again expressed the opinion that a yearly assessment of the capacity of Australia for the purpose of fixing a basic wage would be most appropriate.

The Commission was unanimously of the opinion that the position of the economy regarded as a whole was such as to justify an increase in the basic wage, but a difference of opinion existed as to what the amount of the increase should be. A majority of the members, namely, Kirby *C.J.* and Gallagher *J.*, considered that it was undesirable in the interests of all to grant an increase higher than 5s.; Wright *J.*, on the other hand, considered that a basic wage level substantially higher than that proposed by the majority was justified. The decision of the majority prevailed, and the basic wage for adult males under Federal awards was therefore increased by 5s. a week.

The South Australian Government submitted that economically there was no scope at all for a basic wage increase anywhere in Australia; and again pursued the question of inter-city differentials as an answer to the union claim that the amount of the basic wage in Adelaide should be calculated by reference to the "C" Series retail price index numbers for that city. The substance of the State's case was that the actual cost of living was so much lower in Adelaide than in Melbourne and Sydney that greater disparities in basic wage rates than then existed should be determined by the Commission, if any general increase in the basic wage were decided upon. Subject to a stipulation that no reduction should be made in the existing basic wage rate for Adelaide, counsel for the South Australian Government claimed that the rate should be approximately 10 per cent. below the rate fixed for Sydney instead of approximately 5 per cent. below, as it then was. The Commission rejected the claim on the ground that it would not be wise or just to apply it in South Australia in view of the fact that it was neither sought nor supported by any other party, and its application to the Government and its instrumentalities alone was not sought. The Commission indicated that the issues involved in inter-city differential wage rates were complex and could not be decided after a brief hearing.

The decisions of the Commission were as follows:—the claim for restoration of automatic quarterly adjustments and the claim of the South Australian Government for special treatment were refused; and the basic wages of adult male employees covered by Federal awards were increased by a uniform amount of 5s. per week, to operate from the beginning of the first pay-period commencing on or after 21st May. As a result, the basic wage for adult females was increased to 75 per cent. of the new basic wage for adult males with proportionate increases for juniors and apprentices of both sexes.

(viii) *Basic Wage Inquiry, 1959.* On 24th February, 1959, the Conciliation and Arbitration Commission in Presidential Session commenced hearing an application by respondent unions for the following variations of the existing Metal Trades Award, namely, "by increasing the amounts of basic wage prescribed therein for respective cities, towns and localities to the figure they each would have reached had the quarterly adjustment system based on the "C" Series retail price index numbers been retained, plus an addition of 10s. to each basic wage, and by making provision for future adjustment of each of the new amounts at quarterly intervals by the application thereto of the same index numbers".\*

A large number of applications for similar variation of other awards were ordered to be treated as involved in the inquiry, and as such to be decided upon the evidence, material and submissions made from the beginning of the hearing.

The application of the unions was opposed by private employers generally, and by the State of South Australia and two of its instrumentalities. Tasmania was the only other State represented, and it appeared in support of the application of the unions in regard to the increase of the basic wage and the restoration of the quarterly adjustment system. The Commonwealth Government intervened in the public interest and submitted that the application for restoration of the automatic adjustment system should be refused. The Commonwealth again supplied, for the benefit of the Commission and the parties, economic and statistical information and material and, in addition, without making a particular submission as to whether there should be an increase, made a general submission on the state of the national economy.

Organizations of employers in the pastoral industry asked for a reduction in the basic wage in the Pastoral Award of £1 5s., being the aggregate amount of the increases granted in 1956, 1957 and 1958. The Commission decided to join these applications in the main hearing on 17th March, 1959, as a matter of procedure only, and without deciding affirmatively that the Commission as constituted for that hearing had power to grant them in whole or in part. At the conclusion on 5th May, 1959, of submissions in support of these applications and without calling upon employees in reply, the Commission stated that it would reject the applications for reduction of the basic wage in the Pastoral Award, and again indicated that the question of jurisdiction as to whether the Commission had the power to decide a different basic wage remained "undecided and open".

On 5th June, 1959, the three Judges delivered separate judgments. On the question of whether the system of automatic quarterly adjustments should be restored, the members of the Commission were divided in opinion, and therefore the question was decided in accordance with the decision of the majority. The majority decision, namely, that of Kirby C.J. and Gallagher J., was that the claim of the unions for restoration of the said system should be refused. Foster J. dissented.

The members of the Commission were unanimous in the opinion that there should be an increase in the basic wage, but as to the amount of the increase they were divided in opinion as follows.

The President, Kirby C.J., was of opinion that the increase should be 15s. a week, and that the increased basic wage should become payable as from the beginning of the first pay-period commencing on or after 11th June, 1959.

Foster J. was of opinion that the increase should be 20s. a week, payable as to 10s. as from the first pay-period in July, 1959, and as to the balance by increases of 2s. 6d. for four quarters commencing 1st January, 1960.

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\* *Commonwealth Arbitration Reports*, Vol. 91, p. 683-4.

Gallagher J. was of opinion that the increase should be one of 10s. a week, and that the increased wage should become payable as from the date chosen by the President.

Foster J., while holding his opinion, decided to concur in the decision proposed by the President.

A summary of the separate reasons for judgment was published in Official Year Book No. 46, pages 437-9.

(ix) *Basic Wage Inquiry*, 1960. On 16th February, 1960, the Conciliation and Arbitration Commission, constituted in Presidential Session by Kirby C.J. (President), Ashburner and Moore J.J. (Deputy Presidents), commenced hearing an application by respondent unions for the restoration to the Metal Trades Award of quarterly adjustments to the basic wage and for an increase in the amount of the basic wage. On the six capital cities rate the amount of the increase sought was 22s. a week.\* This amount was composed of two parts—firstly, an addition of 5s. a week to restore to the basic wage the same real value as it had in 1953, and, secondly, a further amount of 17s. representing the unions' estimate of the minimum increase in productivity which had occurred in the period since the automatic adjustment system was abolished.

The Commonwealth Government intervened in the public interest and again presented a detailed analysis of the economic situation of Australia, together with comments on fiscal and budgetary policy. It also announced its opposition to the unions' application both for restoration of automatic quarterly adjustments and for an increase in the basic wage. The State of South Australia presented material to the Commission to show the effect which wage increases would have on its finances, and opposed the unions' application. Victoria, Queensland and Western Australia presented information to show how their finances would be affected by wage increases, but neither supported nor opposed the claims of the applicants. Tasmania indicated that it supported the application for restoration of quarterly adjustments, but made no submissions.

In its judgment, delivered on 12th April, 1960, the Commission refused the unions' application. A summary of the judgment is given in the following paragraphs. Further particulars may be found in Official Year Book, No. 47, pp. 443-6.

Regarding the role of Governments in basic wage proceedings, the Commission stated that it welcomed whatever assistance it could get from parties and from interveners. Governments were in a special position to give the Commission a proper conspectus of the public sector and could also assist the Commission to review the economy as a whole. However, it was a matter for each Government concerned to decide whether it would appear before the Commission, and if so whether it would present material or state an attitude or both.

The role of the economic "indicators" was raised during the proceedings, and the Commission, in its judgment, commented that the indicators originated in 1953 as an attempt by the Commonwealth Court of Conciliation and Arbitration to make more orderly the presentation of material in basic wage cases. They were to be used as a framework for presentation of economic material, but were never intended to be used as a means of excluding material from the Commission's consideration. If parties or interveners wished the Commission to reduce or expand the present set of indicators or to approach the examination of the economy in a different way, they were at liberty to ask the Commission to do so.

*Application for Restoration of Quarterly Adjustments.* Counsel for the unions criticized the decision in the 1953 inquiry to abolish automatic quarterly adjustments to the basic wage and also the decisions, in subsequent inquiries, against their re-introduction. He submitted that it would be inequitable and unjust not to restore the practice which existed for many years prior to 1953, of having the basic wage automatically adjusted each quarter in accordance with movements in a price index. He relied in particular on the 1934 basic wage judgment.

In refusing the application, the Commission stated that the decision in the 1934 case was not relevant, as the question of automatic quarterly adjustments must be decided in the

\* Print No. 7469, p. 1.



light of existing situations and practices. In 1934 the basic wage was determined for an undefined period and automatic quarterly adjustments applied. In 1960 the Commission was considering a situation in which in practice the basic wage was each year re-assessed. The Commission decided that it was preferable to fix a basic wage which it considered just and reasonable for the ensuing twelve months and then review it. In the Commission's view it was not inequitable or unjust not to restore automatic adjustments.

*Application to Increase the Basic Wage.* With regard to this part of the application, the Commission stated:—"It is appropriate first to describe shortly the basic wage and margins as elements of a total wage and the somewhat unusual setting in which the question of an increase in the basic wage comes up this year for consideration. The total wage paid to most workers under federal awards is composed of two elements, namely, the basic wage and a margin for skill, responsibility and the like. The existence of these two elements is a result of the history of federal wage fixation and has received legislative approval. The legislation requires that the basic wage and margins be dealt with by differently constituted benches of this Commission. The basic wage may be altered only by the Commission in Presidential Session, that is, by a bench constituted by three or more judges. Margins may be altered by a single member of the Commission or by a full bench constituted by at least three members of whom at least one must be a judge. In the first instance applications for alterations of margins come before a single member of the Commission but on application by a party the President has power to direct that the matter be dealt with by a full bench if he is of opinion that it is of such importance that in the public interest it should be so dealt with. By such a direction the Metal Trades margins application of 1959 was dealt with by a full bench."

The Commission then went on to state briefly the recent history of basic wage and marginal fixation by the Commission and its predecessor, the Commonwealth Court of Conciliation and Arbitration, and referred to the four basic wage increases in the years 1956 to 1959 and the increases in margins in 1947, 1954 and 1959. The Commission expected that, in the light of the history of marginal fixation since 1947, it would be asked to consider the question of general marginal increases every few years. The Commission stated that so long as its decisions regarding metal trades margins are given general application and so long as the annual review of the basic wage continues, it follows that in one particular year the Commission constituted by a full bench of judges will review the basic wage and, constituted by a mixed bench, review margins. When the economy is found capable of sustaining an increase in both the basic wage and margins, it follows that the economic and psychological effect of each increase is affected and indeed highlighted by the other. This happened in 1959, when the basic wage was increased as from June by 15s., or an increase of 6 per cent., and margins were increased as from December by 28 per cent. of the amount of the margins existing as a result of the 1954 review by the Court. Together the 1959 increases approximated 8 to 10 per cent. of award wages.

The Commission was required by legislation to treat the basic wage and margins separately, but although constituted differently for each task, at the time of fixation of rates it had to look forward to the period which its decision would cover; that is, a year for the basic wage and, generally speaking, a longer period for margins. In dealing with the application then before it, the Commission had to decide whether the basic wage should again be increased, although less than a year had elapsed since increases were granted in both the basic wage and margins.

The unions submitted that since 1952-53 all the economic indicators customarily used by the Commission had shown significant improvement. However, in view of the Commission's conclusions in the case, it did not find it necessary to discuss the indicators. The employers submitted that, whatever might have been established about the indicators, there were two factors dominating the economic scene, namely, the two wage increases granted by the Commission in 1959, and the lifting of import restrictions by the Commonwealth Government. The whole of the economic material available to the Commission had to be discounted by the fact that the combined effect of the two wage increases had not at that time been felt by the economy. As to the lifting of import restrictions, the likelihood was that there would be an appreciable increase in the amount of imports, which would render more difficult the task of local manufacturers, a task already made difficult by the wage increases in 1959.

The Commonwealth Government stated that, although no quantitative estimate could be made of the increase in imports likely to occur as a result of the lifting of import restrictions, the significance of their removal was that it had come at a time when the effects of the 1959 wage increases had not been fully felt. The effect on the annual wages bill of the increased margins was estimated to be about £100 million and the direct cost of the 1959 basic wage increase about £65 million. In the Commonwealth's view, these increases would raise costs and price levels significantly and further secondary effects would follow. They would also give a further strong stimulus to the demand for goods and services. The Commonwealth Government submitted that what was needed was a firm rejection of any new measures that would add to current inflationary pressures and time for the adjustment of the economy to the general wage increases of 1959.

The Commission considered that such a clear statement of the Commonwealth Government's attitude, supported by submissions and economic material, was a matter which it must seriously take into account.

In concluding the reasons for judgment the Commission stated:—" We accept the submission made by the private employers and by the Commonwealth Government that we should not award an increase in the basic wage, bearing in mind that employees under federal awards have in the past twelve months received substantial increases in both basic and secondary wages. It is our view that at the present time, before the effects of these previous wage increases have been reflected in the economy, we cannot find that its capacity is such that a further basic wage increase can be awarded.

We consider that it would be unsafe and perhaps dangerous to increase the basic wage at this point of time. We have formed this opinion with a full sense of the obligation which this Commission has to fix the basic wage from time to time at the highest amount that the economy can sustain so that the wage and salary earner may obtain his proper share of goods and services. On the other hand we are mindful of the danger to the whole community, including the wage and salary earner, of the basic wage being fixed at an amount which might increase inflation and upset the stability of the economy."\*

(x) *Differential Basic Wage Inquiries, 1960.* On 9th August, 1960, the Commonwealth Conciliation and Arbitration Commission commenced hearing claims by:—(a) the Federated Engine Drivers and Firemen's Association of Australia to vary the Engine Drivers and Firemen's (General) Award by eliminating country differentials from basic wages prescribed therein; (b) employers' associations in South Australia to vary the Metal Trades Award by providing that future basic wage increases for Adelaide should be 25 per cent. less than basic wage increases for Sydney until the Adelaide basic wage was 90 per cent. of the Sydney basic wage, and that the basic wage applicable in areas other than Adelaide, Whyalla and Iron Knob should be £13 8s. and should remain unchanged until the Adelaide rate reached £14.

Judgment was delivered on 14th December, 1960. The Commission granted the application to eliminate specified country differentials from the Engine Drivers and Firemen's (General) Award, the new basic wages to be payable from the beginning of the first pay-period commencing on or after 1st January, 1961. Other awards were adjusted similarly on application to the Commission. The employers' applications in respect of basic wages in South Australia were both rejected.

(xi) *Basic Wage and Standard Hours Inquiry, 1961.* On 14th February, 1961, the Commonwealth Conciliation and Arbitration Commission, constituted by Kirby C.J. (President), Ashburner and Moore J.J. (Deputy Presidents), commenced hearing applications by employers and unions for variation of the Metal Trades Award. In the first application the employers sought to increase the number of ordinary working hours per week from 40 to 42, with a concomitant increase in weekly wages by an amount equivalent to two hours pay at ordinary rates, and to effect certain other consequential variations. In the second the unions applied for an increase in the basic wage on a six capital cities basis by the amount of 49s. (which was amended during the hearing to 52s.) and for the re-introduction of automatic

\* Print No. A7469, p. 9.

quarterly adjustments based on the "C" Series Retail Price Index. The amount claimed represented 27s. (30s.) for cost of living increases since 1953 and 22s. to reflect increases in productivity since that time.

In its judgment, delivered on 4th July, 1961, the Commission refused the employers' application, and the unions' application for restoration of quarterly adjustments, and increased the basic wage of adult male employees covered by federal awards by a uniform amount of 12s. a week, payable from the beginning of the first pay-period commencing on or after 7th July, 1961.\*

The applications were heard together, but although from time to time reference was made to the employers' claim, in essence it was the unions' claim which was to the forefront and with which all the parties principally concerned themselves.

*The Unions' Claims.* In dealing with the unions' claims, the Commission first discussed its own role and that of the Commonwealth and States.

In view of certain propositions put forward which seemed to be founded on the assumption that it had jurisdiction to deal with economic matters at large, the Commission once again set out the role and function of a federal arbitral tribunal in cases such as this. After citing what had been said in earlier judgments the Commission further stated:—"We are not national economic policy makers or planners. We are confined to the legislation under which we act, and, in particular, in basic wage cases we have the function of deciding only what is a just and reasonable basic wage. This does not mean of course, that we have not to consider seriously the probable effects of our decision on the economy."

The question of what weight the Commission should give to the attitude and submissions of the Commonwealth Government was again raised. The Commission referred to the 1960 Basic Wage Inquiry, in which the attitude of the Commonwealth was positively stated to be one of opposition to a wage increase, and that attitude, because it was supported by submissions and economic material, was a matter to be taken into account seriously. In the 1961 Inquiry, however, although the Commonwealth followed its usual practice of supplying, for the benefit of the Commission and the parties, certain economic and statistical material, it expressed no attitude other than its opposition to the re-introduction of quarterly adjustments. The Commission stated that it was not concerned with drawing inferences, as it had been asked to do, from the material presented, as to whether the Commonwealth had an attitude, and as to what it might be. On this question of the Commonwealth's attitude the Commission further stated:—"Because of a suggestion made in this case that the mere fact that the Commonwealth adopted an attitude before the Commission would result in that attitude being accepted, we unfortunately consider it necessary to repeat what we have said in the past that this simply is not so. It has not been so in the past and will not be so in the future. We wish to make it clear that any opposition to or support of any claim by the Commonwealth will be treated on its merits."†

All States except New South Wales were represented at the hearing. South Australia made no submissions and called no evidence. Tasmania indicated its support for the unions' application for the restoration of automatic adjustments, plus an adjustment of the basic wage to the level indicated by the movement in the "C" Series Index, but presented no material. Victoria, Queensland and Western Australia neither supported nor opposed the application of the unions, but all presented some statistical information.

In claiming the re-introduction of automatic quarterly adjustments, counsel for the unions submitted, firstly, that the reasoning in each of the judgments of the Court and the Commission from 1952-53 to 1960 was wrong and that there was in none of them any proper reason for rejecting the principle of automatic quarterly adjustments; and secondly, that it was wrong for the Commission to fix a wage based on the capacity of the economy and not to provide some machinery which would ensure that the value of the wage was not subsequently eroded by price movements when prices increased.

The Commission considered it indisputable that at the time of its fixation the amount of a basic wage is both a money wage and a real wage, but the value of the real wage is altered by subsequent changes in price levels. Counsel for the unions submitted that a real basic wage should be determined from time to time with some interval longer than one year between determinations, and that the real value of the basic wage between determinations

\* Print No. A7848, p. 3.

† *Ibid.*, p. 7.

should be maintained automatically by adjustment in accordance with a price index. Unless this were done, the amount of goods and services that could be purchased by the basic wage would decline as prices rose.

The Commission was asked to assume that between basic wage fixations the capacity of the economy to maintain a basic wage would increase or remain constant. If capacity were to diminish, the unions argued that the Commission is of easy access and employers could seek corrective action. The Commission's duty was to fix a just and reasonable basic wage and the provision of automatic quarterly adjustments would ensure that this was done. Further, the provision of automatic adjustments would relieve the Commission of the necessity of annual reviews of the state of the economy. The unions claimed that it was not practicable for the Commission to make a proper assessment of the economy, including movements in productivity, every twelve months, and to give proper consideration to the fixation of a new real basic wage.

The Commission rejected the employers' argument that the unions were really asking it to return to a needs basic wage as distinct from a capacity basic wage.

It went on to consider the practical difficulty which would in the past have confronted both the Court and the Commission if they had attempted to ensure that a basic wage fixed by them could be properly maintained at its real level. The Commission stated:—  
 “. . . . the ‘ C ’ Series Index was over a period becoming suspect and the Court and the Commission could not have relied on it to achieve a proper result. The emergence of the Consumer Price Index, however, has removed that difficulty and we are therefore now able to seek to ensure that the basic wage which we fix should, subject to our supervision, maintain its real standard; in other words, that employees should, between fixations of the real basic wage and subject to our supervision, continue to be able to purchase the same amount of goods and services with the basic wage portion of their wage. We add that amongst other things the emergence of the Consumer Price Index has also enabled us to fix at this time a standard which, in our view, is more likely to be properly maintainable than recent past standards.”\*

Having reached the conclusion that the principle of the maintenance of the purchasing power of the basic wage could be adopted, the Commission found it unnecessary to deal with the first part of the unions' argument, as to the correctness or otherwise of earlier decisions.

After comparing the “ C ” Series Retail Price Index and the Consumer Price Index, the Commission said:—“ In our view the material available demonstrates the superiority of the Consumer Price Index over the ‘ C ’ Series Retail Price Index. The former is an index recently constructed by the Commonwealth Statistician in order to give a proper and accurate up-to-date coverage of movements in retail prices. The latter index on a regimen constructed many years ago can no longer in our view be considered reliable for wage fixing purposes. We find the Consumer Price Index suitable under present circumstances for the maintenance of the purchasing power of the basic wage we will now fix.”†

It was then necessary to consider the question of how movements in the Consumer Price Index could be used. In the 1959 and 1960 basic wage decisions the Commission had stated that it was preferable to have an annual review rather than provide for automatic adjustments. However, with the publication of the Consumer Price Index, upon which greater reliance could be placed, what had been said in those two cases was no longer adequate. Nevertheless, the Commission was not prepared to return to a system whereby adjustment was purely automatic, because it thought that there should be some safeguard. Although the Consumer Price Index was preferred to the “ C ” Series Retail Price Index, it could not be assumed that this index would at all times so accurately measure movements in retail prices that the Commission would be prepared to apply its workings automatically to the basic wage.

In its judgment the Commission stated:—“ We consider it desirable that the application of the Consumer Price Index should always be subject to control by the Commission and the Commission should be able to decide whether a particular increase or decrease in the figures as disclosed in the Consumer Price Index should be applied to the basic wage. Our present opinion is that this consideration of prices should take place annually. We will each year make the assumption that the effect of movements in the Consumer Price Index should be

\* Print No. A7848, p. 10.

† Ibid., p. 11.

reflected in the basic wage unless we are persuaded to the contrary by those seeking to oppose the change. As the basis of our decision is the desirability of maintaining the value of the real wage based on the concept of national capacity, the appropriate matter for consideration would appear to be what should be the effect on the six capital cities basic wage of movements in the six capital cities index. The resulting figure will be applied to all federal basic wages.

“ Since such a consideration of price movements is to take place annually, the question remains whether the Commission should at the annual hearing continue to review all factors in the economy to decide whether or not to change the level of the real basic wage. It seems to us that once the question of prices is dealt with otherwise, a review of the economy generally and in particular of productivity increases could more properly take place at longer periods of time, say, every three or four years. This statement of our views does not, of course, preclude any party from seeking to exercise its right to come to the Commission more frequently than every three or four years to seek a change in the real basic wage but, except in unusual circumstances, we consider such a period a proper interval between reviews of this kind.”\*

The Commission concluded that the basic wage which it had fixed took into account increases in productivity up to June, 1960, and it therefore anticipated that a review of the real basic wage would not be necessary for some three years. The Commission went on:— “ If our anticipation is correct, in the proceedings next year the only issue will be whether or not the money wage should be adjusted in accordance with any change in the Consumer Price Index. The onus will be on the party opposing such an alteration to show that it should not be made. If the price index has risen the unions may rely *prima facie* on that fact. It will then be for the employers to show that the increase in prices is of an exceptional character . . . so that it should not be reflected in a basic wage increase or that there is some special factor in the economy which would make it inadvisable to allow the increase.”†

The Commission had felt in the past some difficulty in endeavouring to make a satisfactory assessment of the economy from the long-range point of view every twelve months, and this difficulty played its part in the Commission’s attempt to confine short-term considerations to price movements only, and to allow a longer period of time between considerations of the long-term trends in the economy.

On the subject of departure from past practices, the Commission said:—“ We consider it to be of importance that the Commission should not only consider itself open to depart from past practices when the occasion demands, but that it should make it quite clear that this will happen when the Commission, after due and careful consideration, considers it necessary. The concept is fundamental to our decision to depart from what has become the practice of having annual reviews of the basic wage in which the question of price increases is only one of a number of factors and is not given any special status.”‡

*Productivity.* The unions claimed that there should be an increase of 22s. a week in the basic wage, based on an estimated one per cent. per annum increase in productivity over the previous decade, and that since 1952–53 no proper allowance had been made in the amounts awarded for increases in productivity.

On this subject the Commission stated:—“ The question of productivity has been mentioned from time to time in various judgments of the Commission and there is really no dispute between the parties that workers are entitled to their share of increases in productivity. The issues between the parties are whether productivity can be measured with reasonable accuracy and whether in fact through wage increases workers have received their share of increased productivity.”‡

In evidence presented by the unions, productivity was calculated by taking the Gross National Product for a year, deflating it by a price index and dividing the figure corrected for prices by (a) population and (b) the total of wage and salary earners in civilian employment. On the basis of these calculations it was claimed that from 1952–53 to 1959–60 productivity had increased by about 2.6 per cent. per annum, “ real ” average earnings had increased by less than productivity, and the “ real ” basic wage had decreased. Counsel for the unions submitted that by taking one per cent. per annum the unions had clearly allowed for a safe margin of error.

\* Print No. A7848, p. 12.

† *Ibid.*, p. 13.

‡ *Ibid.*, p. 14.

In answer to this the employers produced a similar type of calculation, but using a different deflator and 1949-50 as the base year. On this basis it was claimed that the "real" basic wage had increased slightly more than productivity per person employed and some 10 per cent. more than productivity measured on a population basis, and "real" average weekly earnings had increased more than the "real" basic wage.

After considering the various calculations which had been submitted, the Commission concluded that 1952-53 was an abnormal year for the purpose of relevant comparison, and that 1949-50 was more satisfactory to take as a starting point. In the Commission's view it followed that the 1960 basic wage properly reflected increased productivity in so far as that could be approximately measured.

The employers claimed that the Commission should look at average weekly earnings as the true indicator of whether increases in productivity had been distributed to the work force, and that the only thing to be measured against productivity was what was in fact earned, and not the basic wage. In the Commission's view, the relevant consideration in fixing a basic wage was whether, if average weekly earnings properly reflected increased productivity but the basic wage did not, there was room for an increase in the basic wage based on the same increased productivity. In view of its finding that the 1960 basic wage did reflect increased productivity, the Commission concluded that it was unnecessary to decide the question on that occasion.

The Commission then reviewed in detail the indicators of the state of the economy. Having examined the problems bound up in the questions of excessive demand, wool and the competitive position of secondary industry and their interlocking with oversea trade and oversea reserves, the Commission considered that the economy had the capacity to sustain an increase of 12s. in the basic wage and that that increase was the highest that could be sustained. This amount was sufficient to restore to the 1960 basic wage its purchasing power as measured by the Consumer Price Index.

The Commission considered the standard of the seven basic wages of the previous ten years and decided that the most appropriate one was the standard of 1960. It felt that the new basic wage combined in the result its conclusions on fundamental factors in a threefold way, because it was fixed at the highest amount the capacity of the economy allowed, it adopted as a standard that set by the basic wage of 1960, and it took account of productivity increases up to and including 1959-60.

Both the employers and the Commonwealth Government warned of the danger of inflation which might result from an increase in wages. However, the Commission pointed out that there was no legal reason why any increase in the basic wage should not be absorbed by over-award payments, although this might not be possible because of industrial pressure and scarcity of skilled labour. While the increase in wages granted would cause some increase in costs, the stimulation of demand would only restore it to the level of the previous year. The estimated increase of £60 million a year in wages and salaries would add less than two per cent. to the annual wages bill.

*The Employers' Claim.* The employers' claim was for an increase in standard hours from forty to forty-two per week, with a concomitant increase in the weekly wage equivalent to two hours pay at ordinary rates. This was to operate for four years, after which time weekly hours would revert to forty but the increased wage would remain. The Commission rejected arguments supporting this application, which stated that such a measure was called for by the balance of payments crisis, and that it would lead to increased productivity at stable prices and distribute more evenly the amount of overtime worked. The Commission did not think that the state of the economy was such that standard hours should be increased.

*Employees on Lower Margins.* During the course of the proceedings the President asked for submissions on the question of whether by prescription of the basic wage special consideration should or could be given to those employees who receive a margin above the basic wage of, say, £1 a week or less. The Commission decided that even if it had jurisdiction it would not, as a matter of discretion, make a differential basic wage at that time.

*Annual Leave Decision.* The Commission rejected the view that the reasons given for not granting an increase in annual leave in 1960 should impel it to refuse an increase in the basic wage. The question of wages was more fundamental and more important to the worker

than the question of leave, and reasons which might delay the granting of additional leave may not be of sufficient weight to delay a basic wage increase. Also, had an increase in annual leave been granted, the Commission might not have been able to grant the increase in wages.

*Decisions.* The decisions of the Commission were as follows:—

- “ 1. The employers' claim for an increase in the standard hours of work from forty to forty-two with a concomitant increase in the weekly wage equivalent to two hours pay at ordinary rates is refused.
2. The unions' claim for restoration of automatic quarterly adjustments is refused.
3. The basic wages of adult male employees covered by federal awards will be increased by a uniform amount of 12s. per week.
4. The new rates will come into effect from the beginning of the first pay-period commencing on or after 7th July instant subject to special cases.
5. For the specific reasons set out in the judgment we consider that in February next the only issue in regard to the basic wage should be why the money wages fixed as a result of our decision should not be adjusted in accordance with any change in the Consumer Price Index and for the purpose of deciding that issue the Order giving effect to the decisions hereby announced will also provide for the adjournment of the application of the unions for increase of the basic wages under the Metal Trades Award to Tuesday, 20th February, 1962, in Melbourne, when such submissions thereon as are desired to be made will be heard.
6. The decision regarding increases in basic wages is applicable to all the applications which have been ordered by the Commission to be joined for hearing and decision with the original application and those joined applications are stood over to a date after 20th February, 1962, to be fixed by the Commission.”\*

(xii) *Basic Wage Inquiry, 1962.* In accordance with decision no. 5 in the 1961 Inquiry (see above), the adjourned hearing was held on 20th February, 1962, before Kirby C.J., and Ashburner and Moore JJ.

Counsel for the unions submitted that, although the 1961 judgment represented a recognition of union claims as to the need to maintain the real value of the basic wage, it had not met in full the demands of the trade union movement. He drew the Commission's attention to certain resolutions of the 1961 Congress of the Australian Council of Trade Unions, and in particular referred to the Consumer Price Index, which, he said, had been issued without the opportunity being provided for proper consultation with the principal parties affected. The trade unions were continuing their investigation of the index.

The unions intended to return to the Commission at the appropriate time to argue at length for the implementation of their policy as to the basic wage standard and the question of quarterly adjustment.

In the employers' submission, reference was made to the Commission's 1961 judgment as indicating a firm intention to confine argument in the current hearing to the quantum of any basic wage change and to exclude any re-examination of the Commission's departure from previously accepted principles. As the Consumer Price Index had shown practically no change between the March and December quarters of 1961, there could be no change in the basic wage. However, the employers' view was that in any hearing involving movement in the basic wage the parties must be free to discuss economic capacity to sustain the basic wage at any given level and the principles upon which it is computed.

Counsel for the Commonwealth stated that at the proper time the Commonwealth would appear before the Commission to present argument as to the use of price indexes in basic wage fixation and other important issues raised by the 1961 judgment. However the matter might come before the Commission as a matter of procedure, when circumstances called for the debate of any substantive issue the Commonwealth would be in a position to make further submissions.

The decision of the Commission was as follows:—

- “ 1. There will be no alteration in the amounts of the existing basic wages until further order of the Commission;
2. The application before the Commission is further adjourned until 19th February, 1963;
3. At such adjourned hearing the issues will be:
  - (a) The issue set out in paragraph 5 of the decisions of 4th July, 1961;
  - (b) Any issue which a party desires to raise and of which it has given notice to the Industrial Registrar, the other parties and to the Attorney-General by the 31st January, 1963;
4. The applications referred to in paragraph 6 of the decision of 4th July, 1961, are stood over to a date after the 19th February, 1963, to be fixed by the Commission with liberty to any of the parties to those applications to apply in the meantime.”

(xiii) *Rates Operative, Principal Towns.* The basic wage rates of the Commonwealth Conciliation and Arbitration Commission for adult males and females, operative as from the beginning of the first pay period commencing on or after 7th July, 1961, were as shown in the following table.

COMMONWEALTH BASIC WAGE: WEEKLY RATES (a), 1962.

City or Town.	Rate of Wage.		City or Town.	Rate of Wage.	
	Adult Males.	Adult Females.		Adult Males.	Adult Females.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
New South Wales—			Western Australia—		
Sydney ..	14 15 0	11 1 0	Perth ..	14 8 0	10 16 0
Newcastle ..	14 15 0	11 1 0	Kalgoorlie ..	14 15 0	11 1 0
Port Kembla—			Geraldton ..	15 1 0	11 5 6
Wollongong ..	14 15 0	11 1 0	Five Towns ..	14 9 0	10 16 6
Broken Hill ..	14 19 0	11 4 0			
Five Towns ..	14 14 0	11 0 6	Tasmania—		
Victoria—			Hobart ..	14 14 0	11 0 6
Melbourne ..	14 7 0	10 15 0	Launceston ..	14 10 0	10 17 6
Geelong ..	14 7 0	10 15 0	Queenstown ..	14 5 0	10 13 6
Warrnambool ..	14 7 0	10 15 0	Five Towns ..	14 12 0	10 19 0
Mildura ..	14 7 0	10 15 0	Thirty Towns ..	14 8 0	10 16 0
Yallourn(b) ..	14 13 6	11 0 0			
Five Towns ..	14 7 0	10 15 0	Six Capital Cities	14 8 0	10 16 0
Queensland—			Northern Territory—		
Brisbane ..	13 10 0	10 2 6	Darwin ..	15 7 0	11 10 0
Five Towns ..	13 11 0	10 3 0	South of 20th Parallel ..	14 14 0	11 0 6
South Australia—			Australian Capital Territory—		
Adelaide ..	14 3 0	10 12 0	Canberra ..	14 10 0	10 17 6
Whyalla and Iron Knob(c) ..	14 8 0	10 16 0			
Five Towns ..	14 2 0	10 11 6			

(a) Operative from the beginning of the first pay-period commencing on or after 7th July, 1961; female rates are 75 per cent. of male rates. (b) Melbourne rate plus 6s. 6d. loading for males; 75 per cent. of male rate for females. (c) Adelaide rate plus 5s. for males; 75 per cent. of male rate for females.

The following table shows the movements of this wage in all State capital cities and the six capital cities as a whole during the period 1939 to 1962.



**BASIC WAGE: WEEKLY RATES(a), CAPITAL CITIES, PRESCRIBED BY COMMONWEALTH CONCILIATION AND ARBITRATION COMMISSION (b) FOR ADULT MALES.**

Date Operative.(c)	Sydney.		Melbourne.		Brisbane.		Adelaide.		Perth.		Hobart.		Six Capitals.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
September, 1939 ..	81	0	81	0	76	0	78	0	77	0	77	0	79	0
November, 1941 ..	89	0	88	0	84	0	84	0	85	0	85	0	87	0
.. 1942 ..	97	0	97	0	91	0	93	0	91	0	92	0	95	0
.. 1943 ..	99	0	98	0	93	0	94	0	94	0	95	0	97	0
.. 1944 ..	99	0	98	0	93	0	93	0	94	0	94	0	96	0
.. 1945 ..	99	0	98	0	93	0	93	0	94	0	94	0	96	0
.. 1946 ..	101	0	99	0	94	0	95	0	95	0	97	0	98	0
December, 1946 ..	108	0	106	0	101	0	102	0	102	0	103	0	105	0
November, 1947 ..	112	0	109	0	105	0	106	0	106	0	107	0	109	0
.. 1948 ..	122	0	120	0	115	0	116	0	116	0	118	0	119	0
.. 1949 ..	132	0	130	0	125	0	126	0	129	0	128	0	129	0
.. 1950 ..	146	0	143	0	135	0	137	0	139	0	139	0	142	0
December, 1950 ..	165	0	162	0	154	0	158	0	160	0	160	0	162	0
November, 1951 ..	207	0	199	0	185	0	195	0	197	0	199	0	200	0
.. 1952 ..	237	0	228	0	216	0	229	0	228	0	230	0	231	0
August, 1953 (d) ..	243	0	235	0	218	0	231	0	236	0	242	0	236	0
June, 1956 ..	253	0	245	0	228	0	241	0	246	0	252	0	246	0
May, 1957 (e) ..	263	0	255	0	238	0	251	0	256	0	262	0	256	0
May, 1958 (e) ..	268	0	260	0	243	0	256	0	261	0	267	0	261	0
June, 1959 (e) ..	283	0	275	0	258	0	271	0	276	0	282	0	276	0
July, 1962 (f) ..	295	0	287	0	270	0	283	0	288	0	294	0	288	0

(a) Rates include prosperity loadings where applicable. (b) Prior to 30th June, 1956, Commonwealth Court of Conciliation and Arbitration. (c) Rates operative from the beginning of the first pay-period in the month indicated, unless otherwise stated. (d) Automatic adjustment discontinued (see p. 422). (e) For date operative, see the relevant Basic Wage Inquiry (pp. 423-6). (f) Operative from the beginning of the first pay-period commencing on or after 7th July, 1961.

A table showing Commonwealth basic wage rates from 1923 to 1961 was published in *Labour Report* No. 48, Appendix XI.

3. Australian Territories.—In the Northern Territory, there are two basic wages operating, one in respect of areas north of the 20th parallel of South Latitude, generally referred to as the "Darwin" rate, and the other in respect of areas south of that parallel and extending down to the 26th parallel (the "Port Augusta" rate).

The basic wage rates payable as from the beginning of the first pay-period commencing on or after 7th July, 1961, were:—"Darwin" rate, adult males, £15 7s., adult females, £11 10s.; "Port Augusta" rate, adult males, £14 14s., adult females, £11 0s. 6d.

In addition to these rates, special loadings were prescribed in Northern Territory awards following the fixation of the basic wage rates operative from November, 1951.

In the Australian Capital Territory, the rates payable as from the beginning of the first pay-period commencing on or after 7th July, 1961, were £14 10s. for adult males and £10 17s. 6d. for adult females.

Further details of basic wage rates in the Northern Territory and the Australian Capital Territory may be found in *Labour Report* No. 48, pages 100-4.

4. Basic Wage Rates for Females.—Reference should be made to *Labour Report* No. 48, (pp. 98-100) for an account of the fixation of minimum rates and basic wages for adult females by the Commonwealth Court of Conciliation and Arbitration. At the end of the 1949-50 Basic Wage Inquiry, the Commonwealth Court of Conciliation and Arbitration, by a majority decision, fixed the basic weekly wage for adult females at 75 per cent. of the corresponding male rate from the beginning of the first pay-period commencing in December, 1950. This percentage has continued to be prescribed in subsequent inquiries.

5. *State Basic Wages.*—(i) *New South Wales.* The first determination under the New South Wales Industrial Arbitration Act of a standard "living" wage for adult male employees was made on 16th February, 1914, when the Court of Industrial Arbitration fixed the living wage at £2 8s. a week for adult males in the metropolitan area. A Board of Trade, established in 1918, with power to determine the "living" wage for adult male and female employees in the State, made numerous declarations from 1918 to 1925, but ceased to function after the Industrial Arbitration (Amendment) Act, 1926 transferred its powers, as from 15th April, 1926, to the Industrial Commission of New South Wales.

The adult male rate was determined on the family unit of a man, wife and two children from 1914 to 1925; a man and wife only in 1927, with family allowances for dependent children; and a man, wife and one child in 1929, with family allowances for other dependent children. However, with the adoption in 1937 of the Commonwealth basic wage, the identification of a specified family unit with the basic wage disappeared.

A State scheme of supplementing wages by child endowment became operative in New South Wales from July, 1927, and continued until superseded by the Commonwealth Government scheme in July, 1941. A brief account of the main features of the New South Wales system was given in Official Year Book No. 37, pages 485–6. For particulars of the Commonwealth scheme, *see* Chapter XVII.

Shortly after the Commonwealth Court of Conciliation and Arbitration announced its decision in the 1937 Basic Wage Inquiry, the Government of New South Wales amended the Industrial Arbitration Act to make the State basic wage agree with the Commonwealth rate ruling in New South Wales, and to adopt, as far as practicable, the general principles of operation laid down by the Commonwealth Court. Further amendments to the Industrial Arbitration Act were made in 1950 to give effect to the new rates declared by the Commonwealth Court of Conciliation and Arbitration in the 1949–50 Basic Wage inquiry (*see* page 421).

Differential basic wage rates for country areas (except Broken Hill) and for employees under Crown awards were eliminated by an amendment of the Industrial Arbitration Act in 1951. Separate rates for Broken Hill were discontinued in 1961 (*see* below).

Following the decision of the Commonwealth Court of Conciliation and Arbitration in September, 1953, to discontinue the system of automatic adjustment of the basic wage in accordance with changes in the "Court" Series retail price index numbers, the New South Wales Industrial Commission deleted the automatic adjustment clause from awards, etc., within its jurisdiction. As a result, the basic wages applicable for the State and operative from the beginning of the first pay-period commencing in August, 1953, remained unchanged until November, 1955.

In October, 1955, the Industrial Arbitration Act 1940–1955 was amended to provide for the automatic adjustment of the existing basic wage each quarter, in accordance with the movements in the Commonwealth Statistician's "C" Series retail price index numbers. The first adjustment, based on the index number for the September quarter, 1955, represented the amount which would have been added to the basic wage if quarterly adjustments had not been suspended, and was made payable from the beginning of the first pay-period in November, 1955. Automatic adjustments have continued to operate since that date.

Act No. 29, 1961 (assented to on 13th October, 1961) amended the Industrial Arbitration Amendment Act, 1961, by adopting the consumer price index numbers in place of the "C" Series retail price index numbers for purposes of the automatic quarterly adjustment of the basic wage. The November, 1961, variation was the first based on the Consumer Price Index. Consumer price index numbers relate only to capital cities and the weighted average for the six capital cities, and as a result the Sydney basic wage rate became the rate for the whole of New South Wales, separate rates no longer being prescribed for Broken Hill and "5 Towns" after November, 1961.

From the beginning of the first pay-period in February, 1962, the basic wage for adult males was £15 0s. and for adult females, £11 5s.

The Industrial Arbitration (Female Rates) Amendment Act (No. 42, 1958), which became operative on 1st January, 1959, defined the existing basic wage for adult females as being 75 per cent. of the adult male rate and made provision for equal pay for males and females in certain circumstances. Where the Industrial Commission or a Conciliation Committee is satisfied that male and female employees are performing work of the same or a like nature and of equal value, they shall prescribe the same marginal or secondary rates of wage. The basic wage for these adult females was prescribed as 80 per cent. of the appropriate basic wage for adult males as from 1st January, 1959. Thereafter, the basic wage was to be increased annually by 5 per cent., so that on 1st January, 1963, it will be the same as that for adult males.

(ii) *Victoria.* There is no provision in Victorian industrial legislation for the declaration of a State basic wage. Wages Boards constituted from representatives of employers and employees, with an independent chairman, for each industry group or calling, determine the minimum rate of wage to be paid in that industry or calling. In general, these Boards have adopted a basic wage in determining the rate of wage to be paid.

By an amendment to the Factories and Shops Act in 1934, Wages Boards were given discretionary power to include in their determinations appropriate provisions of relevant Commonwealth Awards. A further amendment to this Act in 1937 made it compulsory for Wages Boards to adopt such provisions of Commonwealth Awards. The 1937 Act, as amended, also gave Wages Boards power to adjust wage rates, "with the variation from time to time of the cost of living as indicated by such retail price index numbers published by the Commonwealth Statistician as the Wages Board considers appropriate". The Wages Boards thus adopted the basic wages declared by the Commonwealth Court of Conciliation and Arbitration and followed that Court's system of adjusting the basic wage in accordance with variations in retail price index numbers.

After the Commonwealth Court of Conciliation and Arbitration discontinued the system of automatic adjustment of the Commonwealth basic wage in September, 1953, a number of Wages Boards met in November, 1953, and deleted references to these adjustments. However, an amendment to the Factories and Shops Act in November, 1953, required Wages Boards to provide for the automatic adjustment of wage rates in accordance with variations in retail price index numbers.

In October, 1956, an amendment to the Labour and Industry Act (which had superseded the Factories and Shop Acts in 1954) deleted the automatic adjustment provision and directed Wages Boards in determining wage rates to take into consideration relevant awards of, or agreements certified by, the Commonwealth Conciliation and Arbitration Commission. As a result of this legislation, the last automatic quarterly adjustment of the basic wage made was based on the variation in retail price index numbers for the June quarter, 1956, and was payable as from the beginning of the first pay-period in August, 1956. Following the judgment of the Commonwealth Conciliation and Arbitration Commission in the 1961 Basic Wage Inquiry, Wages Boards met in July and August, 1961 and varied their determinations by incorporating the new Commonwealth rates. As the 1962 Basic Wage Inquiry resulted in no change being made to Commonwealth basic wage rates, the rates for Melbourne are £14 7s. a week for adult males and £10 15s. for adult females.

A table showing, for the period November, 1953 to July, 1961, the basic wage rates for adult males and females adopted by most Wages Boards was published in the Appendix to *Labour Report* No. 48, 1960.

(iii) *Queensland.* The Industrial Conciliation and Arbitration Act of 1929 established an Industrial Court, and provided that the Court could make declarations as to the basic wage and standard hours. This Act, as subsequently amended, was repealed by the Industrial Conciliation and Arbitration Act of 1961, which established, in addition to the Industrial Court, an Industrial Conciliation and Arbitration Commission. The full bench of the Commission, consisting of not less than three Commissioners, may make declarations as to, *inter alia*, the basic wage for males and/or females and the standard hours of work. The first formal declaration of a basic wage (£4 5s. for adult males) by the Queensland Court of Industrial Arbitration operated from 1st March, 1921. Prior to this declaration, the rate of £3 17s. a week for adult males had been generally recognized by the Court in its awards as the basic or living wage. The Queensland Industrial Conciliation and Arbitration Act provides that any basic wage declared must at least maintain an employee, his wife and family of three children in a fair and average standard of comfort.

From 21st April, 1942, the Queensland Industrial Court adopted the practice of making quarterly declarations of the basic wage on the basis of variations in the "C" Series retail price index number for Brisbane.

The Court granted increases of 7s. and 5s. to the basic wages for adult males and adult females respectively, payable from 23rd December, 1946, following the "interim" basic wage judgment of the Commonwealth Court of Conciliation and Arbitration announced earlier in December, 1946.

Following the decision of the Commonwealth Court of Conciliation and Arbitration to increase the male and female basic wages from December, 1950, the Queensland Industrial Court, after an inquiry, granted an increase of 15s. a week to both adult males and adult females, operative from 7th December, 1950. The new male rate was identical with the Commonwealth basic wage for the Brisbane metropolitan area and the basic wage payable to adult females became approximately 66 per cent. of the male rate.

In January, 1953, because the Court was not satisfied that the fall in the "C" Series index for Brisbane for the December quarter, 1952 was a true representation of the economic position for Queensland as a whole, it declined to make any alteration to the then existing basic wage. However, quarterly adjustments were made for the next four quarters.

Following a Basic Wage Inquiry, the Court announced, on 11th June, 1954, that there would be no change in the basic wage rates declared for February, 1954. For the following four quarters the Court also decided not to vary the existing basic wage rates. However, after considering the "C" Series index number for the quarter ended 30th June, 1955, and its relation to the index number for the March quarter, 1955, the Court announced that, as these figures showed a continued upward trend, the basic wage for adult males should be increased from 1st August, 1955. In this judgment, the Court emphasized that it held itself free whether or not to adjust the basic wage upwards or downwards in accordance with movements in the "C" Series retail price index numbers. The Court examined the movement in these index numbers for each subsequent quarter and announced variations in the basic wage.

On 22nd and 23rd April, 1958, the Court heard an application by combined unions for an immediate increase of £1 in the basic wage, on the ground that a state of emergency existed with regard to the cost of living. On 30th May, 1958, the Court, in dismissing the application, stated that no emergency had been proved to exist and that there was no justification for discarding the "C" Series retail price index numbers.

In December, 1960, the Court determined that as from 1st May, 1961, the basic wage for adult females should be 75 per cent. of that for adult males.

In its basic wage declaration of 25th January, 1961, the Court referred to the opinion given by the Commonwealth Statistician that the "C" Series Retail Price Index had become an unreliable measure of retail price changes in recent quarters and to the fact that for current statistical purposes variations in retail prices were measured by the Consumer Price Index. Taking into consideration all relevant factors including the approximate increase in price levels as disclosed by the Consumer Price Index, the Court decided to increase the basic wage for adult males by 4s.

The Industrial Conciliation and Arbitration Act of 1961, which came into operation as from 2nd May, 1961, provided that all persons interested must be given an opportunity to be heard before any general declaration as to the basic wage can be made.

Following an inquiry, the Commission, in a decision issued on 24th May, 1961, increased the adult male basic wage by 4s. a week, which was approximately the amount of the increase indicated by the Consumer Price Index for March quarter, 1961.

Subsequently, employer organizations applied to the Commission for a declaration of a general ruling that "in future the basic wage for males and/or females shall not be reviewed merely by reason of any change in the Consumer Price Index at intervals of less than twelve months". The application was opposed by the trade unions generally. In a judgment delivered on 14th November, 1961, the Commission refused the employers' application.

As there was insufficient variation in the Consumer Price Index for the December quarter, 1961, no application was lodged with the Commission to vary the State basic wage for that quarter.

The rates payable in the Southern Division (Eastern District) from 29th May, 1961, were £14 4s. for adult males and £10 13s. for adult females.

In addition to the basic wage for the Southern Division (Eastern District), which includes Brisbane, adult males in other areas receive district allowances. As from 2nd February, 1959, the allowances have been:—Southern Division (Western District) 10s. 6d., Mackay Division 9s., Northern Division (Eastern District) 10s. 6d., Northern Division (Western District) £1 12s. 6d. The allowances for adult females are not less than 75 per cent. of those for adult males.

In the Appendix to *Labour Report* No. 48, a table was published showing adult male and female basic wage rates payable in the Southern Division (Eastern District) from 1st March, 1921, to 29th May, 1961.

(iv) *South Australia.* The Industrial Code, 1920–1958 provides that the Board of Industry shall after public inquiry declare the "living wages" to be paid to adult male and female employees. The Board has power also to fix different rates to be paid in defined areas.

The family unit was not specifically defined in the Code, but the South Australian Industrial Court in 1920 decided that the average employee in respect of whom the living wage is to be declared is a man with a wife and three children. However, the concept of a family unit has disappeared with the adoption of basic wage rates declared by the Commonwealth Conciliation and Arbitration Commission (*see below*).

The first declaration by the Board of Industry became operative from 4th August, 1921, when the living wage for adult male employees in the metropolitan area was determined at £3 19s. 6d. a week. A table showing the living wages declared from time to time was published in Section XII. of the Appendix to *Labour Report* No. 48.

Following the "interim" increase in the "needs" basic wage of the Commonwealth Court of Conciliation and Arbitration announced on 13th December, 1946, the South Australian Government made a provision in the Economic Stability Act 1946 for the declaration by the Governor of a living wage based on the Commonwealth basic wage for Adelaide. This action was taken because the Board of Industry had made a determination on 5th September, 1946, and under the Industrial Code was not able to make a further determination for six months.

The Industrial Code Amendment Act, 1949 made provision for the quarterly adjustment of the living wage in accordance with the variations in the Commonwealth basic wage for Adelaide. In effect, this made the State living wage and the Commonwealth basic wage equal from the beginning of the first pay-period commencing in February, 1950. The prescribed adjustment to the female living wage was seven-twelfths of that made to the Commonwealth male basic wage. The Board of Industry retained power to amend the living wage, but any new living wage was to be adjusted quarterly as above.

Following the decision of the Commonwealth Court of Conciliation and Arbitration in the 1949-50 Basic Wage Inquiry, the South Australian Industrial Code was amended to provide for declarations of the living wage by proclamation to prevent unjustifiable differences between the State and Commonwealth rates of wage. By proclamation dated 30th November, 1950, the South Australian living wage in the metropolitan area was made identical with the December, 1950, rates fixed by the Commonwealth Court of Conciliation and Arbitration for the metropolitan area of South Australia. The female basic wage, which had been approximately 54 per cent. of the male basic wage, was increased to 75 per cent. of the corresponding male rate.

When the Commonwealth Court of Conciliation and Arbitration discontinued quarterly adjustments to Commonwealth basic wages in September, 1953, the South Australian living wage also ceased to be varied quarterly, and since that time has remained the same as the Commonwealth basic wage for Adelaide. Following the Commonwealth basic wage inquiries in 1956 and subsequent years, increases were made to the South Australian living wages by proclamation. The rates operative from 10th July, 1961, were £14 3s. for adult males and £10 12s. for adult females.

(v) *Western Australia.* The Industrial Arbitration Act 1912-1952 provides that the Court of Arbitration may determine and declare a basic wage at any time on its own motion and must do so when requested by a majority of industrial unions or by the Western Australian Employers' Federation, with the limitation that no new determination shall be made within twelve months of the previous inquiry.

The term "basic wage" is defined in the Act as "a wage which the Court considers to be just and reasonable for the average worker to whom it applies". In determining what is just and reasonable, the Court must take into account not only the "needs of an average worker", but also the "economic capacity of industry" and any other matters it deems relevant.

The Act provides that the Court of Arbitration may make adjustments to the basic wage each quarter, if the statement supplied by the State Government Statistician showing retail price index numbers and monetary equivalents in terms of the State basic wages indicates that there has been a variation of 1s. or more a week compared with the previous quarter. These adjustments generally apply from the dates of declaration by the Court.

The first declaration of the basic wage by the Court of Arbitration, after the authority to fix one was vested in the Court in 1925, operated from 1st July, 1926. The family unit is not specifically defined in the Act, but it has been the practice of the Court to take as a basis for its calculations a man, his wife and two dependent children. Since that date the principal inquiries have been those of 1938, 1947, 1950 and 1951. A table showing declarations of the basic wage by the Court of Arbitration, operative from 1st July, 1926 to 30th October, 1961, will be found in Section XII. of the Appendix to *Labour Report* No. 48.

Following the judgment of the Commonwealth Court of Conciliation and Arbitration in the 1949–50 Basic Wage Inquiry, the Western Australian Court of Arbitration decided that the basic wage should be increased by £1 a week for adult males and by 15s. a week for adult females. As the result of a subsequent inquiry, the basic wage for adult females was increased from 1st December, 1951, to 65 per cent. of the corresponding male rate. This was subject to the condition that the increase in the basic wage should be offset by the reduction in, or deletion of, existing margins as specified by the appropriate award or determination.

Following the decision of the Commonwealth Court of Conciliation and Arbitration, in September, 1953, to discontinue quarterly adjustments to Commonwealth basic wages, the Western Australian Court of Arbitration exercised its discretionary power and declined to make any adjustments to the basic wage from November, 1953, to the June quarter, 1955.

However, from 9th August, 1955, the Court decided to increase the adult male basic wage by 5s. 11d. a week for Perth and to make corresponding increases for other areas. No further change was announced in the basic wage until January, 1956, and for each subsequent quarter the Court has varied the State basic wages after considering the official statement supplied by the State Government Statistician, except in February, 1959, and February, 1960, when no change was made.

In a decision issued on 30th January, 1960, the Court, acting in recognition of an agreement between representatives of unions and employers, increased the basic wage for adult females from 65 per cent. to 75 per cent. of the adult male rate. The increased rates were payable from the beginning of the first pay-period commencing on or after this date. As in December, 1951, female margins were to be reduced or deleted to offset the increase in the female basic wage.

The rates payable in the metropolitan area as from 30th October, 1961, were £14 18s. 9d. for adult males and £11 4s. 1d. for adult females.

(vi) *Tasmania*. A State basic wage is not declared in Tasmania. Under the Wages Board Act 1920–1951, Wages Boards are constituted for a number of industries, from representatives of employers and employees and an independent chairman (who is common to all Wages Boards), with power to determine the minimum rates of wage payable in each industry. Until February, 1956, these Boards generally adopted the basic wages of the Commonwealth Court of Conciliation and Arbitration in determining the rates of wage to be paid.

Wages Boards have power to adjust their wage rates in accordance with variations in the cost of living as indicated by retail price index numbers published by the Commonwealth Statistician. When the Commonwealth Court discontinued the system of automatic adjustments of the basic wage in September, 1953, the Chairman of the Wages Boards stated he was of the opinion that automatic adjustment clauses should be deleted from all Wages Boards determinations. Before Wages Boards met to consider this matter, the wage rates for all determinations were automatically adjusted upwards from the beginning of the first pay-period commencing in November. By early December, 1953, all Wages Boards had met and deleted the automatic adjustment clause from determinations and cancelled the adjustment increases payable from November.

Automatic quarterly adjustments in accordance with movements in retail price index numbers were re-introduced by Wages Boards in February, 1956, and restored the basic wage to the level it would have reached if quarterly adjustments had not been discontinued in 1953. A further basic wage increase was payable from the first pay-period in May, 1956.

Upon application by the Employers' Federation of Tasmania, a compulsory conference of employer and employee representatives was held on 22nd and 25th June, 1956, to consider the adoption of Commonwealth basic wages and the deletion of automatic quarterly adjustment provisions. At the conclusion of the conference, the Chairman of the Wages Boards stated he was of the opinion that the adjustments should be suspended for a period in an endeavour to achieve some measure of stability. However, he pointed out that any Wages Board was competent to adopt by agreement between the representatives of employers and employees or majority decision, the Commonwealth Court's basic wage or any other method of fixing the basic wage.

The majority of Wages Boards suspended automatic quarterly adjustments after the August, 1956 adjustment, and wage rates remained unchanged until July, 1959, when the Commonwealth rates were adopted. Following the decision of the Commonwealth Conciliation and Arbitration Commission in July, 1961, to increase the basic wage, Wages Boards met during July, and incorporated the new rates in their determinations. The rates for Hobart then became £14 14s. for adult males and £11 0s. 6d. for adult females. During January, 1961, Wages Boards adopted the basic wage for Hobart as the uniform rate applicable throughout the State.

(vii) *State Basic Wage Rates.* The "basic" wage rates of State industrial tribunals, operative in May, 1961, and May, 1962, are summarized in the following table.

STATE BASIC WAGES: WEEKLY RATES.

State.	May, 1961.			May, 1962.		
	Date of Operation. (a)	Males.	Females.	Date of Operation. (a)	Males.	Females.
		s. d.	s. d.		s. d.	s. d.
New South Wales—						
Metropolitan and Country, excluding Broken Hill .. .. .	May, 1961	299 0	224 0	} Feb., 1962 (e)	b300 0	b225 0
Broken Hill .. .. .	May, 1961	295 0	221 0			
Victoria(c) .. .. .	(d)	275 0	206 0			
Queensland—						
Southern Division—						
Eastern District, including						
Brisbane .. .. .	29.5.61	284 0	213 0	29.5.61	284 0	213 0
Western District .. .. .	29.5.61	294 6	221 0	29.5.61	294 6	221 0
Mackay Division .. .. .	29.5.61	293 0	219 9	29.5.61	293 0	219 9
Northern Division—						
Eastern District .. .. .	29.5.61	294 6	221 0	29.5.61	294 6	221 0
Western District .. .. .	29.5.61	316 6	237 6	29.5.61	316 6	237 6
South Australia(f) .. .. .	15.6.59	271 0	203 0	10.7.61	283 0	212 0
Western Australia—						
Metropolitan Area .. .. .	1.5.61	299 3	224 5	30.10.61	298 9	224 1
South-West Land Division .. .. .	1.5.61	297 8	223 3	30.10.61	297 3	222 11
Goldfields and other areas .. .. .	1.5.61	292 0	219 0	30.10.61	291 6	218 8
Tasmania(c) .. .. .	July, 1959(g)	282 0	211 6	July, 1961(h)	294 0	220 6

(a) Where dates are not quoted, wage rates operate from the beginning of the first pay-period commencing in the month shown. (b) Metropolitan rate applied to whole of New South Wales from November, 1961. (c) No basic wage declared. Rates shown are those adopted by most Wages Boards. (d) During June and July, 1959, Wages Boards varied determinations by adopting the Commonwealth basic wage rate. (e) During July and August, 1961, Wages Boards adopted the Commonwealth rate. (f) The "living wage" declared for the metropolitan area is also adopted for country areas, except at Whyalla and nearby areas, where a loading of 5s. a week is generally payable. (g) Wages Boards adopted the Commonwealth basic wage rate from July, 1959. (h) Most Wages Boards adopted the Commonwealth rate from July, 1961.

Tables showing State basic wage rates for a long period of years are contained in Section XII. of the Appendix to *Labour Report* No. 48, 1960.

## § 6. Wage Margins.

1. **General.**—Wage margins have been defined as “ minimum amounts awarded above the basic wage to particular classifications of employees for the features attaching to their work which justify payments above the basic wage, whether those features are the skill or experience required for the performance of that work, its particularly laborious nature, or the disabilities attached to its performance ”.\*

Prior to 1954, the Commonwealth Court of Conciliation and Arbitration had not made any general determination in respect of wage margins, but general principles of marginal rate fixation had been enunciated by the Court in the Engineers' Case of 1924, the Merchant Service Guild Case of 1942 and the Printing Trades Case of 1947.

2. **Metal Trades Case, 1954.**—Employee organizations parties to the Metal Trades Award, 1952, filed applications during 1953 for increased margins for all workers covered by this award. The applications came on for hearing before J. M. Galvin C.C., who decided that they raised matters of such importance that, in the public interest, they should be dealt with by the Commonwealth Court of Conciliation and Arbitration. On 16th September and 6th October, 1953, the Conciliation Commissioner, pursuant to section 14A of the Conciliation and Arbitration Act, referred these applications to the Court.

The actual claims of the trade unions were that the marginal rate of 52s. a week payable to a fitter in the metal trades should be increased to 80s. a week (86s. for certain electrical trades), with proportionate increases for other award occupations. The margins then current, with a few exceptions, had been in existence since 1947. The employees' claims were in the nature of a test case to determine the attitude of the Court to other applications for increased margins.

Employer organizations respondent to the Metal Trades Award counter-claimed that existing margins for skilled tradesmen should remain unaltered, while those paid to partly skilled or unskilled workers should be reduced.

The Court decided to take the Commissioner's two references together, and the matter came on for hearing before the Full Arbitration Court (Kelly C.J., Kirby, Dunphy and Morgan J.J.) in Melbourne on 13th October, 1953.

In a judgment delivered on 25th February, 1954, the Court held that a *prima facie* case had been made for a re-assessment of margins but that the economic situation at that time, particularly in regard to the level of costs, did not permit of such a comprehensive review. The Court decided that, to avoid the creation of new disputes, to save expense and to obviate procedural difficulties, it would not reject the claims but adjourn them until 9th November, 1954.

On 25th and 26th August, 1954, summonses were filed by the employees' organizations for orders that proceedings in this case be brought forward, and the hearing was resumed on 5th October, 1954.

In a judgment delivered on 5th November, 1954†, the Court made an order re-assessing the marginal structure in the Metal Trades Award by, in general, raising the current amount of the margin to two and a half times the amount of the margin that had been current in 1937. However, in cases in which the result of that calculation produced an amount less than the existing margin, the existing margin was to remain unaltered. In effect, this decision increased the margins of a fitter from 52s. a week to 75s. a week, increased similarly margins of other skilled occupations, and made no increase in margins of what may generally be described as the unskilled or only slightly skilled occupations under the Metal Trades Award.

At the end of its judgment, the Court stated that, while its decision in this case related immediately to one particular industry, it was expected to afford general guidance to all authorities operating under the Conciliation and Arbitration Act, or under other legislation which provided for tribunals having power to make references, or being subject to appeal, to the Court, where the wage or salary may properly be regarded as containing a margin. The Court added observations for the guidance of these and of other tribunals “ which may regard decisions of this Court as of persuasive authority ”. Further details were published in *Labour Report* No. 46, 1958, pages 101–8.

\* *Commonwealth Arbitration Reports*, Vol. 80, p. 24.

† *Commonwealth Arbitration Reports*

Vol. 80, p. 3.



3. Margins Cases, 1959.—On 25th August, 1959, the Commonwealth Conciliation and Arbitration Commission began considering a number of applications for changes in margins referred to it from the appropriate Commissioner. Applications had been made by various employee organizations for increased margins in Parts I. and II. of the Metal Trades Award, Part II. of the Aircraft Industry Award, the Bank Officials' Award and the Gold and Metalliferous Mining Award. An application by employers sought to reduce marginal rates in the Metal Trades Award. The Commission decided to hear all these matters together, permitting the applicant unions in respect of Part II. of the Metal Trades and Aircraft Industry Awards and the Bank Officials Award to ask first for an interim increase. A summary of the principal decisions and reasons for judgment of the Commission is given in the following paragraphs. Further details, including extracts from the judgment, were published in Official Year Book No. 47, pages 455-9.

*Metal Trades Award, Part I.* The employee organizations claimed an increase in the margin for the fitter, as set out in the Metal Trades Award, 1952 (i.e., the award as it existed prior to the Metal Trades Case, 1954—see para. 2, page 442), from 52s. to 134s. a week and an increase of 157 per cent. in the margins for other classifications. The employers counter-claimed for a reduction in margins of 15s. a week.

The Attorney-General of the Commonwealth intervened, and not only submitted statistical material and an analysis of the economic situation, but also assisted the Commission with an exposition of various factors proper to be taken into account in the fixation of margins. In particular, the Commonwealth emphasized the desirability of flexibility in the workings of the arbitration system.

Counsel for the unions put broadly a case that in the proper fixation of margins the basic criteria were the market value at the time of the fixation of the wage and the economic capacity of the economy to pay the wages claimed, and he alleged that the 1954 Metal Trades decision had departed from these principles. He produced to the Commission material to demonstrate that the economic situation would justify the increases asked for. He also submitted that the true relativities in the Metal Trades Award should be those created by a combination of the 1947 Full Court decision and the second variation order made in 1947 by G. A. Mooney, C.C.\*

The employers adopted the view that no case had been made out for any increase and that there should be wage reductions. They also supplied the Commission with economic material in support of their case that there was no capacity in the community to sustain increased margins, and alternatively that any increased economic capacity which may have occurred since 1954 had been exhausted by basic wage fixations. As to relativities, the employers submitted that the 1954 decision should be adhered to and should be carried to its logical conclusion in so far as the lower paid classifications were concerned.

In its judgment, delivered on 27th November, 1959, the Commission rejected the employers' application to reduce margins, and made an order re-assessing the marginal structure in the Metal Trades Award by increasing the existing margins by 28 per cent., the amount of the increase being taken to the nearest 6d. The new margins applied from the beginning of the first full pay-period commencing in December, 1959. The effect of this decision was to increase the margin of the fitter from 75s. to 96s. a week and that for the process worker from 22s. to 28s.

The Commission stated that, not having before it the question of work values, and having decided not to alter the 1954 relativities, the increases had been expressed as a percentage of current margins, but this was not to be taken as an endorsement of that method of fixing margins.

In discussing the principles of marginal fixation, the Commission stated that there was no real reason why a margin should be expressed as a percentage of the basic wage, and that it would be unwise to express any margin in that way. On the related question of whether margins should be increased merely because of the decreasing power of money since last fixed, the Commissioner's view was that, although the automatic or mathematical approach should be rejected, some account must be taken, whenever a margin is under review, of the amount at which the margin was originally fixed and of any decrease in the purchasing power of money since the time of fixation.

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\* *Commonwealth Arbitration Reports*, Vol. 59, p. 1272.

On the question of economic capacity the Commission said that prior to 1947 it had been the practice, in the metal trades industry at least, to consider the economic situation of the industry itself, but in 1954 the Court considered only the capacity of industry generally. However, the Commission pointed out that in many cases in the past, margins had been fixed without consideration of capacity, and it could see no reason why in appropriate circumstances that practice should not continue.

The submission by the employers that, even if there had been capacity to pay increased wages, that capacity had been exhausted by basic wage decisions in recent years, was rejected by the Commission.

The unions sought to have restored the relativities within the marginal structure of the Metal Trades Award which existed prior to the 1954 decision. The employers not only relied on the relativities created in 1937 and confirmed in 1954, except as to the lower paid classifications, but also asked the Commission to take the 1954 relativities to their logical conclusion in its decision in this matter as far as those classifications were concerned.

The Commission said that in origin, at least, relativities in margins were merely an expression of relative work values and there was no evidence of such values before the Commission. In the circumstances the Commission was not prepared to accede either to the unions' submissions or to the employers' submission in this regard, and it accepted the relativities established by the 1954 decision except to the extent necessary to round some of the figures off. The question of relativities in margins in the Metal Trades Award, based on work value, thus remained open.

During the proceedings the unions presented some evidence as to over-award payments in the industry. The Commission referred to the question whether it should pay regard to payments obtained by duress, and decided that the means by which over-award payments of sufficient duration were obtained was irrelevant when considering economic capacity. The mere fact that such amounts were being paid and had been paid over a considerable period was sufficient to demonstrate capacity.

The Commission could not arrive at any figure which could be said to be a reliable average over-award payment for any classification. The most it could say was that in the Metal Trades industry there were over-award payments of varying amounts in quite a number of establishments, and it had taken this factor, indefinite though it was, into account in arriving at its decision.

In reviewing the economic situation, the Commission considered the current position in the light of information which had become available since the 1959 Basic Wage Judgment. After considering various indicators of the state of the economy, the Commission discussed the problems of inflation and the maintenance of economic stability. The Commission said that it had looked at the increases which it proposed to grant in the light of the submissions about economic stability and it did not consider that such increases were so likely to affect that stability that the economy would be adversely affected. If marginal increases could not be granted in times of economic prosperity, it was difficult to imagine when they could be granted.

Summing up, the Commission stated:—"We have considered, with the qualifications already mentioned in this Judgment, the decrease in the purchasing power of money which has occurred since the 1954 marginal fixation, we have assessed as well as we are able to the increased capacity which has occurred in the Australian economy since that time and the fact that productivity has played its part in that increase of strength, and we have considered the Basic Wage decisions and appraisals of the economy by the Court and the Commission since 1954. In the result we have thought it proper to increase margins in the Metal Trades industry in the particular circumstances which confront us by an amount which exceeds the loss in purchasing power of the 1954 margins, which excess we consider has been earned by the contribution of the employees to productivity increases and made possible by the additional strength of the national economy."\*

*Gold and Metalliferous Mining Award.* Judgment was also delivered on 27th November, 1959, in connexion with the application for variation of margins in this award.† The margin for the miner was increased from 32s. to 42s. 6d. a week from the beginning of the first full pay-period commencing in December, 1959. Marginal claims for other classifications were referred back to the appropriate Commissioner for consideration.

\* Print No. A7072, p. 20.

† *Ibid.*, p. 22.

*Metal Trades Award, Part II. and Aircraft Industry Award, Part II.* On 11th December, 1959, the Commission delivered a judgment granting a 20 per cent. interim increase in margins to graduate and diplomat engineers and scientists, payable as from the beginning of the first full pay-period commencing in December, 1959.

*Bank Officials' Award.* On 11th December, 1959, a 20 per cent. interim increase in margins was granted to officers in the 10th to 18th year of service inclusive and to accountants and managers, payable retrospectively as from 11th June, 1959. Interim increases were not awarded to more junior officers, nor to females. Subsequently the parties to the Bank Officials' Award met before a single Commissioner, and a consent award was made giving final marginal increases to adult males and adult females and making adjustments to junior rates of pay.

### § 7. Leave.

1. *Annual Leave.*—In the judgment given in the Commercial Printing Case of 1936, *Dettridge C.J.*, in granting one week's annual leave with full pay to employees in the industry, said:—"This Court has frequently been asked to award annual leave on full pay but has hitherto not done so except in cases where employees have to work on Sunday, or suffer some other deprivation by reason of isolation or other cause, or in cases where such leave has become the custom generally by the practice of most of the parties concerned."\* This judgment has usually been regarded as the first statement of the principles involved in deciding whether or not annual leave should be awarded.

In 1940, *Beeby C.J.*, awarded annual leave of one week to the manufacturing section of the metal trades industry, and in the same year *O'Mara J.* extended leave throughout the industry, with the exception of that section engaged in the servicing of motor vehicles.

Annual leave in the Commonwealth jurisdiction was introduced over a period of time, industry by industry, when and if the Judge responsible for the industry considered it proper.

The question of annual leave was again before the Court in 1945.† In that case applications had been made seeking variations of awards to prescribe an extension of annual leave from a period of seven days to fourteen days. The court in its judgment set out what it considered to be the principles to be applied in all applications for an extension of the annual leave period to fourteen days. The question of altering any particular award to prescribe for two weeks' annual leave was left to the discretion of the single Judge who heard the application.

Employees in New South Wales in private industry, other than those covered by Federal awards, were granted three weeks' annual leave by provisions of the Annual Holidays Act, 1944–1958. Generally, employees of Government authorities (Commonwealth, State, Local and Semi-Government), with the exception of State and Local Government employees in Western Australia, are entitled to three weeks' annual leave, as are also many salaried employees and wage earners in certain industries. The majority of the remaining employees in Australia receive two weeks' annual leave.

2. *Three Weeks' Annual Leave Inquiry, 1960.*—Unions respondent to the Metal Trades Award applied to the Commonwealth Conciliation and Arbitration Commission on 18th July, 1960, to vary the Award to provide three weeks' paid annual leave instead of two weeks. In a judgment issued by the Commission, constituted by Kirby C.J. (President), Moore J. (Deputy President) and E. A. Chambers (Senior Commissioner), on 14th December, 1960, the application was refused.‡

At the beginning of proceedings it had been stated by counsel for the unions that the matter was regarded as providing a standard of three weeks' annual leave for all Federal awards, and it was treated accordingly by the Commission. The application was opposed by employers, the State of Victoria and the Electricity Trust of South Australia. The State of Tasmania supported the application. The Commonwealth Government and the State of Queensland neither supported nor opposed the application, although the Commonwealth

\* *Commonwealth Arbitration Reports*, Vol. 36, p. 738. † 55 C.A.R., p. 595. ‡ Print No. A7746, p. 2.

tendered statistical and economic information for the benefit of the Commission and the parties. The Commission stated that it did not disagree with the concept of increased leisure, nor did it think that, at that time, leisure was at a maximum. The issue for decision was whether that was the time to increase it for employees under Federal awards.

Counsel for the unions contended that serious anomalies existed because awards of the Commission lagged behind standards of annual leisure increasingly adopted in other jurisdictions, notably in New South Wales, where the Annual Holidays Act of 1958 had, with effect from the beginning of 1959, extended three weeks' annual leave to employees covered by that legislation. He held that judgments of the previously existing Arbitration Court had shown an eagerness to avoid industrial anomalies, and that the onus lay on employers to show a lack of economic capacity once anomalies as to leisure were established.

Evidence was submitted on the incidence of three weeks' annual leave among members of the Federated Ironworkers' Association of Australia, and similar material was supplied by other unions. Although precise information was not available, it was claimed that 40 to 50 per cent. of all workers were in receipt of three weeks' annual leave. Analysis of this information showed that employees of Government and Government instrumentalities and employees in the State of New South Wales were principally responsible for this high figure.

Thus anomalies arose mainly because of two factors: the first being the operation of the Annual Holidays Act, 1944-1958 in New South Wales, and the second because generally employees of Governments and Local Government and Government instrumentalities throughout the Commonwealth get three weeks' annual leave. The Commission considered it was obvious that dissatisfaction would exist in an establishment covered by both Federal and New South Wales State awards whereby these awards provided for their respective groups of employees annual holidays of different duration.

Although it was of significance to the Commission that dissatisfaction would exist in New South Wales among Federal award workers receiving two weeks' annual leave, the Commission was a Federal body with responsibilities throughout the Commonwealth, and, although it could not ignore the New South Wales legislation, it did not feel impelled, in using its powers, to follow it.

The amount of annual leave enjoyed by public servants had been different for many years, and at present few employees of the Commonwealth either in the public service or elsewhere received less than three weeks' annual leave. However, employment in the public service had never been regarded as setting standards in industry generally. The Commission considered that, since in a federal system differences almost certainly will exist through the use by State legislatures and industrial tribunals of their industrial powers, too much emphasis could be placed on anomalies.

This attitude was consistent with that section of the Conciliation and Arbitration Act which enjoined the Commission "so far as possible, and so far as the Commission thinks proper" to provide uniformity throughout an industry in relation to hours of work, holidays and general conditions, upon which counsel for the unions had relied.

In considering the history of annual leave, various cases involving decisions by the Arbitration Court had been cited. In the forty hours case, upon which much reliance had been placed by counsel for the unions, the Court was pressed by the Commonwealth Government and the Governments of New South Wales, Victoria, Queensland and Tasmania to award a forty-hour week, and that fact had weighed heavily. In the present case, only the Tasmanian Government supported the application, and the Governments of some other States had not appeared. Assuming that the attitudes of Governments were a matter of significance in this case, those attitudes expressed did not help either the applicants or the employers, and in particular the Commonwealth Government's attitude could not be said to be in support of the application as was contended by the unions, any more than it could be said to have opposed the application.

The Commission said that this review of cases was of little assistance to it. It rejected the submission that from them could be found a principle that once desirability for increased leisure was established, the onus moves to employers to demonstrate lack of capacity to pay for this increased leisure. In these cases, principles for general application had not been laid down.

In dealing with the state of the economy, counsel for the unions stated that productivity had increased by about 2 per cent. per annum between 1946-47 and 1959-60, that wages had by no means absorbed this productivity increase, and that in New South Wales the universal grant of three weeks' annual leave had not adversely affected the economy of that State.

Evidence given on behalf of employers, covering the sheep and cattle industries, had provided the view that, if the application succeeded, direct and indirect labour costs would increase, thereby producing an adverse effect on the industries, which would be harmful to the whole economy. Counsel for the employers submitted that at the end of September there was a strong demand for labour. Surveys of overtime taken from time to time in 1960 disclosed that in about 2,400 factories covered, the average weekly hours of overtime per person working overtime were 7.8 and per employee in the survey 2.7. The probability was that any extension in annual leave would result in more overtime being worked rather than more leisure being achieved by employees. In addition, the need in future to find employment for school leavers increasing in numbers with the expansion of population would require an expansion in the economy. This could only be assured by selling more exports to obtain the imports needed in such an expansion. Any extension of annual leave would result in additional costs which would adversely affect export earnings.

He also referred to the position of the balance of international payments and pointed out that this was the third successive year in which reserves had fallen, and that this fall would continue in the current year. Terms of trade had become progressively adverse over the previous ten years, and although they showed some improvement in 1959-60, the adverse trend was resumed in the first quarter of 1960-61.

Material from the International Labour Office was presented, showing the position in all industrial countries as far as yearly hours of work were concerned. The normal hours for an employee under the Metal Trades Award were 1,928 as compared with 1,984 in the United States of America and 2,152 in the United Kingdom. With regard to annual leave, most industrial countries had two weeks or less; the only relevant countries having more were the Scandinavian countries and France.

The Commission stated that, against the background of the attitudes and submissions discussed, its decision was that the application should be rejected. It repeated its belief that the existing amount of leisure was not at a maximum, but it also believed that the time was not appropriate for an increase in paid annual leave.

The Commission considered that Gross National Product was not suitable as a measure of productivity as it is itself increased by wage increases. It was inappropriate to use, as a basis to increase wages, figures which were themselves increased by the very decision made.

Two economic factors considered most significant were the export-import position and the state of employment. Imports were at a higher level than for some time and export earnings appeared to be decreasing. The wool industry was a major factor in the exports position, and in the light of increasing imports, the combination of lower prices for, and lower production of, wool presented Australia with a difficult problem. The industry was suffering a price-cost squeeze which the Commission hesitated to aggravate. While it appreciated that an increase in holidays would not of itself increase prices, experience showed that, even if the application were granted for secondary industries alone, at least some of the resultant increased costs would be passed on in increased prices. In addition, international reserves were likely to fall some £200 million and this emphasized the need for increased production, making more difficult a decision to increase leisure.

At a time when there was a shortage of skilled labour and such extensive use of overtime, it appeared wrong to attempt to increase periods of paid leisure for those employed under Federal awards. The ideal background to the granting of additional paid leave would be that there was enough labour to go round. It appeared that an attempt to increase holidays by 50 per cent. would result in a situation in which it was agreed that production should be maintained or increased, not in increased leisure, but only in increased overtime and thus increased total pay envelopes. It was not the function of the Commission to grant an application for increased leisure when it considered that it would accomplish no such purpose but would merely provide additional pay.

The Commission emphasized that its decision to dismiss the application was not intended to apply to a situation where, for special reasons related to a particular award or industry, it may consider an amount of annual leave greater than two weeks to be justified. (A summary of the unions' claims and of the Commission's judgment in the Three Weeks' Annual leave Inquiry 1962 will be found in the Appendix.)

3. **Long Service Leave.**—(i) *General.* Paid long service leave, i.e., leave granted to workers who remain with the one employer over an extended period of time, has been included in the provisions of industrial legislation in the several States. A brief summary is given in the following paragraphs. In all cases the transfer of ownership of a business does not constitute a break in continuity of service with the same employer.

(ii) *New South Wales.* Long service leave was first introduced for the majority of workers by the Industrial Arbitration Act, 1951, which provided such leave for workers under State awards. This Act was replaced by the Long Service Leave Act, 1955, which extended the benefits to any worker within the State. Leave provided for is three months for twenty years' continuous service with the same employer.

(iii) *Victoria.* The Factories and Shops (Long Service Leave) Act 1953 first provided for long service leave for workers in Victoria, the provisions of this Act being subsequently incorporated in the Labour and Industry Act. Leave provided for is thirteen weeks for twenty years' continuous service with the same employer. Contributions by employers to retirement schemes can be taken into consideration in dealing with exemptions from the Act.

(iv) *Queensland.* In 1952, the Industrial Conciliation and Arbitration Act was amended to include long service leave provisions for employees within the jurisdiction of the Industrial Court, and the Act was amended again in 1955 to extend these provisions to any employee in respect of whose employment there was not in force an award or industrial agreement under the Act and to seasonal workers in sugar mills and meat works. Leave provided for is thirteen weeks for twenty years' continuous service with the same employer.

(v) *South Australia.* The Long Service Leave Act, which was passed in 1957, exempts a large number of industrial agreements, with wide industrial coverage, specifying long service leave for employees. For those covered by the Act, leave provided for is seven days in the eighth and in each subsequent year of continuous service. Contributions by employers to retirement schemes can be taken into consideration in dealing with exemptions under the Act.

(vi) *Western Australia.* The Long Service Leave Act was passed in 1958, but it does not apply to employees whose conditions of work are regulated under the Western Australian Industrial Arbitration Act. The Court of Arbitration of Western Australia, in an order dated 1st April, 1958, incorporated in most of the awards and agreements within its jurisdiction provisions similar to those in the Long Service Leave Act. Leave provided for is thirteen weeks for twenty years' continuous service with the same employer. Contributions by employers to retirement schemes can be taken into consideration in dealing with exemptions from the Act.

(vii) *Tasmania.* The Long Service Leave Act, which was passed in 1956, provides for thirteen weeks leave for twenty years' continuous service with the same employer. Contributions by employers to retirement schemes can be taken into consideration in dealing with exemptions from the Act. Provisions for long service leave for casual waterside workers are contained in the Stevedoring Industry Long Service Leave Act 1960. This Act has been superseded by the (Commonwealth) Stevedoring Industry Act 1961 (*see below*).

(viii) *Commonwealth.* The applicability of long service leave provisions under State law to workers under federal awards has been tested before the High Court and the Privy Council and such provisions have been held to be valid.

The Commonwealth Conciliation and Arbitration Commission can include provisions for long service leave in its awards, and, if it does so, they will take precedence over State law in accordance with the terms of such provisions expressed in individual awards. However, the Commission has generally declined to include such provisions. The Commission's position was set out in its decision, issued on 16th September, 1959, regarding disputes on the inclusion, in the Graphic Arts (Interim) Award 1957, of provisions for long service leave. It stated that it should refrain, until further order, from determining the disputes so far as they concerned long service leave, and that if, in future, the Commission decided that long service leave on a national basis was desirable, it was open to proceed to the making of an award on the matter.

The Stevedoring Industry Act 1961, which came into operation on 6th June, 1961, included provisions granting long service leave to persons who have been continuously registered as waterside workers under Commonwealth stevedoring legislation. Leave provided for is thirteen weeks after the completion of twenty years' qualifying service, and six and a half weeks for each subsequent ten years' qualifying service.

## E. EMPLOYMENT AND UNEMPLOYMENT.

## § 1. Employment.

1. **Total Occupied Persons.**—(i) *General.* The total number of occupied persons in Australia is obtained from the results of each population Census, supplemented by data in respect of Australian defence personnel serving outside Australia, who, in accordance with usual Census procedure, are not recorded in the Census. The figures shown below in sub-para. (ii) and (iii) are derived from the 1933, 1947 and 1954 Censuses, after making certain adjustments of which the more important are referred to in the notes to the tables or in the accompanying text (sub-para. (ii)). For this reason, and because of the distribution of information "not stated", these figures differ from the Census figures shown in Census publications. Figures available from the 1961 Census (without adjustment) are shown in the Appendix to this volume.

(ii) *Australia.* The figures in the table below are divided into three categories:—(a) defence forces; (b) all persons fully occupied as employers, or as self-employed in businesses or on farms; and (c) wage and salary earners fully employed, or occupied as casual, part-time, intermittent or seasonal workers. "Unemployed" persons (see explanation on page 454) are excluded.

All unpaid "helpers" in non-rural industry have been included with wage and salary earners. Male unpaid "helpers" in rural industry have been included with employers and self-employed persons, as it is considered that the majority of these are sons or other close relatives of farmers working in *de facto* partnership, or as learners with the farm owner. Unpaid female "helpers" on farms are fairly numerous. Generally they are occupied mainly in home duties, and, with all other women occupied in unpaid home duties, have been excluded from the category of occupied persons.

**TOTAL OCCUPIED PERSONS: AUSTRALIA, JUNE, 1933, 1947 AND 1954.**  
(<sup>000.</sup>)

June.	Defence Forces. (a)	Employers and Self-employed.			Wage and Salary Earners.			Total Occupied Civilians.	Total Occupied Persons, including Defence Forces. (a)
		Rural Industry.	Other In-dustries.	Total.	Rural Industry.	Other In-dustries.	Total.		
<b>MALES.</b>									
1933	5.8	293.5	249.0	542.5	200.1	989.8	1,189.9	1,732.4	1,738.2
1947	53.2	278.9	286.8	565.7	148.2	1,659.4	1,807.6	2,373.3	2,426.5
1954	(b) 50.9	279.2	316.9	596.1	154.2	2,020.3	2,174.5	2,770.6	2,821.5
<b>FEMALES.</b>									
1933	..	15.2	56.3	71.5	3.2	(c) 446.6	449.8	521.3	521.3
1947	0.8	13.8	55.8	69.6	8.1	(d) 659.9	668.0	737.6	738.4
1954	2.0	19.6	62.1	81.7	7.6	735.4	743.0	824.7	826.7
<b>PERSONS.</b>									
1933	5.8	308.7	305.3	614.0	203.3	1,436.4	1,639.7	2,253.7	2,259.5
1947	54.0	292.7	342.6	635.3	156.3	2,319.3	2,475.6	3,110.9	3,164.9
1954	52.9	298.8	379.0	677.8	161.8	2,755.7	2,917.5	3,595.3	3,648.2

(a) Includes those serving outside Australia. (b) Excludes approximately 10,300 males undergoing full-time National Service Training at the time of the Census. With the exception of full-time students these persons have been included in the figures of occupied civilians. (c) Includes females in private domestic service:—106,700 in 1933, 40,200 in 1947 and 29,600 in 1954. (d) Includes an estimate of 40,400 part-time workers not classified as wage earners at the Census.

The numbers of defence personnel serving outside Australia who were included in the defence forces shown in the table above were as follows:—1947, 13,843 males, 143 females; 1954, 5,841 males, 62 females.

(iii) *States.* The following table shows the total numbers of occupied males and females in each State and Territory in June of 1947 and 1954, classified as defence forces, employers and self-employed persons, and wage and salary earners.

**TOTAL OCCUPIED PERSONS: STATES AND TERRITORIES,  
JUNE, 1947 AND 1954.  
(‘000.)**

State or Territory.	Defence Forces. (a)		Employers and Self-employed.		Wage and Salary Earners.		Total Occupied Persons, including Defence Forces.(a)	
	June, 1947.	June, 1954.	June, 1947.	June, 1954.	June, 1947.	June, 1954.	June, 1947.	June, 1954.
<b>MALES.</b>								
		(b)						
New South Wales ..	23.1	21.4	197.5	207.3	728.1	833.7	948.7	1,062.4
Victoria ..	15.9	15.0	158.1	167.1	490.5	596.9	664.5	779.0
Queensland ..	5.9	6.6	96.9	99.7	252.0	307.4	354.8	413.7
South Australia ..	2.6	2.3	51.8	55.5	153.3	194.1	207.7	251.9
Western Australia ..	3.4	3.1	39.8	44.3	116.6	156.1	159.8	203.5
Tasmania ..	0.8	0.8	20.1	20.2	57.8	71.9	78.7	92.9
Northern Territory ..	0.8	0.7	1.0	1.1	4.0	5.8	5.8	7.6
Australian Capital Territory ..	0.7	1.0	0.5	0.9	5.3	8.6	6.5	10.5
<i>Australia</i> ..	<u>53.2</u>	<u>50.9</u>	<u>565.7</u>	<u>596.1</u>	<u>1,807.6</u>	<u>2,174.5</u>	<u>2,426.5</u>	<u>2,821.5</u>
<b>FEMALES.</b>								
New South Wales ..	0.3	0.5	25.4	29.0	268.6	290.6	294.3	320.1
Victoria ..	0.4	0.8	22.5	25.3	202.0	227.0	224.9	253.1
Queensland ..	0.1	0.2	10.2	12.5	83.9	93.1	94.2	105.8
South Australia ..	..	0.1	5.2	7.0	52.9	59.9	58.1	67.0
Western Australia ..	..	0.1	4.3	5.6	39.2	46.6	43.5	52.3
Tasmania ..	..	0.1	1.8	2.1	18.9	21.7	20.7	23.9
Northern Territory ..	..	0.1	0.1	0.1	0.7	1.3	0.8	1.5
Australian Capital Territory ..	..	0.1	0.1	0.1	1.8	2.8	1.9	3.0
<i>Australia</i> ..	<u>0.8</u>	<u>2.0</u>	<u>69.6</u>	<u>81.7</u>	<u>668.0</u>	<u>743.0</u>	<u>738.4</u>	<u>826.7</u>
<b>PERSONS.</b>								
		(b)						
New South Wales ..	23.4	21.9	222.9	236.3	996.7	1,124.3	1,243.0	1,382.5
Victoria ..	16.3	15.8	180.6	192.4	692.5	823.9	889.4	1,032.1
Queensland ..	6.0	6.8	107.1	112.2	335.9	400.5	449.0	519.5
South Australia ..	2.6	2.4	57.0	62.5	206.2	254.0	265.8	318.9
Western Australia ..	3.4	3.2	44.1	49.9	155.8	202.7	203.3	255.8
Tasmania ..	0.8	0.9	21.9	22.3	76.7	93.6	99.4	116.8
Northern Territory ..	0.8	0.8	1.1	1.2	4.7	7.1	6.6	9.1
Australian Capital Territory ..	0.7	1.1	0.6	1.0	7.1	11.4	8.4	13.5
<i>Australia</i> ..	<u>54.0</u>	<u>52.9</u>	<u>635.3</u>	<u>677.8</u>	<u>2,475.6</u>	<u>2,917.5</u>	<u>3,164.9</u>	<u>3,648.2</u>

(a) Includes those serving outside Australia. (b) Excludes approximately 10,300 males undergoing full-time National Service Training at the time of the Census. See also footnotes to previous table.

**2. Wage and Salary Earners in Civilian Employment.**—(i) *General.* Monthly estimates of the number of wage and salary earners in civilian employment (excluding employees in rural industry and female private domestics) are obtained from three main sources, namely, (a) monthly data as to persons employed in factories as shown at annual Factory Censuses; (b) current monthly returns from Government Bodies; and (c) current monthly Pay-roll Tax returns. There are also some other direct records of monthly employment (e.g., for hospitals).



These are supplemented by estimates of the number of employees outside the ambit of the Factory Census, returns from Government Bodies, and Pay-roll Tax returns. The numbers of factory employees for months subsequent to June, 1961, are estimated and are subject to revision when the Factory Censuses for 1961-62 and ensuing years are tabulated.

The estimates of wage and salary earners in this section are compiled on an establishment or enterprise basis, and therefore do not cover exactly the same area of industry as do the relevant industry tabulations of the General Censuses of 1947 and 1954, which are based on the returns of individual employees.

The purpose of these estimates of employment is to measure, as nearly as may be with available data, current monthly trends in employment in the defined field. Industry groups herein are not identical in coverage with Census groups.

Pay-roll Tax returns are lodged by all employers paying more than £200 a week in wages, other than certain Commonwealth Government authorities, religious and benevolent institutions, public hospitals and other similar organizations specifically exempted under the Pay-roll Tax Assessment Act 1941-1961.

(ii) *Australia: Industrial Groups.* The following table shows total male and female wage and salary earners in civilian employment (excluding employees in rural industry, female private domestics, permanent defence forces and National Service trainees in camp) subdivided to show the extent of employment provided by Government authorities and by private employers respectively. Principal industrial groups shown in the table include both private employees and Government employees, if any. (Current figures are published in the *Monthly Bulletin of Employment Statistics, Quarterly Summary of Australian Statistics* and the *Monthly Review of Business Statistics*). The manufacturing employment figures published in this table comprise (a) the series showing actual monthly employment in factories as recorded at successive annual Censuses of Factories to June, 1961 (see Chapter VI.), with interim estimates for subsequent months, and (b) estimates of the number of employees in industrial establishments outside the scope of the definition of a factory and persons employed by factory proprietors but engaged in selling and distribution, etc.

### WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT: INDUSTRIAL GROUPS, AUSTRALIA.

(EXCLUDING RURAL WAGE EARNERS, FEMALE PRIVATE DOMESTICS, PERSONNEL IN DEFENCE FORCES AND NATIONAL SERVICE TRAINEES IN CAMP.)

('000.)

Industrial Group.	June, 1957.	June, 1958.	June, 1959.	June, 1960.	June, 1961.	Dec., 1961.
MALES.						
Mining and Quarrying .. .. .	56.3	51.6	49.1	49.3	48.6	47.3
Manufacturing, etc.(a) .. .. .	845.1	857.2	873.6	910.2	882.0	884.7
Building and Construction .. .. .	207.4	202.4	205.2	206.6	205.3	195.5
Transport(b) .. .. .	245.1	242.1	241.7	240.5	244.2	239.3
Communication .. .. .	67.9	69.7	70.9	71.5	72.2	71.7
Property and Finance .. .. .	64.0	66.0	68.8	73.1	77.0	77.1
Retail Trade .. .. .	129.6	132.7	133.6	137.3	135.3	141.9
Wholesale and Other Commerce .. .. .	150.0	150.3	152.7	158.0	158.7	160.5
Public Authority Activity, n.e.i. .. .. .	101.7	104.0	105.4	105.7	108.5	110.2
Health .. .. .	27.1	27.5	28.3	29.0	29.9	30.5
Education .. .. .	43.5	45.4	49.1	52.7	56.2	56.8
Personal Service .. .. .	54.7	54.9	54.3	54.9	54.6	56.3
Other(c) .. .. .	93.0	94.1	94.9	98.9	100.2	100.5
<i>Total</i> .. .. .	<i>2,085.4</i>	<i>2,097.9</i>	<i>2,127.6</i>	<i>2,187.7</i>	<i>2,172.7</i>	<i>2,172.3</i>
Government(d) .. .. .	609.5	621.8	633.9	633.3	649.9	649.3
Private .. .. .	1,475.9	1,476.1	1,493.7	1,554.4	1,522.8	1,523.0
<i>Total</i> .. .. .	<i>2,085.4</i>	<i>2,097.9</i>	<i>2,127.6</i>	<i>2,187.7</i>	<i>2,172.7</i>	<i>2,172.3</i>

NOTE.—For footnotes see next page.

WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT: INDUSTRIAL GROUPS, AUSTRALIA—*continued.*

('000.)

Industrial Group.	June, 1957.	June, 1958.	June, 1959.	June, 1960.	June, 1961.	Dec., 1961.
<b>FEMALES.</b>						
Mining and Quarrying ..	1.2	1.1	1.1	1.1	1.2	1.2
Manufacturing, etc.(a) ..	250.4	251.7	256.8	278.5	253.5	261.2
Building and Construction ..	5.3	5.5	5.6	6.0	6.3	6.2
Transport(b) ..	20.4	20.3	20.6	21.4	22.2	21.8
Communication ..	19.7	19.6	19.7	19.5	19.3	19.1
Property and Finance ..	43.5	45.4	48.0	52.1	54.4	53.9
Retail Trade ..	121.6	125.6	126.5	133.1	133.5	142.1
Wholesale and Other Commerce ..	46.8	46.9	47.3	49.4	49.9	49.6
Public Authority Activity, n.e.i. ..	29.2	29.8	30.7	31.4	32.8	33.4
Health ..	79.4	82.1	87.6	91.5	95.0	95.1
Education ..	53.9	56.3	60.8	64.9	69.5	69.0
Personal Service ..	69.5	68.7	68.3	69.1	67.8	69.0
Other(c) ..	39.3	39.5	40.0	41.6	42.8	42.7
<i>Total</i> .. ..	<i>780.2</i>	<i>792.5</i>	<i>813.0</i>	<i>859.6</i>	<i>848.2</i>	<i>864.3</i>
Government(d) .. ..	132.8	136.6	143.9	150.2	157.6	157.0
Private .. ..	647.4	655.9	669.1	709.4	690.6	707.3
<i>Total</i> .. ..	<i>780.2</i>	<i>792.5</i>	<i>813.0</i>	<i>859.6</i>	<i>848.2</i>	<i>864.3</i>

**PERSONS.**

Mining and Quarrying ..	57.5	52.7	50.2	50.4	49.8	48.5
Manufacturing, etc.(a) ..	1,095.5	1,108.9	1,130.4	1,188.7	1,135.5	1,145.9
Building and Construction ..	212.7	207.9	210.8	212.6	211.6	201.7
Transport(b) ..	265.5	262.4	262.3	261.9	266.4	261.1
Communication ..	87.6	89.3	90.6	91.0	91.5	90.8
Property and Finance ..	107.5	111.4	116.8	125.2	131.4	131.0
Retail Trade ..	251.2	258.3	260.1	270.4	268.8	284.0
Wholesale and Other Commerce ..	196.8	197.2	200.0	207.4	208.6	210.1
Public Authority Activity, n.e.i. ..	130.9	133.8	136.1	137.1	141.3	143.6
Health ..	106.5	109.6	115.9	120.5	124.9	125.6
Education ..	97.4	101.7	109.9	117.6	125.7	125.8
Personal Service ..	124.2	123.6	122.6	124.0	122.4	125.3
Other(c) ..	132.3	133.6	134.9	140.5	143.0	143.2
<i>Total</i> .. ..	<i>2,865.6</i>	<i>2,890.4</i>	<i>2,940.6</i>	<i>3,047.3</i>	<i>3,020.9</i>	<i>3,036.6</i>
Government(d) .. ..	742.3	758.4	777.8	783.5	807.5	806.3
Private .. ..	2,123.3	2,132.0	2,162.8	2,263.8	2,213.4	2,230.3
<i>Total</i> .. ..	<i>2,865.6</i>	<i>2,890.4</i>	<i>2,940.6</i>	<i>3,047.3</i>	<i>3,020.9</i>	<i>3,036.6</i>

(a) Includes employees engaged in selling and distribution, etc., who are outside the scope of the factory employment figures as defined and published in Chapter VI. (b) Includes road transport; shipping and stevedoring; rail and air transport. (c) Includes forestry, fishing and trapping; law and order; religion and social welfare; other professional; amusement, sport and recreation. (d) Includes employees of Commonwealth, State, Local and Semi-Government authorities. See para. 3 (i) below.

A graph showing wage and salary earners in civilian employment in the main industrial groups appears on page 413.

(iii) *States.* Statistics of total employment of wage and salary earners (excluding rural wage earners, female private domestics and defence forces) since 1957 are shown for each State and Territory in the following table.

### WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT.

(EXCLUDING RURAL WAGE EARNERS, FEMALE PRIVATE DOMESTICS, PERSONNEL IN DEFENCE FORCES AND NATIONAL SERVICE TRAINEES IN CAMP.)

('000.)

Year and Month.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
MALES.									
1957—June ..	810.2	586.0	282.6	186.4	138.4	66.0	5.8	10.0	2,085.4
1958—June ..	813.9	592.9	282.8	186.0	138.6	67.0	5.6	11.1	2,097.9
1959—June ..	819.0	603.4	287.8	192.0	140.0	67.6	5.9	11.9	2,127.6
1960—June ..	846.8	623.4	290.4	196.6	141.7	69.4	6.3	13.1	2,187.7
1961—June ..	841.6	619.4	284.8	195.7	142.2	69.1	6.4	13.5	2,172.7
1961—December	846.9	620.5	275.0	196.0	143.5	69.6	6.5	14.3	2,172.3
FEMALES.									
1957—June ..	309.3	240.4	95.8	62.4	44.5	22.9	1.2	3.7	780.2
1958—June ..	314.4	244.5	95.9	63.4	45.6	23.5	1.3	3.9	792.5
1959—June ..	320.4	252.8	97.9	65.9	47.0	23.3	1.4	4.3	813.0
1960—June ..	340.1	268.1	101.8	69.8	49.2	24.2	1.6	4.8	859.6
1961—June ..	335.5	261.5	100.4	69.4	49.9	24.3	1.8	5.4	848.2
1961—December	344.6	266.2	100.6	70.8	50.7	24.2	1.7	5.5	864.3
PERSONS.									
1957—June ..	1,119.5	826.4	378.4	248.8	182.9	88.9	7.0	13.7	2,865.6
1958—June ..	1,128.3	837.4	378.7	249.4	184.2	90.5	6.9	15.0	2,890.4
1959—June ..	1,139.4	856.2	385.7	257.9	187.0	90.9	7.3	16.2	2,940.6
1960—June ..	1,186.9	891.5	392.2	266.4	190.9	93.6	7.9	17.9	3,047.3
1961—June ..	1,177.1	880.9	385.2	265.1	192.1	93.4	8.2	18.9	3,020.9
1961—December	1,191.5	886.7	375.6	266.8	194.2	93.8	8.2	19.8	3,036.6

(iv) *Factories.* Actual monthly factory employment derived from the results of annual factory censuses is published in the *Bulletin Secondary Industries*, issued by this Bureau.

Additional tables regarding employment in factories may be found in Chapter VI.—Manufacturing Industry, of this Year Book.

3. *Government Employees.*—(i) *States and Territories.* The numbers of civilian employees of Commonwealth Government, State, Local and Semi-Government authorities in each State and Territory at June, 1961, are shown in the following table. These include all employees of government authorities on services such as railways, tramways, banks, post office, air transport, education, broadcasting, television, police, public works, factories and munitions establishments, migrant hostels, etc., as well as administrative employees, within Australia.

## CIVILIAN EMPLOYEES OF GOVERNMENT AUTHORITIES, JUNE, 1961.

('000.)

State or Territory.	Commonwealth Government.(a)			State Government.(a)			Local Government.			Total.		
	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.
N.S.W. . .	59.7	16.3	76.0	138.5	33.5	172.0	31.3	3.7	35.0	229.5	53.5	283.0
Vic. . .	52.9	15.1	68.0	107.3	31.4	138.7	14.7	2.1	16.8	174.9	48.6	223.5
Qld. . .	18.7	5.0	23.7	55.1	9.3	64.4	20.0	1.1	21.1	93.8	15.4	109.2
S.A. . .	19.2	4.0	23.2	42.0	13.8	55.8	3.9	0.4	4.3	65.1	18.2	83.3
W.A. . .	9.9	2.3	12.2	38.6	8.6	47.2	3.7	0.4	4.1	52.2	11.3	63.5
Tas. . .	4.4	1.4	5.8	14.9	4.5	19.4	2.5	0.2	2.7	21.8	6.1	27.9
N.T. . .	3.1	1.0	4.1	..	..	..	0.1	..	0.1	3.2	1.0	4.2
A.C.T. . .	9.4	3.5	12.9	..	..	..	..	..	9.4	3.5	12.9	..
<b>Australia</b>	<b>177.3</b>	<b>48.6</b>	<b>225.9</b>	<b>396.4</b>	<b>101.1</b>	<b>497.5</b>	<b>76.2</b>	<b>7.9</b>	<b>84.1</b>	<b>649.9</b>	<b>157.6</b>	<b>807.5</b>

(a) Includes Semi-Government authorities. See explanation on previous page.

(ii) *Australia*. The following table shows at June in each of the years 1957 to 1961, and at December, 1961, the number of civilian employees of Commonwealth, State, Local and Semi-Government authorities.

## CIVILIAN EMPLOYEES OF GOVERNMENT AUTHORITIES: AUSTRALIA.

('000.)

Date.	Commonwealth Government.(a)			State Government.(a)			Local Government.			Total.		
	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.	Males.	Fe-males.	Persons.
<b>June—</b>												
1957 ..	165.6	45.6	211.2	378.1	80.8	458.9	65.8	6.4	72.2	609.5	132.8	742.3
1958 ..	169.8	45.6	215.4	384.4	84.3	468.7	67.6	6.7	74.3	621.8	136.6	758.4
1959 ..	172.7	46.8	219.5	391.3	90.1	481.4	69.9	7.0	76.9	633.9	143.9	777.8
1960 ..	174.1	47.6	221.7	386.2	95.3	481.5	73.0	7.3	80.3	633.3	150.2	783.5
1961 ..	177.3	48.6	225.9	396.4	101.1	497.5	76.2	7.9	84.1	649.9	157.6	807.5
<b>Dec—</b>												
1961 ..	178.3	48.8	227.1	394.0	100.1	494.1	77.0	8.1	85.1	649.3	157.0	806.3

(a) Includes Semi-Government authorities. See explanation on previous page.

## § 2. Unemployment.

The total number of persons "unemployed" has been recorded only at the dates of the various Censuses. At Censuses prior to 1947, persons who were "unemployed" were requested to furnish particulars of the cause and duration of unemployment, but from 1947 onwards the inquiry was broadened to include all persons (usually engaged in industry, business, trade, profession or service) who were out of a job and "not at work" at the time of the Census for whatever reason, including any not normally associated with unemployment. Persons included covered (1) those unable to secure employment; (2) those temporarily laid off their jobs; and (3) those not actively seeking work at the time of the Census on account of sickness or accident, industrial dispute, resting between jobs or for any other reason. This change in the form of the questionnaire probably resulted in some variation in response. The following table sets out the number of persons recorded within these categories at the Censuses of 1933 to 1954. The percentage of "unemployed" at each date to all wage and salary earners, comprising those estimated to be in employment and those unemployed, is also shown. The proportions shown, however, must be regarded as approximate, since the figures for "unemployed" do not necessarily comprise wage and salary earners only. Figures available from the 1961 Census are shown in the Appendix to this volume.

## UNEMPLOYMENT (ALL CAUSES): AUSTRALIA, CENSUSES, 1933, 1947 AND 1954.

Date.	Wage and Salary Earners Unemployed. ('000.)			Proportion of Wage and Salary Earners Unemployed. (Per Cent.)		
	Males.	Females.	Persons.	Males.	Females.	Persons.
June, 1933(a) ..	405.4	75.8	481.2	25.4	14.5	22.7
June, 1947(b) ..	66.6	16.9	83.5	3.5	2.5	3.2
June, 1954(b) ..	41.0	14.0	55.0	1.8	1.9	1.8

(a) As recorded at the Census. In addition, there were considerable numbers of youths and young women of working ages who had never been employed at the time of the Census. (b) Persons in the work force who were "not at work" (see explanation above) at the time of the Census.

The following table shows the numbers of males and females "unemployed" or "not at work" classified according to cause of unemployment at the Censuses of 1933, 1947 and 1954. The change in the form of questionnaire after 1933 should be borne in mind.

## CAUSES OF UNEMPLOYMENT: AUSTRALIA, CENSUSES, 1933, 1947 AND 1954.

Year.	Unable to Secure Employment.	Temporarily Laid Off.	Illness.	Accident.	Industrial Dispute.	Other.	Total.
MALES.							
1933 ..	374,569	(a)	18,083	4,702	1,595	6,483	405,432
1947(b) ..	17,314	12,458	14,639	2,985	475	(c) 18,743	66,614
1954(b) ..	9,912	4,423	11,879	2,804	344	(c) 11,652	41,014
FEMALES.							
1933 ..	62,630	(a)	9,193	434	95	3,465	75,817
1947(b) ..	2,254	2,449	4,396	280	24	(c) 7,512	16,915
1954(b) ..	3,685	1,386	4,310	318	17	(c) 4,284	14,000

(a) Not available. (b) See note (b) to previous table. (c) The majority of these persons were resting between jobs or changing jobs.

Details of the number of persons receiving unemployment and sickness benefits and the payments made are shown in Chapter XVIII.—Welfare Services. Current figures are included in the *Monthly Bulletin of Employment Statistics*, *Quarterly Summary of Australian Statistics*, *Monthly Review of Business Statistics* and *Digest of Current Economic Statistics*.

### § 3. Commonwealth Employment Service.

Statutory warrant for the Commonwealth Employment Service (C.E.S.) is to be found in the Re-establishment and Employment Act 1945–1959 (sections 47 and 48). In brief, the main functions of the Service are to assist people seeking employment to obtain positions best suited to their training, experience, abilities and qualifications; and to assist employers seeking labour to obtain employees best suited to the demands of the employers' particular class of work.

The organization and functions of the C.E.S. conform to the provisions of the Employment Service Convention 1948 of the International Labour Organization, which was ratified by Australia in December, 1949. In addition, C.E.S. practices follow substantially the provisions of the I.L.O. Employment Service Recommendation, 1948.

The C.E.S. functions within the Employment Division of the Department of Labour and National Service, on a decentralized basis. The Central Office is in Melbourne and there is a Regional Office in the capital city of each State, with 137 District Employment Offices and Branch Offices in suburban and the larger provincial centres and 336 agents in the smaller country centres. The District Employment Offices and Branch Offices are distributed as follows: New South Wales, 53; Victoria, 36; Queensland, 19; South Australia, 11; Western Australia, 12; Tasmania, 4; Northern Territory, 1; Australian Capital Territory, 1.

The C.E.S. provides specialized facilities for young people, persons with physical and mental handicaps, ex-members of the defence forces, migrants, rural workers and persons with professional and technical qualifications. Vocational guidance is provided free of charge by a staff of qualified psychologists. It is available to any person, but is provided particularly for young people, ex-servicemen and the physically handicapped. In New South Wales the State Department of Labour and Industry offers a similar service, mainly to young people leaving school.

The C.E.S. has responsibilities in the administration of the unemployment and sickness benefits provided under the Social Services Act 1947–1962. All applicants for benefits must register at a District Employment Office or agency of the C.E.S., which is responsible for certifying whether or not suitable employment can be offered to them.

The C.E.S. is responsible for placing in employment migrant workers sponsored by the Commonwealth under the Commonwealth Nomination and similar schemes. This includes arranging for them to move to their initial employment and for their admission, if necessary, to Commonwealth migrant hostels. Assistance to obtain employment is provided to other migrants as required. From the inception of the various free and assisted schemes, including the Displaced Persons Scheme, to the end of December, 1961, about 210,500 British and European migrant workers had been placed in employment by the C.E.S. Since 1951, it has been responsible for recruiting Australian experts for oversea service under the Colombo Plan and the United Nations Expanded Programme of Technical Assistance. The principal spheres in which experts have been supplied are agriculture, education, engineering, geology, health and economic and scientific research and development.

In association with placement activities, regular surveys of the labour market are carried out, and detailed information is supplied to interested Commonwealth and State Government Departments and instrumentalities and to the public. Employers, employees and other interested persons are advised on labour availability and employment opportunities in various occupations and areas and on other matters concerning employment.

The service completed its fifteenth year of operation in May, 1961. During the year ended 31st December, 1961, there were 970,772 applicants who registered for employment, of whom 513,744 were referred to employers and 350,303 placed in employment. New vacancies notified numbered 457,409 and vacancies unfilled at the end of December, 1961, 24,284.

Prior to the setting up of the Commonwealth Employment Service, State Labour Exchange Organizations existed in several States, but they have been superseded. Details of the organization and administration of these exchanges were given in *Labour Report* No. 30, page 133.

#### § 4. Industrial Disputes.

1. **General.**—Detailed information regarding industrial disputes involving stoppage of work is given in the *Labour Report*. A table showing statistics of industrial disputes for each year from 1913 is contained in Section XIII. of the Appendix to *Labour Report* No. 48, 1960.

Particulars of all disputes in progress during the year are included in the annual figures whether the dispute commenced in that year or was in progress at the beginning of the year. Consequently, details of "the number of disputes" and "workers involved" in disputes which commenced in any year and were still in progress during the following year are included in the figures for both years.

2. **Industrial Groups.**—The following table gives, for Australia as a whole, particulars of industrial disputes which were in progress during 1961, classified according to industrial groups. As from 1959, the industrial groups have been rearranged to conform, as nearly as may be, to the order adopted in other tables in this chapter. However, the figures for each industrial group shown are comparable with those published in issues of the Official Year Book prior to No. 46, 1960.

#### INDUSTRIAL DISPUTES(a): INDUSTRIAL GROUPS, AUSTRALIA, 1961.

Industrial Group.	Num-ber.	Workers Involved.			Working Days Lost.	Esti-mated Loss in Wages. (£).
		Directly.	In-directly. (b)	Total.		
Agriculture, Grazing, etc. .. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .
Coal Mining .. .. .	235	41,058	39	41,097	70,767	301,890
Other Mining and Quarrying .. .. .	9	5,861	410	6,271	113,107	724,333
Engineering, Metal Works, etc. .. .. .	124	42,512	4,275	46,787	148,221	597,505
Textiles, Clothing and Footwear .. .. .	4	898	.. .. .	898	1,492	4,788
Food, Drink and Tobacco .. .. .	64	26,831	5,388	32,219	44,616	162,860
Sawmilling, Furniture, etc. .. .. .	2	3,681	14	3,695	2,024	8,000
Paper, Printing, etc. .. .. .	8	1,953	213	2,166	2,867	10,544
Other Manufacturing .. .. .	68	37,653	435	38,088	67,245	257,082
Building and Construction .. .. .	101	21,381	491	21,872	48,302	229,273
Railway and Tramway Services .. .. .	13	31,884	557	32,441	21,238	80,213
Road and Air Transport .. .. .	22	7,111	.. .. .	7,111	11,016	48,274
Shipping .. .. .	2	39	.. .. .	39	27	110
Stevedoring .. .. .	151	61,092	.. .. .	61,092	61,467	245,639
Amusement, Hotels, Personal Service, etc. .. .. .	7	3,765	.. .. .	3,765	3,572	12,735
Other Industries (c) .. .. .	5	2,807	9	2,816	10,850	40,535
<b>Total .. .. .</b>	<b>815</b>	<b>288,526</b>	<b>11,831</b>	<b>300,357</b>	<b>606,811</b>	<b>2,723,781</b>

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) Persons thrown out of work at the establishments where the stoppages occurred but not themselves parties to the dispute. (c) Includes Communication; Finance and Property; Wholesale and Retail Trade; Public Authority (n.e.i.) and Community and Business Services.

A graph showing, for the years 1952 to 1961, the working days lost as a result of industrial disputes in the main industrial groups is shown on page 414.

3. **States and Territories.**—The following table gives particulars of the number of industrial disputes in each State and Territory, together with the number of workers involved and the losses in working days and wages caused by disputes which were current during each of the years 1957 to 1961.

## INDUSTRIAL DISPUTES(a): STATES AND TERRITORIES.

State or Territory.	Year.	Number.	Workers Involved.			Working Days Lost.	Estimated Loss in Wages. (£)
			Directly.	Indirectly. (b)	Total.		
New South Wales ..	1957	761	253,041	5,950	258,991	505,910	1,860,101
	1958	624	137,922	3,906	141,828	231,537	832,644
	1959	547	123,558	2,493	126,051	211,352	819,585
	1960	736	289,266	7,646	296,912	416,762	1,731,930
	1961	529	131,661	5,295	136,956	318,629	1,316,110
Victoria ..	1957	47	8,728	453	9,181	13,444	45,576
	1958	66	45,594	1,124	46,718	99,855	340,346
	1959	60	31,134	1,107	32,241	35,890	131,440
	1960	98	86,002	2	86,004	102,805	397,117
	1961	91	51,447	1,300	52,747	72,471	304,745
Queensland ..	1957	221	43,123	4,611	47,734	95,300	348,422
	1958	203	60,208	2,024	62,232	87,866	343,662
	1959	175	50,883	3,996	54,879	90,777	330,653
	1960	173	155,073	3,566	158,639	153,061	594,715
	1961	123	73,442	4,798	78,240	168,958	914,566
South Australia ..	1957	13	6,274	7	6,281	3,703	12,571
	1958	22	8,129	62	8,191	9,338	34,540
	1959	21	5,437	..	5,437	7,487	24,950
	1960	42	25,735	12	25,747	16,568	61,820
	1961	26	17,012	321	17,333	17,256	66,785
Western Australia ..	1957	14	5,352	..	5,352	3,068	10,801
	1958	20	10,847	160	11,007	2,970	10,382
	1959	20	10,864	383	11,247	11,243	39,620
	1960	43	25,684	..	25,684	27,342	106,557
	1961	22	9,588	99	9,687	23,233	94,561
Tasmania ..	1957	36	7,236	..	7,236	5,330	18,294
	1958	24	9,268	..	9,268	4,508	15,066
	1959	34	6,348	..	6,348	6,593	24,375
	1960	40	9,142	..	9,142	6,991	27,553
	1961	14	4,645	16	4,661	4,622	19,053
Northern Territory ..	1957	9	2,183	..	2,183	2,428	9,241
	1958	27	3,535	..	3,535	3,376	12,563
	1959	9	1,007	11	1,018	966	3,537
	1960	9	942	..	942	1,226	5,308
	1961	4	456	..	456	709	4,035
Australian Capital Territory	1957	2	58	27	85	1,030	3,616
	1958	1	70	..	70	440	1,400
	1959	3	238	12	250	731	3,060
	1960	4	209	..	209	352	1,796
	1961	6	275	2	277	933	3,926
Australia ..	1957	1,103	325,995	11,048	337,043	630,213	2,308,622
	1958	987	275,573	7,276	282,849	439,890	1,590,603
	1959	869	229,469	8,002	237,471	365,039	1,377,220
	1960	1,145	592,053	11,226	603,279	725,107	2,926,796
	1961	815	288,526	11,831	300,357	606,811	2,723,781

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) Persons thrown out of work at the establishments where the stoppages occurred but not themselves parties to the dispute.

4. Duration.—The following table gives particulars of industrial disputes during 1961 in the three groups "Coal Mining", "Stevedoring" and "Other Industries", classified according to duration. This dissection has been made because the pattern of the disputes in coal mining and stevedoring differs significantly from that in other industries.

## DURATION OF INDUSTRIAL DISPUTES(a): AUSTRALIA, 1961.

Duration.(b)	Coal Mining.	Steve-doring.	Other Indus-tries.	All Indus-tries.
NUMBER OF DISPUTES.				
1 day and less ..	160	118	208	486
2 days and more than 1 day ..	34	19	68	121
3 days and more than 2 days ..	24	7	57	88
Over 3 days and less than 1 week ..	5	5	40	50
1 week and less than 2 weeks ..	8	2	33	43
2 weeks and less than 4 weeks ..	4	..	15	19
4 weeks and less than 8 weeks ..	..	..	7	7
8 weeks and over ..	..	..	1	1
Total ..	235	151	429	815

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) One week equals five working days.



DURATION OF INDUSTRIAL DISPUTES(a): AUSTRALIA, 1961—*continued.*

Duration.(b)	Coal Mining.	Stevedoring.	Other Industries.	All Industries.
WORKERS INVOLVED(c).				
1 day and less .. .. .	20,955	46,831	128,486	196,272
2 days and more than 1 day .. .. .	12,091	11,538	32,955	56,584
3 days and more than 2 days .. .. .	5,811	537	9,694	16,042
Over 3 days and less than 1 week .. .. .	341	621	11,233	12,195
1 week and less than 2 weeks .. .. .	958	1,565	4,015	6,538
2 weeks and less than 4 weeks .. .. .	941	..	3,765	4,706
4 weeks and less than 8 weeks .. .. .	..	..	5,640	5,640
8 weeks and over .. .. .	..	..	2,380	2,380
Total .. .. .	41,097	61,092	198,168	300,357

## WORKING DAYS LOST.

1 day and less .. .. .	19,243	28,445	75,015	122,703
2 days and more than 1 day .. .. .	17,812	14,874	44,322	77,008
3 days and more than 2 days .. .. .	15,199	1,433	24,835	41,467
Over 3 days and less than 1 week .. .. .	1,418	2,375	43,590	47,383
1 week and less than 2 weeks .. .. .	5,841	14,340	25,465	45,646
2 weeks and less than 4 weeks .. .. .	11,254	..	50,241	61,495
4 weeks and less than 8 weeks .. .. .	..	..	115,576	115,576
8 weeks and over .. .. .	..	..	95,533	95,533
Total .. .. .	70,767	61,467	474,577	606,811

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) One week equals five working days. (c) Includes workers indirectly involved. See note (b) to table at top of p. 458.

5. Causes.—(i) *General.* In issues of the Official Year Book prior to No. 40, the causes of industrial disputes were classified in some detail for all industries combined. As from 1950, however; stoppages have been analysed in three separate groups, "Coal Mining", "Stevedoring" and "Other Industries".

Causes have been grouped under four main headings:—(1) Wages, Hours and Leave; (2) Physical Working Conditions and Managerial Policy; (3) Trade Unionism; (4) Other Causes. The first group is restricted to disputes involving general principles relating to wages, hours and leave; minor questions regarding the claims to pay or leave by individual employees are included under managerial policy. The second group comprises disputes regarding physical working conditions and general questions of managerial policy, which term covers disciplinary action, the promotion of employees, the employment of particular individuals, personal disagreements between employees and supervisory staff and disputes arising from the computation of wages, leave, etc., in individual cases. The third group includes stoppages over employment of non-unionists, inter-union and intra-union disputes, disputes over recognition of union activities, and sympathy stoppages in support of employees in another industry. The last group comprises disputes by way of protest against situations not arising from the usual relationship of employer and employee, e.g., political matters, and cases (occurring mainly in the coal mining industry) where the cause of the stoppage is not officially made known to the management.

(ii) *Industry Groups.* The following table shows particulars of industrial disputes for 1961 classified according to cause in three industry groups.

**CAUSES OF INDUSTRIAL DISPUTES(a): AUSTRALIA, 1961.**

Cause of Dispute.	Coal Mining.	Stevedoring.	Other Industries.	All Industries.
<b>NUMBER OF DISPUTES.</b>				
Wages, Hours and Leave .. .. .	7	8	108	123
Physical Working Conditions and Managerial Policy ..	138	120	267	525
Trade Unionism .. .. .	24	11	31	66
Other .. .. .	66	12	23	101
<b>Total .. .. .</b>	<b>235</b>	<b>151</b>	<b>429</b>	<b>815</b>

<b>WORKERS INVOLVED.(b)</b>				
Wages, Hours and Leave .. .. .	296	19,433	94,396	114,125
Physical Working Conditions and Managerial Policy ..	16,920	23,870	61,335	102,125
Trade Unionism .. .. .	2,747	4,070	6,980	13,797
Other .. .. .	21,134	13,719	35,457	70,310
<b>Total .. .. .</b>	<b>41,097</b>	<b>61,092</b>	<b>198,168</b>	<b>300,357</b>

<b>WORKING DAYS LOST.</b>				
Wages, Hours and Leave .. .. .	305	19,311	229,248	248,864
Physical Working Conditions and Managerial Policy ..	36,776	18,366	206,312	261,454
Trade Unionism .. .. .	3,785	16,323	13,913	34,021
Other .. .. .	29,901	7,467	25,104	62,472
<b>Total .. .. .</b>	<b>70,767</b>	<b>61,467</b>	<b>474,577</b>	<b>606,811</b>

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) Includes workers indirectly involved. See note (b) to table at top of page 458.

(iii) *Summary, 1957 to 1961.* The following table gives particulars of industrial disputes according to cause for the years 1957 to 1961.

**CAUSES OF INDUSTRIAL DISPUTES(a): AUSTRALIA.**

Cause of Dispute.	1957.	1958.	1959.	1960.	1961.
<b>NUMBER OF DISPUTES.</b>					
Wages, Hours and Leave .. .. .	75	73	105	213	123
Physical Working Conditions and Managerial Policy ..	674	630	556	648	525
Trade Unionism .. .. .	70	80	86	127	66
Other .. .. .	284	204	122	157	101
<b>Total .. .. .</b>	<b>1,103</b>	<b>987</b>	<b>869</b>	<b>1,145</b>	<b>815</b>

<b>WORKERS INVOLVED.(b)</b>					
Wages, Hours and Leave .. .. .	62,708	15,861	74,327	228,695	114,125
Physical Working Conditions and Managerial Policy ..	151,863	158,729	108,839	154,401	102,125
Trade Unionism .. .. .	13,612	16,432	21,564	43,321	13,797
Other .. .. .	108,860	91,827	32,741	176,862	70,310
<b>Total .. .. .</b>	<b>337,043</b>	<b>282,849</b>	<b>237,471</b>	<b>603,279</b>	<b>300,357</b>

<b>WORKING DAYS LOST.</b>					
Wages, Hours and Leave .. .. .	181,839	56,214	118,010	254,926	248,864
Physical Working Conditions and Managerial Policy ..	321,422	279,253	185,282	277,755	261,454
Trade Unionism .. .. .	19,460	23,139	28,826	64,617	34,021
Other .. .. .	107,492	81,284	32,921	127,809	62,472
<b>Total .. .. .</b>	<b>630,213</b>	<b>439,890</b>	<b>365,039</b>	<b>725,107</b>	<b>606,811</b>

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. (b) Includes workers indirectly involved. See note (b) to table at top of page 458.

6. Methods of Settlement.—The following table shows particulars of industrial disputes for 1961 classified according to method of settlement, in three industry groups.

## INDUSTRIAL DISPUTES(a): METHODS OF SETTLEMENT, AUSTRALIA, 1961.

Method of Settlement.	Coal Mining.	Stevedoring.	Other Industries.	All Industries.
<b>NUMBER OF DISPUTES.</b>				
By private negotiation .. .. .	36	9	101	146
By mediation not based on legislation .. .. .	..	..	1	1
State legislation—				
Under State Conciliation, etc., legislation .. .. .	1	..	84	85
By reference to State Government officials .. .. .	..	..	..	..
Commonwealth and Commonwealth-State legislation—				
Industrial Tribunals under—				
Conciliation and Arbitration Act .. .. .	..	5	80	85
Coal Industry Acts .. .. .	25	..	..	25
Stevedoring Industry Act .. .. .	..	9	..	9
Other Acts .. .. .	..	..	..	..
By reference to Commonwealth Government officials .. .. .	..	72	..	72
By filling places of workers on strike or locked out .. .. .	..	..	..	..
By closing down establishment permanently .. .. .	..	..	..	..
By resumption without negotiation .. .. .	173	56	163	392
By other methods .. .. .	..	..	..	..
<b>Total .. .. .</b>	<b>235</b>	<b>151</b>	<b>429</b>	<b>815</b>

## WORKERS INVOLVED.(b)

By private negotiation .. .. .	2,699	706	16,776	20,181
By mediation not based on legislation .. .. .	..	..	400	400
State legislation—				
Under State Conciliation, etc., legislation .. .. .	5	..	27,663	27,668
By reference to State Government officials .. .. .	..	..	..	..
Commonwealth and Commonwealth-State legislation—				
Industrial Tribunals under—				
Conciliation and Arbitration Act .. .. .	..	950	11,373	12,323
Coal Industry Acts .. .. .	3,074	..	..	3,074
Stevedoring Industry Act .. .. .	..	6,853	..	6,853
Other Acts .. .. .	..	..	..	..
By reference to Commonwealth Government officials .. .. .	..	5,638	..	5,638
By filling places of workers on strike or locked out .. .. .	..	..	..	..
By closing down establishment permanently .. .. .	..	..	..	..
By resumption without negotiation .. .. .	35,319	46,945	141,956	224,220
By other methods .. .. .	..	..	..	..
<b>Total .. .. .</b>	<b>41,097</b>	<b>61,092</b>	<b>198,168</b>	<b>300,357</b>

## WORKING DAYS LOST.

By private negotiation .. .. .	4,273	301	50,828	55,402
By mediation not based on legislation .. .. .	..	..	400	400
State legislation—				
Under State Conciliation, etc., legislation .. .. .	75	..	240,538	240,613
By reference to State Government officials .. .. .	..	..	..	..
Commonwealth and Commonwealth-State legislation—				
Industrial Tribunals under—				
Conciliation and Arbitration Act .. .. .	..	3,030	68,790	71,820
Coal Industry Acts .. .. .	10,816	..	..	10,816
Stevedoring Industry Act .. .. .	..	18,056	..	18,056
Other Acts .. .. .	..	..	..	..
By reference to Commonwealth Government officials .. .. .	..	5,131	..	5,131
By filling places of workers on strike or locked out .. .. .	..	..	..	..
By closing down establishment permanently .. .. .	..	..	..	..
By resumption without negotiation .. .. .	55,603	34,949	114,021	204,573
By other methods .. .. .	..	..	..	..
<b>Total .. .. .</b>	<b>70,767</b>	<b>61,467</b>	<b>474,577</b>	<b>606,811</b>

(a) Refers only to disputes involving a stoppage of work of 10 man-days or more. workers indirectly involved. See note (b) to table at top of page 458.

(b) Includes

## F. WORKERS' COMPENSATION LEGISLATION.

A conspectus of the principal provisions of Workers' Compensation Acts in force in Australia at 30th June, 1960, will be found in *Labour Report* No. 48, pages 157-65.

## G. LABOUR ORGANIZATIONS.

## § 1. Labour Organizations in Australia.

1. Registration.—(i) *Under Trade Union Acts.* In earlier issues of the Official Year Book (see No. 39, p. 448) reference was made to the registration of trade unions under the Trade Union Acts. In general, the available information is inadequate for statistical purposes.

(ii) *Under State Industrial Legislation.* Information with regard to registrations of employers' associations and trade unions under the various State Industrial Arbitration Acts will be found in earlier issues of the Official Year Book (see No. 39, p. 448).

(iii) *Under the (Commonwealth) Conciliation and Arbitration Act.* Under Part VIII. of the Conciliation and Arbitration Act 1904–1960, any association of employers in any industry who have, or any employer who has, employed, on an average taken per month, not less than 100 employees during the six months preceding application for registration, or any association of not less than 100 employees in any industry, may be registered. However, under the Public Service Arbitration Act, an association of less than 100 employees may be registered as an organization, provided that its members comprise at least three-fifths of all persons engaged in that industry in the Service. Such organizations are included in the figures shown below. Registered unions include both interstate associations and associations operating within one State only. Registration under Commonwealth legislation began in 1906. At the end of 1961, the number of employers' organizations registered under the provisions of the Conciliation and Arbitration Act was 64. The number of unions of employees registered at the end of 1961 was 154, with a membership of 1,529,315 representing 81 per cent. of the total membership of all trade unions in Australia.

2. Particulars regarding Trade Unions.—(i) *Types.* The trade unions in Australia are very diverse in character, and range from the small independent association to the large interstate organization, which, in its turn, may be a branch of an international body. Broadly speaking, there are four distinct classes of labour organizations:—(a) the local independent; (b) the State; (c) the interstate; and (d) the Australasian or international; but a number of variations occur from each of these classes. The schemes of organization of interstate or federated unions vary greatly in character. In some unions, the State organizations are bound together under a system of unification with centralized control, while in others the State units are practically independent and self-governing, the federal bond being loose and existing only for one or two specified purposes.

(ii) *Number and Membership.* Returns showing membership by States as at 31st December each year are obtained for all trade unions and employee organizations. The affairs of single organizations are not disclosed in the published results and this has assisted in securing complete information. The Bureau is indebted to the secretaries of trade unions for their co-operation in supplying information. The following table shows the position at the end of each of the years 1959 to 1961.

## TRADE UNIONS: NUMBER AND MEMBERSHIP.

State or Territory.	Number of Separate Unions.			Number of Members.			Percentage Increase in Membership.(b)		
	1959.	1960.	1961.	1959.	1960.	1961.	1959.	1960.	1961.
New South Wales ..	234	231	226	741,610	768,458	743,581	1.4	3.6	-3.2
Victoria ..	159	157	156	461,314	479,244	486,760	3.9	3.9	1.6
Queensland ..	129	133	133	322,150	327,416	329,746	2.7	1.6	0.7
South Australia ..	135	136	134	147,093	153,468	151,488	0.0	4.3	-1.3
Western Australia ..	154	155	152	114,497	115,941	115,000	0.0	1.3	-0.8
Tasmania ..	97	101	103	54,136	56,006	56,873	5.1	3.5	1.5
Northern Territory	23	25	24	2,552	3,091	2,904	-4.9	21.1	-6.0
Australian Capital Territory ..	29	31	34	7,375	8,768	8,251	13.7	18.9	-5.9
Australia ..	(a)369	(a)363	(a)355	1,850,727	1,912,392	1,894,603	2.2	3.3	-0.9

(a) Without interstate duplication. See below. (b) On preceding year.

NOTE.—Minus sign (-) denotes decrease.

In the preceding table, under the heading "Number of Separate Unions", a union reporting members in a State is counted as one union within that State. The figures by States do not add to the Australian total (shown in the last line) because a union represented in more than one State is included in the figure for each State in which it is represented, but is counted only once in the Australian total.

A table showing the number and membership of trade unions in Australia for the years 1912 to 1960 will be found in Section XIV. of the Appendix to *Labour Report* No. 48.

(iii) *Classification in Industrial Groups.* The following table shows the number of unions and members thereof in Australia at the end of each of the years 1959 to 1961.

The industrial groups have been rearranged to conform, as nearly as may be, to the order adopted in other tables in this chapter. However, the figures for each industrial group shown are comparable with those published in previous issues.

**TRADE UNIONS: INDUSTRIAL GROUPS, AUSTRALIA.**

Industrial Group.	1959.		1960.		1961.	
	No. of Unions. (a)	No. of Members.	No. of Unions. (a)	No. of Members.	No. of Unions. (a)	No. of Members.
Agriculture, Grazing, etc. . . . .	3	62,681	3	63,459	3	61,420
Mining and Quarrying . . . . .	12	40,795	12	37,724	12	35,288
Manufacturing—						
Engineering, Metal Works, etc. . . . .	15	280,848	14	292,355	13	291,541
Textiles, Clothing and Footwear . . . . .	7	99,381	7	103,848	7	95,273
Food, Drink and Tobacco . . . . .	34	116,727	34	119,813	34	128,016
Sawmilling, Furniture, etc. . . . .	7	46,544	7	43,945	7	41,954
Paper, Printing, etc. . . . .	6	48,226	6	51,763	6	51,810
Other Manufacturing . . . . .	34	88,929	32	92,571	32	82,584
<i>Total Manufacturing</i> . . . . .	<i>103</i>	<i>680,655</i>	<i>100</i>	<i>704,295</i>	<i>99</i>	<i>691,178</i>
Building and Construction . . . . .	29	137,231	28	137,825	28	143,923
Railway and Tramway Services . . . . .	25	136,444	25	139,050	25	133,823
Road and Air Transport . . . . .	10	55,305	10	56,003	10	58,363
Shipping and Stevedoring . . . . .	14	36,624	14	36,108	14	35,016
Banking, Insurance and Clerical . . . . .	20	109,040	20	112,819	19	118,850
Wholesale and Retail Trade . . . . .	12	77,839	11	81,719	11	75,748
Public Administration(b) . . . . .	75	318,618	75	331,166	73	341,000
Amusement, Hotels, Personal Service, etc	25	64,926	25	69,571	23	51,393
Other Industries(c) . . . . .	41	130,569	40	142,653	38	148,601
<b>Total</b> . . . . .	<b>369</b>	<b>1,850,727</b>	<b>363</b>	<b>1,912,392</b>	<b>355</b>	<b>1,894,603</b>

(a) Without interstate duplication. See para. (ii) above. (b) Includes Communication Municipal, etc. (c) Includes Professional Services.

(iv) *Number of Members and Proportion of Wage and Salary Earners.* The following table shows the estimated percentages of wage and salary earners in employment who are members of trade unions. As current estimates of wage and salary earners in employment do not include employees engaged in rural industry or females in private domestic service, the percentages have been calculated on figures obtained by adding to the end of year estimates the number of employees in rural industry and females in private domestic service recorded at the Census of 30th June, 1954. For this reason, and also because the membership of trade unions includes some persons not in employment, the percentages shown in the table must be regarded as approximations.

**TRADE UNIONS: NUMBER OF MEMBERS AND PROPORTION OF TOTAL WAGE AND SALARY EARNERS, AUSTRALIA.**

Year.	Number of Members.			Proportion of Total Wage and Salary Earners. (Per cent.)		
	Males.	Females.	Persons.	Males.	Females.	Persons.
1957 . . . . .	1,463,985	346,169	1,810,154	65	42	59
1958 . . . . .	1,465,682	345,536	1,811,218	65	41	58
1959 . . . . .	1,494,669	356,058	1,850,727	65	41	58
1960 . . . . .	1,534,423	377,969	1,912,392	65	41	58
1961 . . . . .	1,521,900	372,703	1,894,603	65	41	59

(v) *Interstate or Federated Trade Unions.* The following table gives particulars of the number and membership of interstate or federated trade unions in 1961.

INTERSTATE OR FEDERATED TRADE UNIONS(a): AUSTRALIA, 1961.

Particulars.	Unions Operating in—					Total.
	2 States.	3 States.	4 States.	5 States.	6 States.	
Number of Unions .. ..	13	8	21	32	66	140
„ „ Members .. ..	29,939	63,631	183,261	404,810	1,001,917	1,683,558

(a) Certain unions in this group have, in addition to branches in the States, branches in the Northern Territory and/or in the Australian Capital Territory.

3. **Central Labour Organizations.**—Delegate organizations, consisting of representatives from a group of trade unions, have been established in each of the capital cities and in a number of industrial centres elsewhere. Their revenue is raised by means of a *per capita* tax on the members of each affiliated union. In most of the towns where such central organizations exist, the majority of the local unions are affiliated with the central organization, which is usually known as the Labour or the Trades Hall Council. In Western Australia, a unified system of organization extends over the industrial centres throughout the State. In this State, there is a provincial branch of the Australian Labour Party, having a central council and executive, and metropolitan and branch district councils, with which the local bodies are affiliated. The central council, on which all district councils are represented, meets periodically. In the other five States, however, the organization is not so close, and, while provision usually exists in the rules of the central council at the capital city of each State for the organization of district councils or for the representation of the central council on the local councils in the smaller industrial centres of the State, the councils in each State are generally independent bodies.

The table below shows the number of metropolitan and district or local labour councils, together with the number of unions and branches of unions affiliated therewith in each State and Territory at the end of 1961.

CENTRAL LABOUR ORGANIZATIONS: NUMBER, AND UNIONS AND BRANCH UNIONS AFFILIATED, 1961.

Particulars.	N.S.W.	Vic.	Q'land.	S. A.	W.A.	Tas.	N.T.	A.C.T.	Total
Number of Councils ..	12	9	12	6	10	5	..	1	55
Number of Unions and Branch Unions affiliated .. ..	335	278	178	155	411	117	..	24	1,500

The figures given in the preceding table concerning the number of unions do not necessarily represent separate unions, since the branches of a large union may be affiliated with the local trades councils in the several towns in which they are represented.

A Central Labour Organization, now called the Australian Council of Trade Unions, came into being during 1927. The Council was created to function on behalf of the trade unions of Australia, and was founded at an All-Australian Trade Union Congress held in Melbourne in May, 1927. The A.C.T.U. consists of affiliated unions and affiliated Metropolitan and/or State Labour Councils and Provincial Councils. The Metropolitan or State Labour Council in each State is the State Branch of the A.C.T.U. and has the right to appoint one representative to act on the executive of the Council. In addition to the representatives of the State Branches of the A.C.T.U., six delegates are elected by and from Congress, one

from each of the following industry groups of unions:—Building, Food and Distributive Services, Manufacturing, Metal, Services, Transport. To this executive are added the four officers, namely, President, two Vice-Presidents and Secretary, who are elected by and from the Australian Congress of Trade Unions.

The ordinary meetings of Congress are held in each alternate year. Special meetings of Congress shall be held whenever deemed advisable by decisions of the executive, as approved by the majority of its branches, or by resolution of unions representing one-third of the total membership of the A.C.T.U.

The objectives of the A.C.T.U. are the socialization of industry, i.e., production, distribution and exchange, and the utilization of the resources of Australia for the benefit of the people—ensuring full employment, with rising standards of living, real security and full cultural opportunities for all. The methods to be adopted are:—the closer organization of the workers by the transformation of the Australian trade union movement from the craft to an industrial basis, by grouping of unions in their respective industries and by the amalgamation of unions with a view to the establishment of one union in each industry; the consolidation of the Australian Labour Movement, with the object of unified control, administration and action; the centralized control of industrial disputes; educational propaganda among unions; and political action to secure satisfactory working-class legislation.

The A.C.T.U. was the first interstate body in Australia with authority to deal with industrial matters of an interstate character affecting the trade union movement generally. It is also the body responsible for submitting to the Commonwealth Government the names of persons suitable for selection as the Australian workers' delegate to the annual International Labour Conference.

All the major unions are affiliated with the A.C.T.U., with the exception of the largest, the Australian Workers' Union, which is itself virtually a central organization of branches catering in the main for employees in rural and constructional pursuits.

Between the trade union and the central organization of unions may be classed certain State or district councils organized on trade lines, and composed of delegates from separate unions whose members' interests are closely connected because of their occupations. Delegate councils of bakers, bread carters and mill employees, or of unions connected directly or indirectly with the iron, steel, or brass trades, or with the building trades, may be so classed.

## § 2. International Labour Organization.

The International Labour Organization (I.L.O.) was established on 11th April, 1919, as an autonomous institution associated with the League of Nations. Its original constitution was adopted as Part XIII. of the Treaty of Versailles and formed part of other treaties of peace. During the years between its establishment and the outbreak of the 1939–45 War, the I.L.O., with headquarters at Geneva, played a leading role in promoting the improvement of labour conditions throughout the world.

In 1940, in order to ensure that the I.L.O. should be able to continue to function freely, a working centre was established at Montreal, Canada. In 1946, the Organization became the first of the specialized agencies of the United Nations. Under the terms of agreement, the United Nations recognizes the I.L.O. as a specialized agency having responsibility in the field defined by its constitution, which embraces labour conditions, industrial relations, employment organization, social security and other aspects of social policy. The Organization has three basic parts. These are the International Labour Conference, its highest authority, which as a rule meets annually; the Governing Body, its executive council, which usually meets three times each year; and the International Labour Office, which provides the secretariat of the Organization. The Conference is composed of delegations from the Member States of the Organization. At the end of 1961, there were 101 Member States, each of which is entitled to be represented by four delegates—two government, one representing employers and one representing workers, together with their advisers. Each delegate speaks and votes independently, so that all points of view in each country are fully expressed. The Governing Body consists of the representatives of twenty governments

and ten employers' and ten workers' representatives. Of the twenty government representatives, half are from the ten countries of major industrial importance and ten are elected by the remaining governments. These latter ten government representatives and the ten employers' and ten workers' titular delegates and the deputy members of the three groups are elected by their groups at the Conference every three years. Since the 1939-45 War, Australia has alternated as a member and deputy member of the government group, and is at present a deputy member. Particulars are given in *Labour Report* No. 48 of the proceedings of International Labour Conferences up to the 44th Session, held in Geneva in June, 1960. For details of I.L.O. conventions ratified by Australia see *Labour Report* Nos. 47 and 48.



## CHAPTER XIII.

## TRADE.

NOTE.—Values of Australian overseas trade shown throughout this chapter are expressed as £A. f.o.b. port of shipment, unless otherwise indicated.

Because of the limitations of space, the statistics in this chapter are in the main restricted to summarized form. For details of imports and exports, reference should be made to the annual bulletins on *Overseas Trade* (preliminary and final), *Australian Exports*, and *Imports Cleared for Home Consumption*. Current information on overseas trade is contained in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, the *Monthly Bulletin of Overseas Trade Statistics*, and a preliminary monthly statement on *Australian Overseas Trade*. The *Australian Balance of Payments* (mimeograph statement) contains detailed information on this subject, and there are also the following additional mimeograph statements:—*Exports of Wool* (monthly), *Overseas Trade with Major Groups of Countries* (quarterly), *Trade of Australia with the United Kingdom* (half-yearly), *Trade of Australia with Eastern Countries* (annually), and *Monthly Index of Australian Export Prices*.

## § 1. Constitutional Powers.

By the Commonwealth of Australia Constitution Act, section 51 (i), the power to make laws with respect to trade and commerce with other countries was conferred on the Commonwealth Parliament. Under section 86 of the Constitution, the collection and control of duties of customs and excise passed to the Executive Government of the Commonwealth on 1st January, 1901. Other references to trade and commerce are contained in sections 87 to 95 of the Constitution (*see pp. 18–19*).

## § 2. Commonwealth Legislation affecting Overseas Trade.

1. *General*.—The principal Acts affecting overseas trade at present in force are: the Customs Act 1901–1960; Customs Tariff 1933–1961; Customs Tariff (Canadian Preference) 1960–1961; Customs Tariff (Dumping and Subsidies) Act 1961; Customs Tariff (New Zealand Preference) 1933–1961; Customs Tariff (Papua and New Guinea Preference) 1936–1959; Customs Tariff (Federation of Rhodesia and Nyasaland Preference) 1960–1961; Customs Tariff (Primage Duties) 1934–1958; Trading with the Enemy Act 1939–1957.

The Customs Act is the administrative Act under which the Department of Customs and Excise operates, while the Customs Tariffs provide the statutory authority for imposing the actual rates of duty operative from time to time.

2. *The Customs Tariff*.—(i) *General*. The first Commonwealth Customs Tariff was introduced by Resolution on 8th October, 1901, from which date uniform duties came into effect throughout Australia. The tariff has since been extensively amended. The Act at present in operation is the Customs Tariff 1933–1961.

The Australian Customs Tariff has been developed in conformity with the policy of protecting economic and efficient Australian industries and of granting preferential treatment to imports from certain countries of the British Commonwealth. Duties are also imposed on some goods, generally of a luxury nature, for revenue purposes. Customs collections are a major source of revenue, but in its protective character the tariff has an important influence on the Australian economy.

Australia has three classes of tariff—the British Preferential Tariff, the Intermediate Tariff and the General Tariff.

(ii) *British Preference*. British Preferential Tariff rates of duty apply to goods the produce or manufacture of the United Kingdom, provided that such goods comply with the laws and statutory regulations in force at the time affecting the grant of preference,

and that the goods have been shipped in the United Kingdom to Australia and have not been transhipped, or, if transhipped, it is proved to the satisfaction of the Collector of Customs that the intended destination of the goods, when originally shipped from the United Kingdom, was Australia. For the purpose of the preferential tariff, the following goods are deemed by section 151A of the Customs Act 1901-1960 to be the produce or manufacture of the United Kingdom, provided the final process of their production or manufacture was performed in that country.

- (a) Goods which are wholly produced or wholly manufactured in the United Kingdom from materials in one or more of the following classes:—
  - (i) Materials wholly produced or wholly manufactured in the United Kingdom or in Australia;
  - (ii) Imported unmanufactured raw materials;
  - (iii) Imported manufactured raw materials as determined by the Minister.
- (b) Goods of the factory or works cost of which not less than 75 per cent. is represented—
  - (i) by labour or material of the United Kingdom; or
  - (ii) by labour or material of the United Kingdom and labour or material of Australia.
- (c) Goods of a class or kind not commercially produced or manufactured in Australia and of the factory or works cost of which not less than 25 per cent. (or 50 per cent. if the Minister so determines) is represented—
  - (i) by labour or material of the United Kingdom; or
  - (ii) by labour or material of the United Kingdom and labour or material of Australia.

With the exception of a relatively small number of commodities which carry special rates of duty, the British Preferential Tariff has also been extended, as a result of separate trade agreements, to Canada and New Zealand and by tariff legislation to the Territory of Papua and New Guinea, and the abovementioned preference conditions apply *mutatis mutandis* to each of those countries, except that in respect of New Zealand the percentage content of goods under clause (b) of the said conditions is 50 per cent. of New Zealand and Australian labour and materials or 75 per cent. of New Zealand and United Kingdom or of New Zealand, Australian and United Kingdom labour and materials. In relation to specified goods, the British Preferential Tariff also applies to Ceylon, Ghana, the Federation of Malaya, Singapore, the Federation of the West Indies, the Federation of Rhodesia and Nyasaland, and most of the British non-self-governing colonies, protectorates and trust territories.

(iii) *Intermediate Tariff.* The Intermediate Tariff has been a feature of the Australian Tariff for a considerable number of years, although its effective application dates only from 1st January, 1937, consequent upon the conclusion of trade agreements with Belgium, Czechoslovakia and France in 1936. The countries to which the Intermediate Tariff applies include those countries with which Australia has concluded trade agreements (including tariff negotiations pursuant to the General Agreement on Tariffs and Trade) and countries which accord Australia reciprocal most-favoured-nation tariff treatment by reason of agreements between those countries and the United Kingdom. The Intermediate Tariff has also been extended to some countries to which Australia has no formal obligation to accord most-favoured-nation treatment. The countries and the particular tariff items to which the Intermediate Tariff applies are specified by order made in pursuance of section 9A of the Customs Tariff 1933-1961.

(iv) *General Tariff.* The General Tariff applies to goods other than those to which the British Preferential Tariff or Intermediate Tariff or special rates under trade agreements apply.

3. *Primage Duties.*—In addition to the duties imposed by the Customs Tariff, *ad valorem* primage duties at rates of 4 per cent., 5 per cent. or 10 per cent. are charged on some goods according to the type of goods and origin thereof under the Customs Tariff (Primage Duties)

1934-1958. Other goods are exempt from primage duty. Goods the produce or manufacture of New Zealand, Norfolk Island, Fiji, Cocos Islands, Christmas Island and the Territory of Papua and New Guinea are exempt from primage duty.

4. **Tariff Board.**—The Tariff Board Act 1921-1960 provides for the appointment of a Tariff Board consisting of eight members, two, but not more than three, of whom shall be officers of the Commonwealth Public Service. Members of the Board are appointed for terms of not less than one year and not more than five years. The purpose of the Tariff Board is to advise the Government on matters relating to the protection and encouragement of Australian industry and to the Customs and Excise Tariffs.

The Chairman of the Board has the duty of ensuring the efficient and orderly conduct of the business of the Board. Provision is made for the appointment of two Deputy Chairmen to whom the Chairman may delegate his powers, duties and functions under the Act.

The more important matters which the Minister of State for Trade shall refer to the Board for inquiry and report include:—the necessity for new, increased, or reduced duties; the necessity for granting bounties and the effect of existing bounties; any proposal for the application of the British Preferential Tariff or the Intermediate Tariff to any part of the British Commonwealth or any foreign country; and any complaint that a manufacturer is taking undue advantage of the protection afforded him by the Tariff by charging unnecessarily high prices for his goods or acting in restraint of trade. In addition, the Minister may refer the following matters to the Tariff Board for inquiry and report:—the general effect of the working of the Customs Tariff and the Excise Tariff: the fiscal and industrial effects of the Customs laws on the Commonwealth; the incidence between the rates of duty on raw materials and on finished or partly finished products; and other matters affecting the encouragement of primary and secondary industries in relation to the Tariff. The Minister of State for Customs and Excise may refer to the Tariff Board for inquiry and report the following matters:—the classification of goods in the Customs Tariff or Excise Tariff and any matter in connexion with the interpretation of these Tariffs; the question of the value for duty of goods; whether goods not prescribed in departmental by-laws should be so prescribed; and any matters in respect of which action may be taken under the Customs Tariff (Dumping and Subsidies) Act 1961.

Inquiries conducted by the Board relating to any revision of the Tariff, any proposal for a bounty, or any complaint that a manufacturer is taking undue advantage of the protection afforded him by the Tariff, shall be held in public, and evidence in such inquiries shall be taken in public on oath, unless any witness objects to giving any evidence in public which the Board is satisfied is of a confidential nature, when the Board may take such evidence in private. Evidence taken by the Board in connexion with any inquiry under the Customs Tariff (Dumping and Subsidies) Act 1961 shall be taken in public on oath.

During 1960, new legislation was introduced to enable temporary duties to be imposed in cases where urgent action is necessary to protect an Australian industry against imported goods. Under the amended Tariff Board Act, the Minister for Trade may request the Chairman of the Board to arrange for a Deputy Chairman to inquire into cases where urgent action may be necessary pending receipt and consideration of a full report by the Board. The Deputy Chairman's report must be submitted to the Minister within thirty days of the making of the request. Temporary duties recommended by a Deputy Chairman may be imposed, but can only operate for a period of up to three months after the date of receipt of the final report by the Tariff Board on the goods concerned.

5. **Anti-dumping Legislation.**—A Customs Tariff (Dumping and Subsidies) Act 1961 provides protection for Australian industry against various forms of unfair trading. Under this Act dumping duty can be imposed on goods that are sold to Australia at an export price which is less than the normal value of the goods, where this causes or threatens material injury to an Australian industry.

Dumping duty can be levied only after inquiry and report by the Tariff Board.

The four criteria covering normal value are as follows:—

- (i) Fair market value in the country of export;
- (ii) Price in the country of export to a third country;
- (iii) Fair market value in a third country;
- (iv) Cost of production, plus f.o.b. charges, plus selling costs and profit.

Special duties may be collected also if dumped or subsidized goods are imported to the detriment of the trade of a third country in the Australian market.

Countervailing duty can be levied on goods in respect of which any subsidy, bounty, reduction, or remission of freight or other financial assistance has been, or is being, paid or granted directly or indirectly upon the production, manufacture, carriage or export of those goods.

The amount of the countervailing duty in respect of any goods is a sum equal to the amount of the subsidy, bounty, reduction or remission of freight or other financial assistance.

The Act also provides for the collection of an emergency duty on goods which enter Australia under conditions which cause or threaten serious injury to Australian industries or industries in a third country whose exports enter Australia under preferential tariff. The amount of emergency duty payable is the equivalent of the difference between the landed duty paid cost of the goods and a reasonably competitive landed duty paid cost.

For information concerning the Customs Tariff (Industries Preservation) Act 1921–1957 reference should be made to Official Year Book No. 47, page 483.

**6. Trade Descriptions.**—The Commerce (Trade Descriptions) Act 1905–1950 gives power to require the application of a proper trade description on certain prescribed goods imported into or exported from the Commonwealth. Goods which must bear a prescribed trade description upon importation into Australia are specified in the Commerce (Imports) Regulations. As regards exports from Australia, marking requirements are prescribed in regulations issued under the Act and relating to specified export commodities.

**7. Import Controls.**—*Customs (Import Licensing) Regulations.* A comprehensive system of import licensing was introduced in Australia at the beginning of the second World War under the authority of the Customs (Import Licensing) Regulations, being Statutory Rules 1939, No. 163, issued under the Customs Act 1901–1936.

Between 1939 and 1945, licensing controls on imports from both sterling and non-sterling sources were progressively intensified. With the end of the War, it was possible to relax the restrictions progressively, and by March, 1952, goods from the non-dollar area (excluding Japan for which special provisions applied until July, 1957) were virtually free from import licensing controls.

During the financial year 1951–52, following a fall in the price of wool and a large increase in the volume of imports, Australia incurred a substantial deficit in overall payments on current account. Oversea reserves fell rapidly in the latter part of 1951 and early 1952, endangering Australia's external financial position to such a degree that it was deemed necessary on 8th March, 1952, to apply the Customs (Import Licensing) Regulations to imports from all sources with the exception of goods originating in Papua, New Guinea and Norfolk Island.

The extension of the restrictions on 8th March, 1952, was made under the authority of these regulations, which had continued in force after the war. The regulations were subsequently replaced by new Customs (Import Licensing) Regulations made under the Customs Act 1901–1954 on 16th December, 1956. The new Regulations continued to provide, *inter alia*, that the importation of any goods (not being goods which are excepted from the application of the Regulations) is prohibited unless—

- (a) a licence under these Regulations to import the goods is in force; and
- (b) the conditions and restrictions (if any) to which the licence is subject are complied with.

The object of import licensing has been to limit the rate of imports to a ceiling figure, determined by the Government, in order that payments for imports do not involve an excessive drawing on Australia's overseas exchange reserves. To achieve the financial objectives of the controls, imports were divided into a number of categories to which special licensing treatment was accorded (largely by the establishment of quotas for individual importers within each category). In general, the nature of goods and their relative essentiality to the Australian economy were taken into account in determining the licensing rate for particular goods.

Since March, 1952, import restrictions have been relaxed or intensified broadly in line with changes in Australia's balance of payments position.

The import controls have been administered without discrimination as to country of origin, with the exception of those relating to imports from Japan and the Dollar Area. The special restrictions against Japanese imports were removed in July, 1957, and in recent years Australia progressively removed discrimination against imports from the Dollar Area. By January, 1960, approximately 95 per cent. of total imports were not subject to dollar discrimination.

In accordance with the principle of relaxing and removing controls in the light of developments in Australia's balance of payments position, large-scale licensing changes involving an almost complete abolition of controls were made as from 23rd February, 1960. As a result of these changes, some 90 per cent. of total imports were exempted from control. On 1st April, 1960, timber was also added to the exempt list, and following the exemption from control of motor vehicles of North American origin as from 1st October, 1960, there is now no discrimination as to country of origin in the administration of import controls.

The retention of control over a small field of trade does not imply any departure from the Government's policy of using the Customs Tariff and the Tariff Board machinery as the normal method of protecting economic and efficient Australian industries from import competition.

The administration of the import controls is the responsibility of the Department of Trade, although the actual issue of import licences is a function of the Department of Customs and Excise at the various ports of the Commonwealth.

**8. Export Controls.**—(i) *Commodity Control.* Section 112 of the Customs Act provides that the Governor-General may, by regulation, prohibit the exportation of goods from Australia, and that this power may be exercised by—(a) prohibiting the exportation of goods absolutely; (b) prohibiting the exportation of goods to a specified place; and (c) prohibiting the exportation of goods unless prescribed conditions or restrictions are complied with. Goods subject to this export control are listed in the Customs (Prohibited Exports) Regulations.

(ii) *Exchange—Banking Act 1959.* As an integral part of the framework of exchange control, a control over goods exported from Australia is maintained under the provisions of Part III. of the Banking (Foreign Exchange) Regulations, to ensure that the full proceeds of such goods are received into the Australian banking system and that these proceeds are received in the currency and in the manner prescribed by the Reserve Bank of Australia. This action is complementary to that taken under other parts of the Banking (Foreign Exchange) Regulations and under Part IV. of the *Banking Act 1959* to control the movement out of Australia of capital in the form of securities, currency and gold.

Export licences are issued subject to terms and conditions specified in the Banking (Foreign Exchange) Regulations, and may be subject to such further terms and conditions as are determined, or may be free from terms and conditions. On the receipt in Australia by the Reserve Bank, or by a bank acting as agent for that Bank, of advice that the foreign currency has been paid to the Reserve Bank or to an agent of the Bank in payment for goods exported in accordance with a licence granted under the regulations, the Bank, or an agent of the Bank, pays the licensee, or such other person as is entitled to receive it, an amount in Australian currency equivalent to the foreign currency received. In addition to commercial transactions involving exports, movements of personal effects are also controlled. Persons leaving Australia for overseas are required to obtain licences to cover their bona fide baggage, personal effects and household effects in any individual case where the gold content thereof exceeds £A125, or where jewellery and other articles of high intrinsic worth either exceed £A1,000 in value or have not been the personal property of the passenger for at least twelve months.

**9. Trade Agreements.**—(i) *The United Kingdom.* The original United Kingdom and Australia Trade Agreement (Ottawa Agreement) was signed on 20th August, 1932. Under this agreement, Australia secured preferences in the United Kingdom market for a wide range of Australian export commodities, and in return incurred obligations in respect of tariff levels and the grant of preference to United Kingdom goods.

A new Trade Agreement, designed to replace the original agreement and correct the unbalance in benefits which had emerged in the 25 years of its operation, came into effect on 9th November, 1956. Briefly, this agreement preserves security for Australian exports in the United Kingdom market, but lowers the obligatory margins of preference which Australia extends to the United Kingdom (*see also* page 475).

(ii) *Canada.* The existing agreement between Australia and Canada came into force on 30th June, 1960, replacing an agreement signed on 3rd August, 1931. The agreement provides for Australian goods to receive British Preferential Tariff rates, or better, upon entry into Canada, and for Canada to maintain margins of preference in favour of Australia on a range of commodities. With some exceptions, the agreement specifies that Canadian goods shall receive the benefit of the British Preferential Tariff upon importation into Australia. The agreement continues in force until either country gives six months notice of termination.

(iii) *New Zealand.* The existing trade agreement between Australia and New Zealand came into force on 1st December, 1933. The basis of the agreement is, generally, the mutual accord of British Preferential Tariff treatment. The exceptions to this general rule are listed in the schedules to the agreement.

(iv) *Federation of Rhodesia and Nyasaland.* During June, 1955, a trade agreement was negotiated with the Federation. Australia's principal undertaking was to grant an exclusive tariff preference to the Federation on unmanufactured tobacco, a concession formerly accorded only to Southern Rhodesia, under a trade agreement now terminated. The Federation accorded preferential tariff treatment on a wide range of Australian export products, including wheat and powdered and condensed milk.

(v) *Federation of Malaya.* A trade agreement with the Federation was signed on 26th August, 1958, and came into force immediately. The agreement gives an assurance that Australia's traditional flour trade will be protected from subsidized or dumped competition. An undertaking is given that any tariff preferences Malaya accords will be extended also to Australia. Australia guarantees free entry for natural rubber so long as the Papua-New Guinea crop is absorbed, and the Federation is assured that natural rubber would not be at a disadvantage compared with synthetic rubber in respect of tariff or import licensing treatment.

(vi) *Japan.* An Agreement on Commerce between the Commonwealth of Australia and Japan was signed on 6th July, 1957, in Japan. Formal ratification took place in Canberra on 4th December, 1957, following approval of the agreement by the Commonwealth Parliament and the Japanese Diet. It was provided that the Agreement would remain in force until 5th July, 1960, and thereafter unless prior notice of termination should be given by either Government.

Australia received certain specific undertakings. Japan agreed:—

- (a) To accord Australian wool the opportunity of competing in the global quota for wool for not less than 90 per cent. of the total foreign exchange allocation for wool each year, and not to restrict the total foreign exchange allocation for wool beyond the extent necessary to safeguard Japan's external financial position and balance of payments;
- (b) to take no action to vary the present level of duty on wool imports from Australia—initially for a period of three years from date of signature but subsequently extended;
- (c) to admit Australian wheat and barley on a competitive and non-discriminatory basis;
- (d) to accord Australian sugar the opportunity of competing for not less than 40 per cent. of the total foreign exchange allocation for sugar;
- (e) to include Australia as a permitted source of supply for beef tallow and cattle hides on the Automatic Approval (licensing) list;

- (f) to admit Australian dried skim milk on a competitive and non-discriminatory basis;
- (g) to make reasonable provision for the import of Australian dried vine fruits (raisins, currants and sultanas) in each year of the three-year period.

Since the Agreement was signed, Japanese imports of wool, tallow and dried fruits have been fully liberalized.

It was agreed that before the end of the initial three-year period of the agreement, the two Governments would explore the possibility of applying the General Agreement on Tariffs and Trade between the two countries. Following discussions on this and other aspects of the Agreement in October, 1960, and in October, 1961, operation of the Agreement was extended until September, 1962.

Provision exists for either country to suspend obligations under the agreement to the extent and for such time as may be necessary to prevent serious injury to domestic producers as a result of imports of like or directly competitive products from the other country.

The agreement provides that each country shall extend most-favoured-nation treatment to the other in respect of customs duties and similar charges and import and export licensing. Japan will not be entitled to claim the benefit of preferences accorded by Australia to Commonwealth countries and dependent territories.

(vii) *Federal Republic of Germany.* This agreement was signed in October, 1959, and was operative initially for the period July, 1959, to December, 1961. It has been agreed to extend the agreement for a further year to 31st December, 1962, but with provision for it to be reviewed during that year. Under the agreement, annual import quotas are provided for Australian wheat, coarse grains, frozen mutton and lamb, canned meat, fruits preserved in sugar, canned tropical fruit and wine.

The agreement also provides for Australia to be included in all global tenders for whole and skim milk powder, butter, cheese, frozen beef, apples, pears, canned fruits, jam and casein.

The Agreed Minute on the export of flour from the Federal Republic of Germany to certain traditional Australian flour markets was also signed in October, 1959. The Agreed Minute was valid initially for the two years 1960 and 1961, and as with the Trade Agreement has been extended to 1962, with the provision for it to be reviewed during that year.

(viii) *Indonesia.* This agreement came into operation on 1st July, 1959. It records the desirability of expanding trade between Australia and Indonesia. It also gives special recognition to the importance of the flour trade from Australia to Indonesia. Australia recognises the importance to Indonesia of its exports to Australia of tea and rubber.

(ix) *Other Countries.* Australia has entered into bilateral agreements with South Africa, Brazil, Czechoslovakia, France, Greece and Switzerland. Summaries of the texts of these agreements were given in earlier issues of the Official Year Book. In 1951, Australia entered into a trade agreement with Israel under which each country undertook to accord most-favoured-nation treatment to imports from the other. A similar agreement with Iceland was concluded in 1952.

(x) *The General Agreement on Tariffs and Trade (G.A.T.T.).* The General Agreement on Tariffs and Trade is an international trade agreement which has been in operation since 1st January, 1948. Australia is one of the original contracting parties to the General Agreement on Tariffs and Trade.

The objectives of the G.A.T.T. include the expansion of world trade and the raising of living standards throughout the world. Its members work towards these objectives by the reduction of tariffs and other barriers to trade, and by reduction of discrimination between countries through negotiations on a reciprocal and mutually advantageous basis. The essential features of the G.A.T.T. are the schedules of tariff concessions which its members

have agreed to apply in tariff negotiations with each other, the application of most-favoured-nation treatment among its members, the avoidance of trade discrimination, and a code of agreed commercial policy rules for fair international trading.

G.A.T.T. is at present being applied pursuant to the Protocol of Provisional Application under which its members apply the commercial policy rules (contained in Part II. of the Agreement) to the fullest extent consistent with legislation existing at the time of becoming members.

Five series of tariff negotiations have been conducted under the provisions of the General Agreement. As a result of these negotiations, Australia has obtained tariff concessions on almost all the principal products of which it is an actual or potential exporter to the individual countries concerned. These concessions were a result both of direct negotiation by Australia and of negotiations by other countries—in the latter case benefits occur through the operation under the Agreement of the most-favoured-nation principle.

In 1954–55, some of the provisions of the G.A.T.T. were revised. The revised G.A.T.T. contains tighter provisions on non-tariff barriers to trade. These barriers are in many respects most significant for some of the export items of interest to Australia. The revised G.A.T.T. also gives more freedom for countries like Australia to revise individual tariff items which had been “bound” against increase in tariff negotiations conducted under the G.A.T.T. In 1958, a Committee was set up to examine problems of expansion of trade in agricultural products and obstacles to the expansion of trade of underdeveloped countries.

There are at present (January, 1962) 40 Contracting Parties to the Agreement comprising most of the world's larger trading nations, and 8 further countries are seeking accession or have some provisional association with the G.A.T.T. The Contracting Parties periodically hold plenary sessions to deal with the questions arising out of the administration of the Agreement. The 18th Session was held in May, 1961, and the 19th Session in November/December, 1961. A permanent Council has been set up to deal with urgent business arising between sessions and to give preliminary consideration to work arising at the sessions.

### § 3. Imperial Preference in the United Kingdom.

1. **Preferential Tariff of the United Kingdom.**—A brief summary of the preferential tariff of the United Kingdom in the years prior to 1931 was published in Official Year Book No. 43, page 328.

By 1931, the United Kingdom had imposed duties on a fairly wide range of goods, provision being made in all cases for preferential treatment to Empire goods. The important preferences for Australia were those on sugar, dried fruit, wine, and jams and jellies. Even at this time, however, the United Kingdom adhered to the principles of free trade and by far the greater part of imports was free of duty.

In order to counteract the flood of dumping which followed the collapse of world trade in 1929–30, the United Kingdom introduced emergency tariff legislation in 1931. *Ad valorem* duties were imposed on almost all goods imported into the United Kingdom with the exception of certain raw materials, goods from Empire countries being exempt from these duties. These temporary measures were embodied in the Import Duties Act of March, 1932, by the enactment of which the United Kingdom finally abandoned free trade as a policy. This Act provided for the free entry for Empire goods pending the conclusion of some permanent agreement. The Ottawa Agreements Act of November, 1932, emerged from the Imperial Economic Conference held in Ottawa and embodied agreements concluded between the United Kingdom and the Dominions, Newfoundland and Southern Rhodesia. For the purpose of considering the present preferences enjoyed by Australia in the United Kingdom, it is expedient to regard the Import Duties Act and the Ottawa Agreements Act as complementary.



The Import Duties Act provided for the imposition of a general *ad valorem* duty of 10 per cent. on all imports with certain exceptions (i.e., those on the Free List and those already dutiable under previous enactments). Additional duties could be imposed and items on the Free List subjected to duty, and in fact the range of items subject to duties under this Act has been extended from time to time since its enactment.

The freedom of Empire goods from these duties was guaranteed under the Ottawa Agreements Act, which also provided for the imposition of new duties on imports from foreign, but not Empire, countries of a number of products of special interest to the Empire countries concerned. While free entry was guaranteed to Empire producers on a wide range of products, the margins of preference thereby applicable were not bound, and the duties could be varied up or down by the United Kingdom Government without the consent of Empire countries. On a selected range of items, however, which are specified in the schedules to the Ottawa Agreements Act, the duties could not be varied by the United Kingdom without the consent of the other party to the respective agreement.

Since 30th October, 1947, Canada and the United Kingdom have, by an exchange of letters, recognized the rights of their respective Governments to reduce or eliminate the preferences they accord one another without prior consultation or consent.

In 1947, the United Kingdom and Australia adhered to the General Agreement on Tariffs and Trade, which prohibits increases in tariff preferences by either country. This rule, as is the case with the other provisions of the General Agreement, may be waived by a two-thirds majority of the signatories to the agreement.

2. The Australia-United Kingdom Trade Agreement.—The provisions and history of the original Australia-United Kingdom Agreement (Ottawa Agreement) were published in Official Year Book No. 43, page 329.

The major provisions of the current agreement (operative since 9th November, 1956) which affect Australia's position in the United Kingdom market are as follows:—

- (a) Continued free entry for those Australian goods in which Australia has an active trade interest, and which were accorded free entry immediately prior to the new agreement.
- (b) A guaranteed minimum margin of preference in the United Kingdom Tariff on all items so treated in the previous agreement plus an extension of this guarantee to several items on which the margin of preference, although in force, was not bound to Australia. This latter group comprised currants, egg powder and egg pulp, jam, rice, tomato juice, pineapple juice and coconut oil. A selection of the items on which Australia receives a bound margin of preference and the extent of that preference is as follows (all values in sterling):—Butter (15s. a cwt.); cheese (15 per cent. *ad val.*); canned peaches, pears and apricots (12 per cent. *ad val.*); raisins (8s. 6d. a cwt.); eggs in shells (1s. to 1s. 9d. a great hundred (10 dozen)); milk powder (6s. a cwt.); sweetened condensed milk (5s. a cwt.); apples (4s. 6d. a cwt. in season); honey (5s. a cwt.); flour (10 per cent. *ad val.*); light wine (2s. a gallon); heavy wine (10s. a gallon at present duty rate).
- (c) All rights under the Ottawa Agreement in respect of meat are maintained.
- (d) Australia receives an assured wheat market of at least 750,000 tons f.a.q. wheat or flour equivalent annually. Any Australian high-protein wheat sold to the United Kingdom is not counted against this obligation.
- (e) There is provision for full consultation between the two Governments on such matters as agricultural production and marketing, transport and communication, the disposal of surpluses and restrictive business practices.
- (f) The agreement shall be the subject of re-negotiation between the two Governments during the fifth year of its operation. (By agreement between the two Governments this re-negotiation has been postponed to 1962.)

#### § 4. Trade Commissioner Service.

The stimulation of interest abroad in Australia's exports is an important Government activity in which the Australian Trade Commissioner Service plays a prominent part. The origin of the Service dates back to 1921, when the first Trade Commissioner was appointed to Shanghai. In the following year, a second Commissioner was appointed to Singapore. These appointments, however, were terminated shortly afterwards.

In 1929, a Trade Commissioner post was opened at Toronto. Wellington was opened five years later. The Trade Commissioners Act 1933 provided for the establishment of an Australian Government Trade Commissioner Service. In 1935, official trade representation was established at Batavia (now Djakarta), Shanghai and Tokyo. Cairo, New York and Calcutta posts were opened between 1937 and 1939 and the Singapore post was established in 1941.

After the War, the service increased steadily to take care of Australia's expanding export interests and the growing diversity of our export commodities. By December, 1961, there were 36 Trade Commissioner posts in 27 countries, new posts having been opened in Beirut (Lebanon), August, 1961, Lima (Peru), October, 1961, and Caracas (Venezuela), March, 1962. With the continuing need to take advantage of new markets the opening of additional posts is being considered.

In 1957, Australia's official commercial representation overseas was extended by the introduction of a system of Government Trade Correspondents. These men, who as a rule already reside in particular centres overseas, are engaged on a part-time basis to carry out market research, arrange introductions between buyer and seller, and generally promote Australia's trade interests in the same way as Trade Commissioners. Each Trade Correspondent operates under the general direction of the nearest Trade Commissioner and acts as a point of local contact for him.

The first two Australian Trade Correspondents were appointed in 1957 at Montevideo (Uruguay) and Nairobi (Kenya). In 1958, four more were appointed at Nadi (Fiji), now located at Suva, Honolulu, Mauritius and Mexico City. One additional appointment was made at Taiwan in 1960. Further limited expansion of this form of official commercial representation is contemplated. The Australian Trade Correspondent at Nairobi has been replaced by an Australian Government Trade Commissioner.

Trade Commissioners and, to a lesser extent, Trade Correspondents, are responsible for commercial intelligence in their territories. Particular facilities provided for Australian exporters and export organizations include the following:—

- (a) Surveys of market prospects;
- (b) Advice on selling and advertising methods;
- (c) Arranging introductions with buyers and agents;
- (d) Providing reports on the standing of overseas firms;
- (e) Advice and assistance to business visitors;
- (f) Helping to organize and carry through trade missions, trade displays, newspaper supplements and other promotion and publicity media;
- (g) Providing information on import duties, import licensing, economic conditions, quarantine and sanitary requirements and other factors affecting the entry and sale of goods.
- (h) Helping to attract desirable investment.

In some countries, Trade Commissioners also participate in inter-governmental negotiations in the economic and commercial fields. In certain countries where there is no diplomatic or consular mission (the Federation of West Indies, Hong Kong, the Federation of Rhodesia and Nyasaland, Lebanon, Peru and Venezuela), he is called upon to act as the Australian representative.

Trade Commissioners usually enter the Service from either the commercial world or the public service, and applications for entry into the Service are called for periodically by public advertisement. In the more important posts, it is the practice for the Trade Commissioner to share his duties with an Assistant Trade Commissioner, who is selected to be trained in the Service and qualify at a later stage for appointment as a Trade Commissioner.

These staffing arrangements are designed to enable the Government to draw upon experienced and able executives in both private enterprise and the public service, and at the same time to build up a body of competent personnel to carry out a policy of vigorous expansion in the field of oversea trade.

The Trade Commissioner Service is administered by the Commonwealth Department of Trade (as distinct from the diplomatic and consular services, administered by the Department of External Affairs), but in countries where there is an Australian diplomatic or consular mission it is the practice for Trade Commissioners to be attached to the mission and to hold an appropriate diplomatic or consular rank (*Commercial Counsellor, Commercial Secretary or Commercial Attaché*).

The oversea trade representation is shown in Chapter XXX.—Miscellaneous.

### § 5. Export Payments Insurance Corporation.

The Export Payments Insurance Corporation Act No. 32 of 1956, established the Corporation with the objective of protecting Australian exporters against risks of loss arising from non-payment of their oversea accounts.

The Corporation is charged to be self-supporting, that is, over a period it is to operate at neither a profit nor a loss. It operates on principles similar to those of any other form of insurance, in as much as in return for payment of a premium the exporter can claim on the Corporation in the event of non-payment by his buyer for any of the reasons set out in his policy. There is no overlap with normal insurance facilities, since the Corporation does not cover risks which can normally be insured with commercial insurers.

The main risks of loss against which the Corporation insures are the "commercial" risks of the insolvency or protracted default of the buyer and "political" risks. The latter include exchange transfer delays; the imposition of Government regulations which prevent the import of goods into the buyer's country; war or revolution in the buyer's country; and generally any other cause not being within the control of the exporter or the buyer, and which arises from events occurring outside Australia. Prior to December, 1959, the Corporation could extend cover only to 85 per cent. for all types of risks insured. From that time, however, cover on the "political" risks was increased to a maximum of 90 per cent. for the amount of loss in the pre-shipment period and a maximum of 95 per cent. in the post-shipment period. The cover for "commercial" risks remains at 85 per cent.

The initial capital of the Corporation was £500,000 and the maximum liability limit of the Corporation was £25,000,000. In April, 1959, these limits were doubled to £1,000,000 and £50,000,000 respectively to enable the Corporation to meet fully the demands of the Australian exporters for this facility.

The Corporation itself does not provide finance for exporters, but the stated policy of the trading banks is that E.P.I.C. guarantees considerably reduce the risks involved in the export trade, and this can assist the exporter in obtaining such finance as he requires.

Since the first policy was issued in September, 1957, Australian exporters have made increasing use of the facilities of the Corporation. On 31st December, 1961, the Corporation had 249 policies current to the value of over £30,000,000—compared with 159 policies current to the value of £22,500,000 on 31st December, 1960. The Corporation has issued policies covering exports to over 120 countries, and has insured a wide range of Australian exports.

A Consultative Council of leading figures in the fields of insurance, commerce and industry has been appointed to advise the Corporation on its activities.

### § 6. Method of Recording Imports and Exports.

1. *Source of Statistics.*—Oversea trade statistics are compiled from documents obtained under the Customs Act 1901–1960 and supplied to the Commonwealth Bureau of Census and Statistics by the Department of Customs and Excise. Certain items are excluded for which customs entries are not required. See para. 7 (viii) Balance of Payments, page 483.

2. **Customs Area.**—The area to which all overseas trade statistics issued by this Bureau apply is the whole area of the Commonwealth of Australia. Non-contiguous territories are treated as outside countries and trade transactions between Australia and these non-contiguous territories are part of the overseas trade of Australia. Such transactions are shown separately, i.e., the trade of Australia with each particular country is separately recorded and tabulated.

3. **The Trade System.**—There are two generally accepted systems of recording overseas trade statistics, namely, (a) special trade and (b) general trade. Statistics of both are published by the Bureau, although greater emphasis is placed on general trade. The Statistical Office of the United Nations defines the two systems as follows.

- (a) *Special Trade.* Special imports are the combined total of imports directly for domestic consumption and withdrawals from bonded warehouses or free zones for domestic consumption, transformation or repair. Special exports comprise exports of national merchandise, namely, goods wholly or partly produced or manufactured in the country, together with exports of nationalized goods. (Nationalized goods are goods which, having been included in special imports, are then exported.)
- (b) *General Trade.* General imports are the combined total of imports directly for domestic consumption and imports into bonded warehouse or free zone. Direct transit trade and trans-shipment under bond are excluded. General exports are the combined total of national exports and re-exports of imported merchandise including withdrawals from bonded warehouse or free zone for re-export.

The tables which follow refer to general trade, except for those appearing in § 17, para. 2, which refer to imports cleared for home consumption.

4. **Statistical Classification of Imports and Exports.**—Statistics of overseas imports and exports from which the summary tables in this issue of the Official Year Book have been extracted were compiled according to the revised classification which came into operation on 1st July, 1945. This classification is designed to allow for the inclusion of items which become significant with varying trade conditions, and in 1960–61 provided for over 2,500 import items and over 1,200 export items.

5. **The Trade Year.**—From 1st July, 1914, the statistics relating to overseas trade have been shown according to the financial year (July to June). Prior to that date, the figures related to the calendar year. A table is included in § 18 showing the total value of imports and exports in the calendar years 1957 to 1961 inclusive.

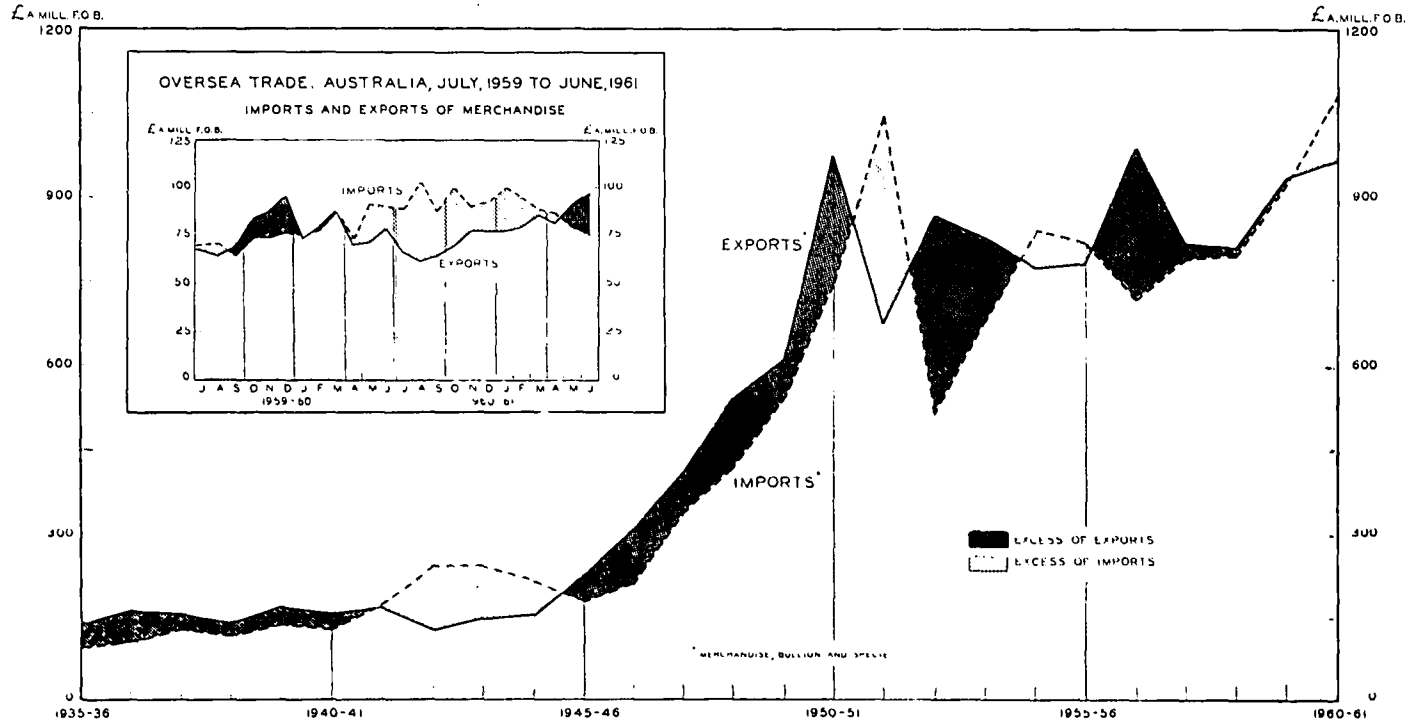
6. **Valuation.**—(i) *Imports.* The recorded value of goods imported from countries beyond Australia as shown in the following tables represents the amount on which duty is payable or would be payable if the duty were charged *ad valorem*.

Section 154 (1) of the Customs Act 1901–1960 provides that “ when any duty is imposed according to value, the value for duty shall be the sum of the following:—

- (a) (i) the actual money price paid or to be paid for the goods by the Australian importer plus any special deduction, or  
 (ii) the current domestic value of the goods, whichever is the higher; and  
 (b) all charges payable or ordinarily payable for placing the goods free on board at the port of export ”.

“ Current domestic value ” is defined as “ the amount for which the seller of the goods to the purchaser in Australia is selling or would be prepared to sell for cash, at the date of exportation of those goods, the same quantity of identically similar goods to any and every purchaser in the country of export for consumption in that country ”. All import values shown throughout this and other chapters of this issue of the Official Year Book are therefore “ transaction value (f.o.b.) ” or “ domestic value (f.o.b.) ”, whichever is the higher. These values are f.o.b. port of shipment Australian currency.

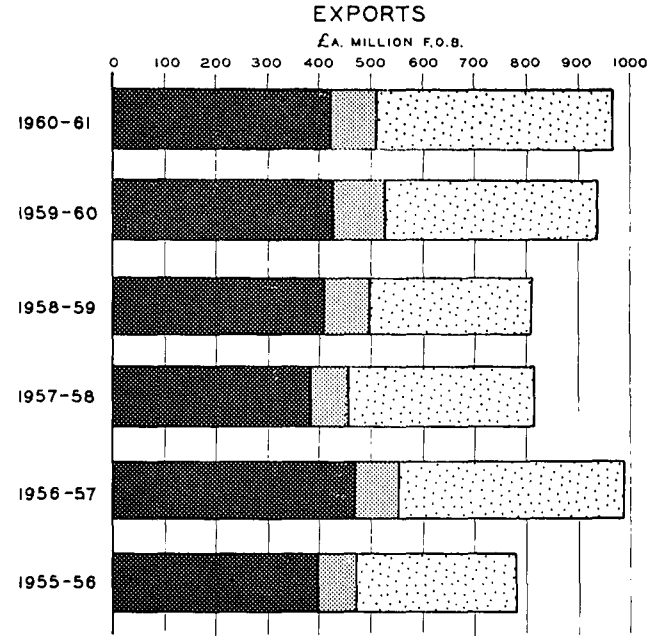
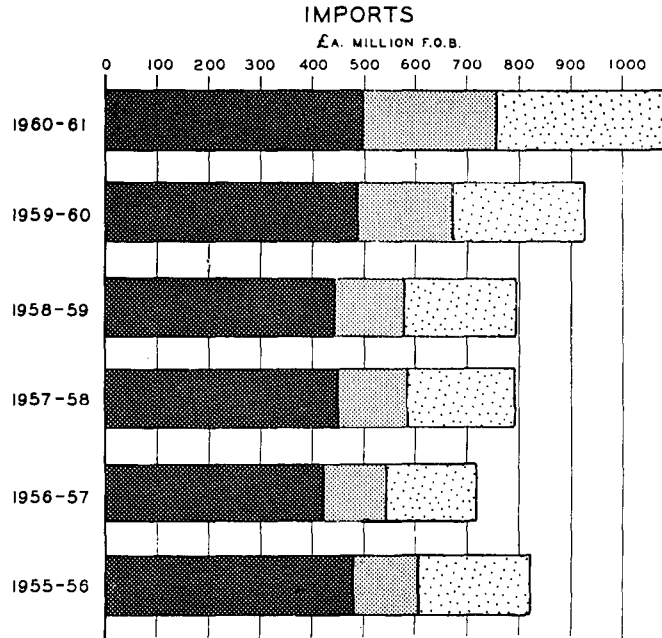
# OVERSEA TRADE: AUSTRALIA, 1935-36 to 1960-61



# OVERSEA TRADE ACCORDING TO MONETARY GROUPS

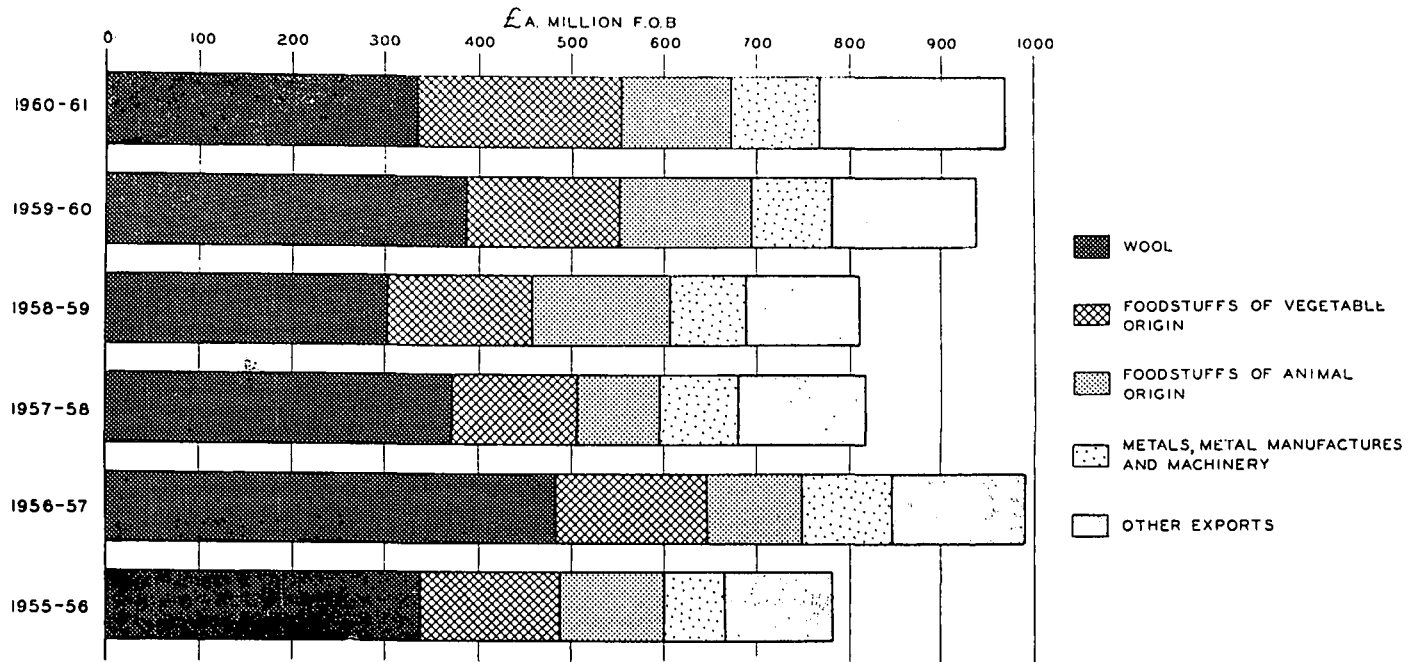
AUSTRALIA, 1955-56 to 1960-61

■ STERLING AREA    ▨ DOLLAR AREA    ▩ OTHER NON-STERLING AREAS



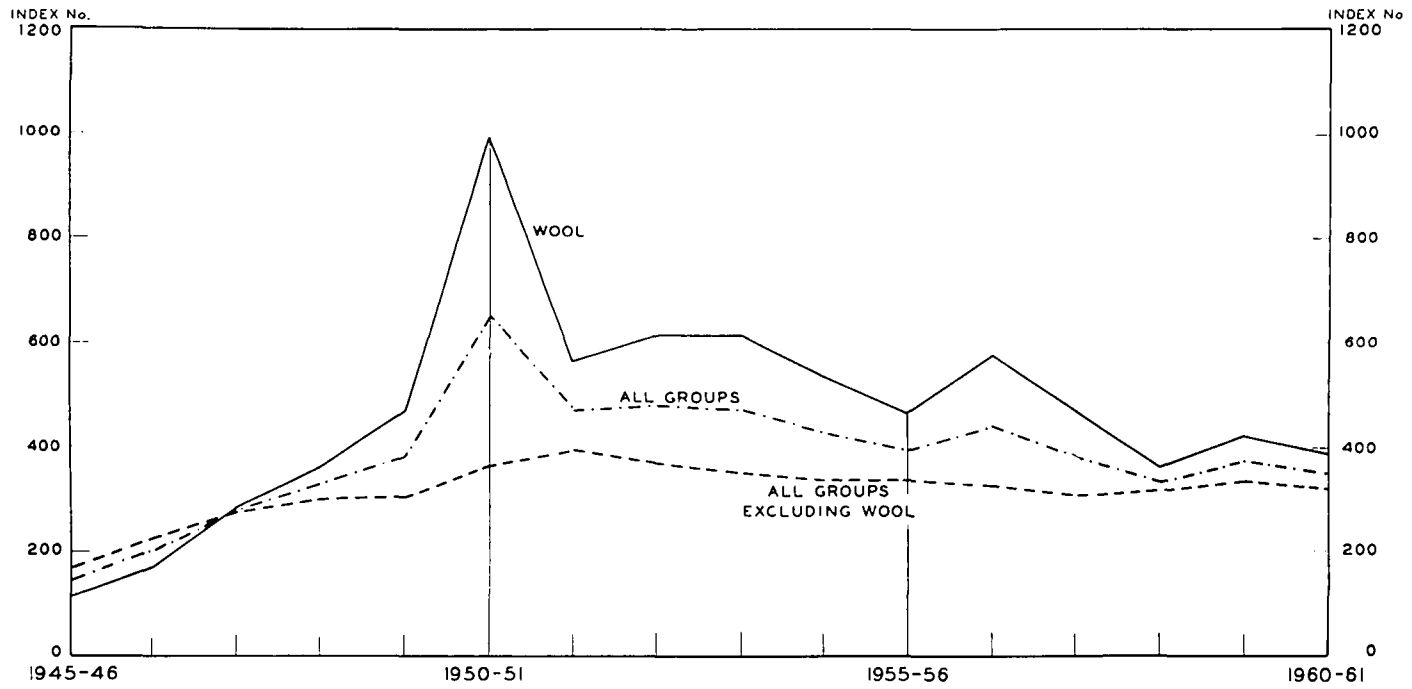
# EXPORTS OF PRINCIPAL COMMODITIES

AUSTRALIA, 1955-56 TO 1960-61



# EXPORT PRICE INDEX NUMBERS: AUSTRALIA, 1945-46 to 1960-61

SIMPLE AGGREGATIVE INDEX: FIXED WEIGHTS  
(BASE: AVERAGE OF THREE YEARS ENDED JUNE, 1939=100)





(ii) *Exports.* Since 1st July, 1937, the following revised definitions of f.o.b. values have been adopted for exports generally.

- (a) Goods sold to oversea buyers before export—the Australian f.o.b. port of shipment equivalent of the price at which the goods were sold (e.g., as regards wool, the actual price paid by the oversea buyer plus the cost of all services incurred by him in placing the wool on board ship).
- (b) Goods shipped on consignment—the Australian f.o.b. port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods were dispatched for sale (as regards wool, the f.o.b. port of shipment equivalent of the current price ruling in Australia will normally provide a sufficient approximation to the f.o.b. port of shipment equivalent of the price ultimately received).

Exporters are required to show all values in terms of Australian currency, and to include the cost of containers.

An account of the bases of valuation in operation prior to 1st July, 1937, was given on page 469 of Official Year Book No. 39.

7. *Inclusions and Exclusions.*—(i) *Stores.* Prior to 1906, goods shipped in Australian ports on oversea vessels as ships' stores were included as exports. From 1906, ships' and subsequently aircraft stores have been specially recorded as such, and omitted from the tabulation of exports. A table showing the value of these stores shipped each year since 1956–57 is shown on page 496.

(ii) *Outside Packages.* Outside packages (containers, crates, etc.) have always been included as a separate item in the tabulation of imports, but, except for those received from the United Kingdom, a classification according to country of origin has been available only since 1950–51. For exports, however, the value recorded for each item includes the value of the outside package.

(iii) *Trade on Government Account.* Imports and exports on Government account are treated as normal transactions and are an integral part of oversea trade transactions.

(iv) *Currency.* Notes and coins are included in the oversea trade statistics at their commodity value only.

(v) *Gold Content of Ores and Concentrates.* The value of ores and concentrates imported and exported includes the value of the gold content. The latter is not recorded separately for purposes of inclusion in imports and exports of gold.

(vi) *Migrants' Effects.* Migrants' effects are included in imports and exports.

(vii) *Direct Transit Trade.* Particulars of direct transit trade through Australia are not recorded.

(viii) *Balance of Payments.* Statistics relating to oversea trade only do not measure Australia's total balance of payments during the periods shown. Particulars of other transactions entering into the balance of payments, for example, freight charges and oversea travel, payment of dividends, profits and interest and Government expenditure overseas, are provided in the statistical bulletin "*Balance of Payments: Quarterly Summary*" issued by the Commonwealth Statistician (*see also* § 21, page 507). For items such as naval ships, merchant vessels trading overseas, aircraft for use on oversea routes, uranium, and certain materials for inter-governmental defence projects, no customs entries are recorded, but these transactions are taken into account in estimating the balance of payments.

8. *Countries.*—(i) *Imports.* From 1st January, 1905, in addition to the record of the countries whence goods arrived directly in Australia, a record of the countries of their origin was kept, as it was considered that classification of imports according to country of origin was of greater interest and value than classification according to country of shipment. Up to and including the year 1920–21, imports continued to be classified both according to country of shipment and according to country of origin, but the former tabulation was discontinued as from the year 1921–22. "Country of origin" referred to in import tables should be taken to mean the country of production.

(ii) *Exports.* In the export sections of tables in this chapter, "country" refers to the country to which the goods were consigned so far as this can be determined at the time of export.

9. Quantities.—Where quantities are shown, they are generally, but not invariably, expressed in terms of the normal trade unit. Where "cental" is used, the unit is equivalent to 100 lb. avoirdupois. Quantities are not tabulated in respect of items for which there is no appropriate unit of quantity (e.g. an item which covers a number of commodities and cannot be recorded under a uniform unit of quantity).

10. Pre-federation Records.—In the years preceding Federation, each State recorded its trade independently, and in so doing did not distinguish other Australian States from foreign countries. As the aggregation of the records of the several States is necessarily the only available means of ascertaining the trade of Australia for comparison with later years, it is unfortunate that past records of values and the direction of imports and exports were not on uniform lines. Imports and exports for years prior to Federation may be found in issues of the Official Year Book prior to No. 41. On the introduction of the Customs Act 1901, the methods of recording values were made uniform throughout the States.

### § 7. Total Oversea Trade.

1. Including Gold.—The following table shows the total trade (including gold) of Australia with oversea countries from 1901 to 1960–61. The period 1901 to 1950–51 has been divided into five-year periods, and the figures shown represent the annual averages for the periods specified. Figures for the individual years were published in Official Year Book No. 40 and earlier issues, but it should be borne in mind that the figures for imports in issues prior to No. 37 were in British currency.

In this chapter, the values in all tables of imports and exports are shown in Australian currency f.o.b. at port of shipment.

#### OVERSEA TRADE: AUSTRALIA. (INCLUDING GOLD.)

Period.	Value.(£'000.)			Excess of Exports(+) or Imports(-) (£'000.)	Value per Head of Population.(£)		
	Imports.	Exports.	Total.		Imports.	Exports.	Total.
<b>Annual Average—</b>							
1901 to 1905 ..	35,689	51,237	86,926	+ 15,548	9.1	13.1	22.2
1906 to 1910 ..	46,825	(a)69,336	116,161	+ 22,511	11.0	16.3	27.3
1911 to 1915–16 ..	66,737	74,504	141,241	+ 7,767	13.8	15.4	29.2
1916–17 to 1920–21	91,577	115,066	206,643	+ 23,489	17.4	21.9	39.3
1921–22 to 1925–26	124,404	134,545	258,949	+ 10,141	21.1	22.9	44.0
1926–27 to 1930–31	119,337	131,382	250,719	+ 12,045	18.6	20.5	39.1
1931–32 to 1935–36	73,798	120,958	194,756	+ 47,160	11.1	18.1	29.2
1936–37 to 1940–41	123,553	157,610	281,163	+ 34,057	17.8	22.7	40.5
1941–42 to 1945–46	211,514	163,955	375,469	- 47,559	29.1	22.4	51.5
1946–47 to 1950–51	449,273	571,430	1,020,703	+ 122,157	57.2	72.7	129.9
<b>Year—</b>							
1951–52 ..	1,053,423	675,008	1,728,431	- 378,415	123.5	79.1	202.6
1952–53 ..	514,109	871,272	1,385,381	+ 357,163	58.9	99.7	158.6
1953–54 ..	681,609	828,332	1,509,941	+ 146,723	76.6	93.0	169.6
1954–55 ..	843,742	774,164	1,617,906	- 69,578	92.8	85.2	178.0
1955–56 ..	821,088	781,864	1,602,952	- 39,224	88.2	83.9	172.1
1956–57 ..	718,991	992,906	1,711,897	+ 273,915	75.4	104.2	179.6
1957–58 ..	791,940	817,946	1,609,886	+ 26,006	81.3	83.9	165.2
1958–59 ..	796,599	811,463	1,608,062	+ 14,864	80.1	81.6	161.7
1959–60 ..	927,091	937,682	1,864,773	+ 10,591	91.2	92.3	183.5
1960–61 ..	1,087,577	968,843	2,056,420	- 118,734	104.7	93.2	197.9

(a) Prior to 1906, ships' stores were included in exports. For the value of such goods shipped on oversea vessels and aircraft during each of the years 1956–57 to 1960–61, see table on p. 496.

A graph showing the oversea trade of Australia from 1935–36 to 1960–61 appears on page 479.

2. **Excluding Gold.**—The fluctuations in recent years in merchandise trade (including silver and bronze as merchandise) are shown more clearly in the following table, from which all gold movements have been excluded.

**OVERSEA TRADE: AUSTRALIA.**  
(EXCLUDING GOLD.)

Year.	Value. (£'000.)			Value per Head of Population. (£)		
	Imports.	Exports.	Total.	Imports.	Exports.	Total.
1956-57.. ..	716,720	978,679	1,695,399	75.2	102.7	177.9
1957-58.. ..	789,308	811,594	1,600,902	81.0	83.3	164.3
1958-59.. ..	794,422	808,184	1,602,606	79.9	81.2	161.1
1959-60.. ..	924,568	927,471	1,852,039	91.0	91.2	182.2
1960-61.. ..	1,085,374	928,884	2,014,258	104.5	89.4	193.9

**§ 8. Direction of Oversea Trade.**

1. **According to Countries.**—(i) *Values.* The following table shows the value of Australian imports and exports during each of the years 1958-59 to 1960-61, according to country of origin and consignment respectively.

**COUNTRIES OF ORIGIN OR CONSIGNMENT OF AUSTRALIAN IMPORTS AND EXPORTS.**

(EXCLUDING GOLD.)  
(£'000.)

Country.	Imports.			Exports.		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
<i>Commonwealth Countries—</i>						
United Kingdom .. ..	307,436	330,302	340,531	256,935	237,946	200,063
Australian Territories ..	10,420	11,226	11,217	16,698	18,236	19,848
Canada .. ..	23,173	29,653	45,664	16,460	13,905	17,027
Ceylon .. ..	10,457	11,238	10,166	5,899	7,711	7,180
India .. ..	21,005	18,180	22,707	10,080	16,219	13,884
Malaya, Federation of ..	11,482	17,828	15,195	13,167	12,681	11,993
New Zealand .. ..	12,219	15,319	16,965	49,603	54,273	61,890
Singapore .. ..	1,322	1,560	1,856	9,855	10,948	12,185
Other Commonwealth Countries	39,810	47,274	49,592	43,236	47,832	49,703
<i>Total, Commonwealth Countries</i>	<i>437,324</i>	<i>482,580</i>	<i>513,893</i>	<i>421,933</i>	<i>419,751</i>	<i>393,773</i>
<i>Foreign Countries—</i>						
Arabian States .. ..	29,467	36,490	35,517	2,852	2,597	3,762
Belgium-Luxembourg ..	6,731	8,470	11,176	23,571	24,296	22,761
China, Republic of—Mainland	3,574	4,419	3,974	13,567	16,132	39,857
France .. ..	11,724	13,743	16,722	46,661	60,325	51,072
Germany, Federal Republic of	42,954	53,869	66,176	28,905	38,333	26,755
Indonesia .. ..	31,475	29,438	28,105	2,137	3,221	5,133
Italy .. ..	9,720	13,011	15,779	32,244	46,574	47,725
Japan .. ..	29,949	41,533	65,445	102,311	134,674	161,488
Netherlands .. ..	12,978	18,682	17,010	8,468	5,856	6,258
Sweden .. ..	12,229	14,286	17,930	2,677	2,146	2,255
United States of America	108,503	150,031	217,041	60,725	75,927	72,471
Other Foreign Countries ..	57,232	57,217	75,732	56,649	91,827	86,993
<i>Total, Foreign Countries</i>	<i>356,536</i>	<i>441,189</i>	<i>570,607</i>	<i>380,767</i>	<i>501,908</i>	<i>526,530</i>
<i>Country unknown</i> .. ..	<i>562</i>	<i>799</i>	<i>874</i>	<i>5,484</i>	<i>5,812</i>	<i>8,581</i>
<b>Total .. ..</b>	<b>794,422</b>	<b>924,568</b>	<b>1,085,374</b>	<b>808,184</b>	<b>927,471</b>	<b>928,884</b>

(ii) *Proportions.* In view of the fluctuations in the total values of imports and exports, it is somewhat difficult to ascertain from the preceding table the relative importance of the various countries in the trade of Australia. A better idea of the proportions of imports supplied by the various countries and of their relative importance as markets for Australian exports during the years 1958-59 to 1960-61 may be obtained from the following table.

**COUNTRIES OF ORIGIN OR CONSIGNMENT OF AUSTRALIAN IMPORTS AND EXPORTS: PROPORTIONS.**

(EXCLUDING GOLD.)

(Per Cent. of Total.)

Country.	Imports.			Exports.		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
<i>Commonwealth Countries—</i>						
United Kingdom .. ..	38.70	35.72	31.38	31.79	25.65	21.54
Australian Territories .. ..	1.31	1.21	1.03	2.07	1.97	2.14
Canada .. .. .	2.92	3.21	4.21	2.04	1.50	1.83
Ceylon .. .. .	1.32	1.22	0.94	0.73	0.83	0.77
India .. .. .	2.64	1.97	2.09	1.25	1.75	1.50
Malaya, Federation of .. ..	1.45	1.93	1.40	1.63	1.37	1.29
New Zealand .. .. .	1.54	1.66	1.56	6.14	5.85	6.66
Singapore .. .. .	0.17	0.17	0.17	1.22	1.18	1.31
Other Commonwealth Countries	5.00	5.11	4.57	5.34	5.16	5.35
<i>Total, Commonwealth Countries</i>	<i>55.05</i>	<i>52.20</i>	<i>47.35</i>	<i>52.21</i>	<i>45.26</i>	<i>42.39</i>
<i>Foreign Countries—</i>						
Arabian States .. .. .	3.71	3.95	3.27	0.35	0.28	0.41
Belgium-Luxembourg .. ..	0.85	0.91	1.03	2.92	2.62	2.45
China, Republic of—Mainland	0.45	0.48	0.36	1.68	1.74	4.29
France .. .. .	1.48	1.49	1.54	5.77	6.50	5.50
Germany, Federal Republic of	5.41	5.83	6.10	3.58	4.13	2.88
Indonesia .. .. .	3.96	3.18	2.59	0.26	0.35	0.55
Italy .. .. .	1.22	1.41	1.45	3.99	5.02	5.14
Japan .. .. .	3.77	4.49	6.03	12.66	14.52	17.39
Netherlands .. .. .	1.63	2.02	1.57	1.05	0.63	0.67
Sweden .. .. .	1.54	1.55	1.65	0.33	0.23	0.24
United States of America ..	13.66	16.23	20.00	7.51	8.19	7.80
Other Foreign Countries ..	7.20	6.18	6.98	7.01	9.90	9.37
<i>Total, Foreign Countries</i> ..	<i>44.88</i>	<i>47.72</i>	<i>52.57</i>	<i>47.11</i>	<i>54.11</i>	<i>56.69</i>
<i>Country unknown</i> .. .. .	<i>0.07</i>	<i>0.08</i>	<i>0.08</i>	<i>0.68</i>	<i>0.63</i>	<i>0.92</i>
<b>Total .. .. .</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

2. According to Major Groups of Countries.—The following table shows the trade of Australia with major groups of countries during the years 1959-60 and 1960-61.

The sterling group includes the United Kingdom, its colonies and dependencies, all other countries of the British Commonwealth (except Canada and the New Hebrides Condominium) and certain non-British countries of which the most important are Burma, Bahrain Islands, other Arabian States (excluding Saudi Arabia and Yemen), Iceland, and the Republic of South Africa.

The United States of America and Canada have now been shown separately in lieu of the area previously referred to as "Dollar".

The European Economic Community group consists of Belgium-Luxembourg, France, Federal Republic of Germany, Greece, Italy and the Netherlands (including Netherlands New Guinea).

The European Free Trade Association group in the following table consists of the following countries: Norway and Portugal and their dependencies, Austria, Denmark, Finland, Sweden and Switzerland.

Of the remaining countries included under "other countries" in the non-sterling group, the more important as regards trade with Australia are Czechoslovakia, Poland, the Union of Soviet Socialist Republics, Egypt, Iran, Saudi Arabia, China, Japan, Indonesia, Thailand and Brazil.

## OVERSEA TRADE OF AUSTRALIA WITH MAJOR GROUPS OF COUNTRIES.

(INCLUDING GOLD.)

(£'000.)

Major Groups of Countries.					1959-60.	1960-61.
STERLING.						
Imports—						
From—	United Kingdom	..	..	..	330,302	340,531
	Other Countries	..	..	..	155,262	154,431
	Total	..	..	..	485,564	494,962
Exports—						
To—	United Kingdom	..	..	..	247,321	231,591
	Other Countries	..	..	..	170,957	188,081
	Total	..	..	..	418,278	419,672
Excess of Exports (+) or Imports (-)					-67,286	-75,290
NON-STERLING.						
Imports—						
From—	United States of America(a)	..	..	..	150,032	217,046
	Canada	..	..	..	29,653	45,664
	Total	..	..	..	179,685	262,710
Exports—						
To—	United States of America(a)	..	..	..	76,802	73,330
	Canada	..	..	..	13,905	17,027
	Total	..	..	..	90,707	90,357
Excess of Exports (+) or Imports (-)					-88,978	-172,353
Imports—						
From—	European Economic Community	..	..	..	109,667	128,614
	European Free Trade Association(b)	..	..	..	48,310	49,503
	Other Countries	..	..	..	103,865	151,788
	Total	..	..	..	261,842	329,905
Exports—						
To—	European Economic Community	..	..	..	180,122	160,824
	European Free Trade Association(b)	..	..	..	10,220	12,492
	Other Countries	..	..	..	238,355	285,498
	Total	..	..	..	428,697	458,814
Excess of Exports (+) or Imports (-)					+166,855	+128,909
ALL MONETARY GROUPS.						
Total Imports					927,091	1,087,577
Total Exports					937,682	968,843
Excess of Exports (+) or Imports (-)					+10,591	-118,734

(a) Includes Alaska and Hawaiian Islands.

(b) Excludes United Kingdom.

A graph showing the overseas trade of Australia according to monetary areas for the years 1955-56 to 1960-61 will be found on page 480.

## § 9. Trade with the United Kingdom.

1. *Statistical Classes.*—The following table shows, according to statistical classes, the value of imports into Australia of United Kingdom origin and of exports from Australia to the United Kingdom during each of the years 1958-59 to 1960-61.

**TRADE WITH THE UNITED KINGDOM: CLASSES.**  
(£'000.)

Class.	Imports.			Exports.		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
I. Foodstuffs of animal origin, etc.	1,241	1,700	1,989	87,969	70,086	48,304
II. Foodstuffs of vegetable origin; non-alcoholic beverages, etc.	794	700	1,226	63,578	57,844	62,504
III. Alcoholic liquors, etc. . .	1,932	3,300	3,334	746	811	764
IV. Tobacco, etc. . . . .	395	454	405	1	..	1
V. Live animals and birds . . .	175	103	176	18	77	17
VI. Animal substances, etc. . .	565	925	1,258	75,303	78,697	58,302
VII. Vegetable substances, etc. . .	1,663	1,607	1,463	110	137	81
VIII. Apparel, textiles, etc. . .	36,947	37,652	39,483	259	399	187
IX. Oils, fats and waxes . . . .	1,745	2,034	2,187	1,774	1,077	1,504
X. Pigments, paints and varnishes	3,928	3,596	3,617	15	13	13
XI. Rocks, minerals, etc. . . . .	687	739	758	3,192	3,655	4,843
XII. Metals, metal manufactures and machinery . . . . .	168,090	187,067	194,719	16,182	15,770	15,857
XIII. Rubber and leather, etc. . .	2,715	3,471	4,616	2,520	3,098	2,269
XIV. Wood and wicker, etc. . . .	367	361	489	440	898	949
XV. Earthenware, etc. . . . .	7,599	8,365	9,397	20	21	11
XVI. Paper and stationery . . . .	21,628	20,087	20,574	307	312	305
XVII. Jewellery, etc. . . . .	2,736	3,109	3,321	90	195	450
XVIII. Optical, surgical and scientific instruments . . . . .	5,618	5,748	5,741	360	553	820
XIX. Chemicals, medicinal products, essential oils, fertilizers . . . .	18,989	20,902	21,867	542	513	624
XX. Miscellaneous . . . . .	(a)29,621	(a)28,381	(a)23,910	2,200	2,453	2,188
XXI. Gold and silver; bronze specie . . . . .	2	1	1	1,309	10,712	31,598
<b>Total . . . . .</b>	<b>307,437</b>	<b>330,302</b>	<b>340,531</b>	<b>256,935</b>	<b>247,321</b>	<b>231,591</b>

(a) Includes outside packages.

2. Imports of Principal Articles.—The following table shows the value of the principal articles imported into Australia from the United Kingdom during each of the years 1958-59 to 1960-61.

**IMPORTS OF PRINCIPAL ARTICLES OF UNITED KINGDOM ORIGIN:**  
**AUSTRALIA.**  
(£'000.)

Article.	1958-59.	1959-60.	1960-61.	Article.	1958-59.	1959-60.	1960-61.
Arms and ammunition, military, naval and air force stores . . . . .	4,643	4,615	3,702	Optical, surgical and scientific instruments . . . . .	3,953	4,028	4,203
Aluminium—				Paper, printing . . . . .	6,597	4,628	3,466
Plates, sheets, strips . . . . .	868	1,681	1,490	Piece-goods—			
Leaf and foil . . . . .	1,388	1,870	1,691	Cotton and linen . . . . .	9,325	7,701	6,338
Apparel . . . . .	3,981	4,290	4,933	Silk and rayon(a) . . . . .	1,998	1,751	1,577
Books, magazines, etc. . . . .	7,708	7,426	8,234	All other piece-goods . . . . .	4,230	5,035	5,450
Carpets . . . . .	3,885	4,670	6,026	Plastics materials . . . . .	4,717	5,796	3,556
Chemicals, medicinal products, essential oils and fertilizers . . . . .	18,989	20,902	21,867	Rubber and rubber manufactures . . . . .	2,047	2,690	3,542
Crockery . . . . .	2,650	2,119	2,168	Sewing and other cottons, threads, etc. . . . .	2,263	2,237	2,939
Electrical machinery and appliances . . . . .	21,877	25,673	24,450	Stationery and paper manufactures . . . . .	10,212	9,760	10,810
Glass and glassware . . . . .	3,193	3,887	4,255	Tools of trade . . . . .	2,073	2,292	2,481
Iron and steel—				Vehicles, parts and accessories . . . . .	44,860	54,841	49,997
Plate and sheet . . . . .	8,912	5,459	7,066	Vessels (ship) including parts . . . . .	5,668	2,255	467
Other . . . . .	4,910	7,072	11,739	Whisky . . . . .	1,789	3,103	3,086
Linoleums . . . . .	2,196	2,418	2,320	Yarns—			
Machines and machinery (except dynamo electrical)—				Cotton . . . . .	2,867	3,054	2,919
Agricultural . . . . .	1,780	1,531	1,527	Rayon . . . . .	3,634	3,470	4,015
Metal-working . . . . .	5,851	7,683	7,793	Other . . . . .	339	595	828
Motive-power . . . . .	19,981	25,507	22,001	All other articles(b) . . . . .	54,818	55,597	60,438
Other . . . . .	33,235	34,666	43,157	<b>Total Imports . . . . .</b>	<b>307,437</b>	<b>330,302</b>	<b>340,531</b>

(a) Includes tyre cord fabric.

(b) Includes outside packages.

3. Exports of Principal Articles of Australian Produce.—The following table shows the quantities and values of the principal articles of Australian produce exported to the United Kingdom during each of the years 1958–59 to 1960–61.

PRINCIPAL ARTICLES EXPORTED TO THE UNITED KINGDOM: AUSTRALIA.  
(Australian Produce.)

Article.	Unit of Quantity.	Quantity.			Value. (£'000.)		
		1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1957–58.
Butter .. .. .	ton	69,119	59,419	50,795	22,105	21,749	15,611
Cheese .. .. .	"	11,574	15,473	13,073	3,519	3,634	2,580
Eggs .. .. .	"	..	..	..	1,069	2,023	3,048
Fruit, dried .. .. .	ton	39,760	26,731	28,964	7,002	4,601	4,685
" fresh .. .. .	'000 bus.	4,364	4,007	4,303	5,973	5,189	5,820
" preserved in airtight containers .. .. .	ton	77,594	78,896	60,991	11,543	11,031	8,748
Gold .. .. .	'000 fine oz.	..	600	2,017	..	9,375	31,528
Grains and cereals—							
Barley .. .. .	ton	84,173	104,985	194,425	2,123	2,205	3,438
Flour (wheaten), plain white .. .. .	ton(a)	45,548	46,255	56,135	1,316	1,235	1,459
Wheat .. .. .	ton	568,551	562,106	734,205	14,708	13,919	18,472
Other .. .. .	..	..	..	..	3,642	2,316	1,451
Hides and skins .. .. .	..	..	..	..	1,957	2,550	2,349
Lead bullion .. .. .	ton	59,691	49,265	53,741	6,218	5,260	5,330
" pig .. .. .	"	70,112	63,694	66,790	5,852	5,436	5,271
Leather .. .. .	..	..	..	..	2,497	3,061	2,240
Meats preserved by cold process—							
Beef and veal .. .. .	ton	152,918	81,650	40,631	30,915	20,192	9,622
Lamb .. .. .	"	33,941	18,876	19,894	6,686	2,741	3,637
Mutton .. .. .	"	13,099	9,382	7,947	1,776	1,158	1,509
Rabbit and hare .. .. .	"	..	..	..	2,583	2,492	2,339
Meats, tinned .. .. .	ton	41,107	34,570	19,883	10,769	9,318	5,981
Milk and cream .. .. .	'000 lb.	50,256	42,004	2,927	1,894	1,863	103
Silver bullion .. .. .	'000 fine oz.	3,300	3,266	168	1,300	1,333	68
Sugar (cane) .. .. .	ton	346,268	365,486	329,251	15,364	15,586	17,676
Tallow, inedible .. .. .	"	6,793	8,118	2,289	524	482	132
Timber, undressed(b) .. .. .	'000 super ft.	1,465	2,685	6,351	101	189	445
Wine, fermented .. .. .	'000 gal.	1,333	1,313	1,362	723	796	736
Wool .. .. .	'000 lb.	331,125	291,602	237,851	73,082	75,947	55,559
Zinc bars, etc. .. .. .	ton	7,651	8,947	3,243	684	977	339
All other articles .. .. .	..	..	..	..	17,503	17,004	17,255
Total Exports (Australian Produce) .. .. .	..	..	..	..	253,428	243,662	227,431

(a) 2,000 lb. (b) Excludes railway sleepers.

4. Imports from the United Kingdom and Competing Countries.—Since 1908, permanent resident Commissioners appointed by the British Board of Trade have been located in Australia for the purpose of advising manufacturers and merchants in the United Kingdom with regard to Australian trade affairs. From 8th August, 1907, the Commonwealth Customs Tariffs have provided preferential rates of customs duties on certain goods the produce or manufacture of the United Kingdom, with the object of assisting the British manufacturer to retain or improve his position in this market in relation to other countries. The main provisions in these Acts relating to preference are dealt with on previous pages in this chapter.

In an investigation into the relative position occupied by the United Kingdom in the import trade of Australia, the comparison must, of course, be restricted to those classes of goods which are produced or manufactured in the United Kingdom. Imports into Australia include many commodities, such as tea, rice, raw coffee, unmanufactured tobacco, petroleum products, copra, timber, etc., which the United Kingdom cannot supply. These items, in addition to others not available from that country, have therefore been omitted from the following table.

The imports into Australia have been classified under nine headings, and the trade of the United Kingdom therein is compared with that of France, the Federal Republic of Germany, Japan, and the United States of America. These countries have been selected as the principal competitors in normal times with the United Kingdom for the trade of Australia under the specified headings. Totals for each of the years 1958–59 to 1960–61 are shown in the following table.

## IMPORTS FROM THE UNITED KINGDOM AND ITS MAIN COMPETITORS.

(£'000.)

Nature of Imports.	Year.	United Kingdom.	France.	Federal Republic of Germany.	Japan.	United States of America.	All Countries.
Foodstuffs of animal origin	1958-59	1,241	..	189	1,552	527	7,732
	1959-60	1,700	2	288	1,709	628	9,947
	1960-61	1,989	10	285	2,320	1,514	13,338
Yarns and manufactured fibres, textiles and apparel	1958-59	36,947	2,294	3,980	18,423	799	96,973
	1959-60	37,652	2,382	4,577	23,230	6,206	111,073
	1960-61	39,483	2,992	4,836	25,933	12,205	132,477
Metals, metal manufactures and machinery	1958-59	168,090	5,579	23,147	2,387	58,805	292,793
	1959-60	187,067	6,976	29,831	5,480	78,140	354,935
	1960-61	194,719	8,830	38,164	21,983	113,282	435,751
Rubber and leather and manufactures thereof, and substitutes therefor	1958-59	2,714	305	134	..	3,892	17,677
	1959-60	3,471	323	196	113	5,300	25,462
	1960-61	4,616	493	518	255	6,895	25,539
Earthenware, cement, china, glass and stoneware	1958-59	7,599	576	695	1,686	1,064	14,360
	1959-60	8,365	558	795	2,166	1,270	16,656
	1960-61	9,397	690	1,034	2,861	2,432	20,798
Pulp, paper and board; paper manufactures and stationery	1958-59	21,628	143	925	449	2,815	48,158
	1959-60	20,087	261	1,090	696	4,859	54,991
	1960-61	20,574	309	1,838	1,560	10,323	70,176
Sporting material, toys, fancy goods, jewellery and timepieces	1958-59	2,736	126	1,293	1,447	17	8,726
	1959-60	3,109	139	1,294	2,090	375	10,832
	1960-61	3,321	169	1,647	2,460	961	13,019
Optical, surgical and scientific instruments, etc.; photographic goods, n.e.i.	1958-59	5,618	97	1,898	728	2,563	12,305
	1959-60	5,748	117	2,953	1,594	3,533	15,533
	1960-61	5,741	104	3,067	1,729	5,011	17,499
Chemicals, medicinal and pharmaceutical products, essential oils and fertilizers	1958-59	18,989	1,127	5,103	826	4,663	39,956
	1959-60	20,902	1,307	5,815	855	8,021	47,984
	1960-61	21,867	1,341	7,122	1,433	11,496	56,817
Total, competitive imports	1958-59	265,562	10,247	37,364	27,498	75,145	538,680
	1959-60	288,101	12,065	46,839	37,933	108,332	647,413
	1960-61	301,707	14,938	58,511	60,534	164,119	785,414
Total imports (less bullion and specie) (a)	1958-59	307,435	11,724	42,954	29,949	108,503	794,388
	1959-60	330,301	13,742	53,868	41,533	150,031	924,528
	1960-61	340,530	16,722	66,176	65,445	217,041	1,085,331

(a) Includes outside packages.

The principal classes of competitive imports are metals, metal manufactures and machinery (value £435,751,000 in 1960-61) and manufactured fibres, textiles and apparel (value £132,477,000 in 1960-61). The value of goods included in these two groups represented 72.3 per cent. of the total value of competitive commodities during 1960-61. In 1960-61, the United Kingdom supplied 38.4 per cent. of the total value of competitive goods.

## § 10. Trade with Eastern Countries.

1. Merchandise Trade According to Countries.—The values of imports from and exports to eastern countries during the years 1958-59 to 1960-61 are shown in the following table. The principal commodities imported in 1960-61 according to countries of origin were:—Borneo (British)—petroleum, £8,824,000, timber, hardwood, £3,135,000; Ceylon—tea, £8,910,000; India—bags and sacks, £9,462,000, cotton and linen piece-goods, £3,849,000,



hessian, £3,259,000, and tea, £892,000; Malaya—crude rubber, £7,078,000, latex, £1,840,000, timber, £2,890,000, and tin, £1,360,000; Japan—metals and metal manufactures, £21,983,000, cotton and linen piece-goods, £17,865,000, other textiles, £4,639,000, earthenware, china, glass, etc., £2,861,000, optical, etc., instruments, £1,729,000, and tinned fish, £2,079,000; Indonesia—petroleum spirit, £3,176,000, kerosene, £2,020,000, crude petroleum, £16,738,000, residual, solar and other mineral oils, £1,718,000, and tea, £2,721,000.

**MERCHANDISE TRADE WITH EASTERN COUNTRIES: AUSTRALIA.**  
(£'000.)

Country.	Imports.(a)			Exports.		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
<i>Commonwealth Countries—</i>						
Borneo (British) .. ..	13,000	15,830	12,329	996	1,350	1,359
Ceylon .. ..	10,457	11,238	10,166	5,899	7,711	7,180
Hong Kong .. ..	3,959	5,161	6,243	8,675	8,518	10,511
India .. ..	21,005	18,180	22,707	10,080	16,219	13,884
Malaya, Federation of .. ..	11,482	17,828	15,195	13,167	12,681	11,993
Pakistan .. ..	2,094	3,380	5,501	1,532	5,027	4,921
Singapore .. ..	1,322	1,560	1,856	9,855	10,948	12,185
<i>Foreign Countries—</i>						
Burma .. ..	51	9	17	1,448	1,888	1,701
Cambodia .. ..	5	2	4	29	400	93
China, Republic of—						
Formosa .. ..	49	108	224	1,070	1,353	2,008
Mainland .. ..	3,574	4,419	3,974	13,567	16,132	39,857
Indonesia .. ..	31,475	29,438	28,105	2,137	3,221	5,133
Japan .. ..	29,949	41,533	65,445	102,311	134,674	161,488
Korea, North .. ..	..	..	1	30	309	1,909
Korea, Republic of .. ..	3	1	75	2,963	3,992	1,721
Laos .. ..	..	1	..	5	4	46
Nepal .. ..	3	1	..	..	2	2
Philippines .. ..	153	269	406	4,157	4,918	3,696
<i>Portuguese Dependencies—</i>						
India (Portuguese) .. ..	..	..	..	170	185	158
Macao .. ..	1	3	3	1	10	304
Timor .. ..	18	..	..	49	82	90
Thailand .. ..	207	421	443	1,783	2,378	1,887
Viet-Nam, North .. ..	..	..	1	37	21	6
Viet-Nam, South .. ..	1	1	16	454	260	216
<b>Total .. ..</b>	<b>128,808</b>	<b>149,383</b>	<b>172,711</b>	<b>180,415</b>	<b>232,283</b>	<b>282,348</b>

(a) Includes outside packages.

The balance of trade with Eastern countries shows an excess of exports from Australia during each of the years 1958-59 to 1960-61.

2. Exports of Principal Articles.—The following table shows the value of exports (including re-exports) from Australia to Eastern countries for each of the years 1958-59 to 1960-61. The countries concerned in this trade are listed in the previous table.

**TOTAL EXPORTS FROM AUSTRALIA TO EASTERN COUNTRIES.**  
(£'000.)

Article.	1958-59.	1959-60.	1960-61.	Article.	1958-59.	1959-60.	1960-61.
Animal (except marine) oils and fats .. ..	2,558	3,135	2,389	Meats .. ..	2,998	3,806	4,431
Army stores .. ..	2,265	568	599	Metals and metal manufactures except zinc bars, etc. .. ..	15,468	16,331	19,758
Butter .. ..	1,634	1,824	2,570	Milk and cream .. ..	5,992	6,122	6,294
Cheese .. ..	397	569	899	Sugar (raw) .. ..	6,264	3,401	5,472
Fruit, fresh or preserved .. ..	1,399	1,304	1,303	Wool .. ..	83,025	118,041	120,385
<i>Grains and cereals—</i>				Zinc bars, blocks, etc .. ..	2,710	2,194	3,092
Flour (wheaten), plain white .. ..	8,347	10,454	13,137	Other merchandise .. ..	24,411	33,876	41,540
Wheat .. ..	9,482	22,745	44,782	<b>Total Merchandise .. ..</b>	<b>180,415</b>	<b>232,283</b>	<b>282,348</b>
Other (prepared and unprepared) .. ..	8,336	2,415	8,787	<b>Gold and silver; bronze specie .. ..</b>	<b>3,291</b>	<b>756</b>	<b>7,978</b>
Infants' and invalids' foods .. ..	1,918	2,192	2,478	<b>Total Exports .. ..</b>	<b>183,706</b>	<b>233,039</b>	<b>290,326</b>
Leather .. ..	841	800	782				
Machines and machinery .. ..	2,370	2,506	3,650				

## § 11. Oversea Trade at Principal Ports.

The following table shows the value of overseas imports and exports at the principal ports of Australia during the year 1960-61, and the totals for each State and Territory.

OVERSEA TRADE AT PRINCIPAL PORTS, 1960-61.  
(£'000.)

Port.	Imports.	Exports.	Port.	Imports.	Exports.
NEW SOUTH WALES.			SOUTH AUSTRALIA.		
Sydney, including Botany Bay .. .. .	454,204	227,190	Port Adelaide, including Adelaide .. .. .	68,483	56,937
Newcastle, including Port Stephens .. .. .	11,535	42,285	Port Pirie .. .. .	311	18,867
Port Kembla .. .. .	13,745	12,350	Port Lincoln .. .. .	953	7,921
Other .. .. .	..	100	Wallaroo .. .. .	446	8,095
Total .. .. .	479,484	282,125	Other .. .. .	1,189	7,459
VICTORIA.			WESTERN AUSTRALIA.		
Melbourne .. .. .	368,053	216,147	Fremantle, including Perth and Kwinana .. .. .	53,626	124,917
Geelong .. .. .	30,989	26,255	Geraldton .. .. .	282	9,118
Portland .. .. .	930	4,569	Bunbury .. .. .	796	6,504
Total .. .. .	399,972	246,971	Albany .. .. .	542	11,136
QUEENSLAND.			TASMANIA.		
Brisbane .. .. .	57,965	97,669	Hobart .. .. .	9,525	12,238
Townsville .. .. .	1,614	34,580	Launceston .. .. .	3,775	4,921
Mackay .. .. .	179	13,443	Burnie .. .. .	4,365	2,977
Cairns .. .. .	782	6,239	Devonport .. .. .	1,209	1,158
Bowen .. .. .	1	1,753	Total .. .. .	18,874	21,294
Rockhampton .. .. .	277	2,690	NORTHERN TERRITORY.		
Rockhampton .. .. .	409	2,229	Darwin .. .. .	1,206	435
Gladstone .. .. .	35	1,725	AUSTRALIAN CAPITAL TERRITORY.		
Maryborough .. .. .	15	3,745	Canberra .. .. .	116	..
Other .. .. .	..	..	Grand Total .. .. .	1,087,577	968,843
Total .. .. .	61,277	164,073			

## § 12. Classified Summary of Australian Oversea Trade.

1. Statistical Classes.—(i) *Imports and Exports.* The following table shows, according to statistical classes, the value of Australian imports and exports during each of the years 1958-59 to 1960-61.

TOTAL OVERSEA TRADE, AUSTRALIA: CLASSES.  
(£'000.)

Class.	Imports.			Exports.		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
I. Foodstuffs of animal origin, etc.	7,732	9,947	13,338	146,329	143,553	117,745
II. Foodstuffs of vegetable origin; non-alcoholic beverages, etc.	27,841	27,478	30,280	155,693	164,566	219,840
III. Alcoholic liquors, etc. ..	2,292	3,743	3,878	2,083	2,176	2,247
IV. Tobacco, etc. ..	14,510	14,178	13,362	461	354	415
V. Live animals and birds ..	551	636	715	1,242	2,036	1,453
VI. Animal substances, etc. ..	3,866	5,281	6,725	327,152	419,177	362,963
VII. Vegetable substances, etc. ..	19,809	20,235	20,418	993	1,130	971
VIII. Apparel, textiles, etc. ..	96,973	111,073	132,477	2,449	3,080	3,650
IX. Oils, fats and waxes ..	104,479	106,757	111,638	22,586	24,542	26,707
X. Pigments, paints and varnishes	6,828	6,629	6,803	912	1,089	1,233
XI. Rocks, minerals, etc. ..	7,165	7,770	8,680	21,252	29,059	37,641
XII. Metals, metal manufactures and machinery .. .. .	292,793	354,935	435,751	81,606	87,227	94,624
XIII. Rubber and leather, etc. ..	17,677	25,462	25,539	4,596	5,403	4,500
XIV. Wood and wicker, etc. ..	15,482	20,689	23,824	4,350	3,876	3,782
XV. Earthenware, etc. ..	14,360	16,656	20,798	959	878	1,268
XVI. Paper and stationery ..	48,158	54,991	70,176	2,678	3,205	3,938
XVII. Jewellery, etc. ..	8,726	10,832	13,019	905	1,512	2,143
XVIII. Optical, surgical and scientific instruments .. .. .	12,305	15,533	17,499	1,772	2,356	3,159
XIX. Chemicals, medicinal products, essential oils, fertilizers ..	39,956	47,984	56,817	7,707	7,882	9,000
XX. Miscellaneous .. .. .	(a)52,885	(a)63,719	(a)73,594	20,980	22,858	30,761
XXI. Gold and silver; bronze specie	2,211	2,563	2,246	4,758	11,723	40,803
Total .. .. .	796,599	927,091	1,087,577	811,463	937,682	968,843

(a) Includes outside packages.

(ii) *Exports—Australian Produce and Re-exports.* In the following table, the exports from Australia of (a) Australian produce and (b) re-exports are shown according to statistical classes for each of the years 1958–59 to 1960–61.

**EXPORTS FROM AUSTRALIA: AUSTRALIAN PRODUCE AND RE-EXPORTS.**  
(£'000.)

Class.	Australian Produce.			Re-exports.		
	1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1960–61.
I. Foodstuffs of animal origin, etc.	146,287	143,483	117,707	42	70	38
II. Foodstuffs of vegetable origin; non-alcoholic beverages, etc.	155,211	164,002	219,401	482	564	439
III. Alcoholic liquors, etc.	2,071	2,168	2,234	12	8	13
IV. Tobacco, etc.	355	284	351	106	70	64
V. Live animals and birds	1,180	1,886	1,295	62	150	158
VI. Animal substances, etc.	327,001	419,100	362,819	151	77	144
VII. Vegetable substances, etc.	975	1,100	918	18	30	53
VIII. Apparel, textiles, etc.	2,234	2,759	3,158	215	321	492
IX. Oils, fats and waxes	21,070	22,718	24,807	1,516	1,824	1,900
X. Pigments, paints and varnishes	876	1,028	1,172	36	61	61
XI. Rocks, minerals, etc.	21,110	28,948	37,526	142	111	115
XII. Metals, metal manufactures and machinery	76,266	81,831	89,175	5,340	5,396	5,449
XIII. Rubber and leather, etc.	4,557	5,353	4,443	39	50	57
XIV. Wood and wicker, etc.	4,268	3,753	3,643	82	123	139
XV. Earthenware, etc.	918	833	1,222	41	45	46
XVI. Paper and stationery	2,511	2,979	3,671	167	226	267
XVII. Jewellery, etc.	777	1,290	1,842	128	222	301
XVIII. Optical, surgical and scientific instruments	1,450	1,895	2,438	322	461	721
XIX. Chemicals, medicinal products, essential oils, fertilizers	7,365	7,553	8,457	342	329	543
XX. Miscellaneous	13,683	15,009	15,529	7,297	7,849	15,232
XXI. Gold and silver; bronze specie	4,744	11,716	40,798	14	7	5
Total	794,909	919,688	942,606	16,554	17,994	26,237

2. *Imports of Principal Articles.*—The next table shows the quantity, where available, and the value of the principal articles imported into Australia during each of the years 1958–59 to 1960–61.

**IMPORTS OF PRINCIPAL ARTICLES: AUSTRALIA.**

Article.	Unit of Quantity.	Quantity.			Value. (£'000.)		
		1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1960–61.
Aircraft and parts	..	..	..	..	17,309	20,733	13,806
Aluminium Manufactures	.. cwt.	372,486	598,977	635,091	4,713	7,717	8,224
Leaf and foil	.. '000 lb.	5,724	7,520	8,021	1,704	2,176	2,415
Apparel—							
Blouses, skirts, costumes, etc.	..	..	..	..	906	1,133	1,690
Gloves	.. doz. prs.	431,704	513,312	554,373	1,092	1,175	1,509
Headwear	..	..	..	..	716	850	1,278
Men's and boys' outer clothing	..	..	..	..	411	541	805
Socks and stockings	..	..	..	..	338	552	767
Trimmings and ornaments	..	..	..	..	3,731	4,718	6,300
Other apparel and attire	..	..	..	..	1,985	2,256	2,902
Arms, explosives, military stores, etc.	..	..	..	..	5,645	9,371	6,916
Bags and sacks	..	..	..	..	8,204	6,973	13,383
Carpets and carpeting	..	..	..	..	4,732	5,734	7,640
Chemicals, drugs, fertilizers	..	..	..	..	39,856	47,984	56,817
Cotton, raw	.. '000 lb.	43,984	41,519	41,842	5,354	5,172	4,477
Crockery, etc.	..	..	..	..	3,873	3,604	4,007
Electrical machinery and appliances	..	..	..	..	36,573	44,611	47,534
Fibres (excl. Cotton, raw)	..	..	..	..	7,724	7,696	7,995
Glass and glassware	..	..	..	..	6,471	8,515	9,832
Iron and steel—							
Pipes, tubes and fittings	.. cwt.	310,473	503,518	698,028	1,777	2,459	3,814
Plate and sheet	..	1,825,442	1,987,545	1,770,918	11,204	9,311	28,063
Other	..	..	..	..	8,677	12,210	26,558
Machines and machinery (except dynamo electrical)—							
Agricultural	..	..	..	..	3,326	3,553	3,522
Metal-working	..	..	..	..	11,735	14,884	17,146
Motive Power—							
Diesel engines	..	..	..	..	3,054	3,452	3,323
Steam engines, turbines and parts	..	..	..	..	1,743	4,237	3,004
Tractors and parts	..	..	..	..	16,356	22,512	24,072
Other	..	..	..	..	13,604	17,440	17,156
Other	..	..	..	..	64,769	72,182	98,827

## IMPORTS OF PRINCIPAL ARTICLES: AUSTRALIA—continued.

Article.	Unit of Quantity.	Quantity.			Value. (£'000.)		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Motor vehicles, chassis, bodies and parts .. .. .	..	..	..	..	66,579	82,994	74,238
Oils—							
Linseed .. .. .	'000 gal.	2,537	1,425	789	1,482	778	433
Petroleum and shale—							
Crude (a) .. .. .	mill. gal.	2,531	2,794	3,108	69,911	72,877	76,354
Kerosene .. .. .	'000 gal.	97,676	105,849	117,531	5,352	5,766	6,022
Lubricating (mineral) .. .. .	..	46,698	48,619	52,159	6,244	6,544	7,438
Petroleum and shale spirit .. .. .	..	234,360	205,692	222,215	13,743	12,075	11,848
Residual and solar .. .. .	..	16,365	23,807	22,703	846	1,096	979
Paper, printing .. .. .	..	..	..	..	17,139	19,339	23,666
Piece-goods—							
Canvas and duck .. .. .	'000 sq. yds.	7,153	8,404	6,795	915	1,015	902
Cotton and linen .. .. .	..	..	..	..	39,070	43,589	45,209
Silk and man-made fibre-yarn .. .. .	..	..	..	..	7,617	8,755	8,623
Woolen and containing wool .. .. .	..	..	..	..	1,305	1,725	2,133
All other piece-goods .. .. .	..	..	..	..	7,890	10,007	12,699
Plastic materials .. .. .	..	..	..	..	8,603	11,830	14,974
Rubber and rubber manufactures .. .. .	..	..	..	..	16,783	24,248	23,645
Stationery and paper manufactures .. .. .	..	..	..	..	13,867	14,670	17,515
Tea .. .. .	'000 lb.	62,423	62,515	61,701	15,085	13,372	12,824
Timber, undressed, including logs(b) .. .. .	'000 sup. ft.	307,311	376,612	397,293	11,969	17,077	19,348
Tobacco .. .. .	'000 lb.	39,046	37,597	36,322	13,943	13,007	12,059
Yarns—							
Cotton .. .. .	..	6,843	7,907	9,067	2,935	3,233	3,901
Man-made fibres .. .. .	..	12,757	18,092	21,352	5,720	7,535	9,553
Woolen .. .. .	..	124	375	841	135	379	640
Other .. .. .	..	1,631	1,724	2,356	303	436	604
All other articles .. .. .	..	..	..	..	181,581	210,993	279,197
<b>Total Imports</b> .. .. .	..	..	..	..	<b>796,599</b>	<b>927,091</b>	<b>1,087,577</b>

(a) Includes once-run distillate.  
super. feet.

(b) Excludes dunnage and undressed timber not measured in

3. Exports of Principal Articles of Australian Produce.—The following table shows the quantities and values of the principal articles of Australian produce exported during each of the years 1958-59 to 1960-61.

## EXPORTS OF PRINCIPAL ARTICLES OF AUSTRALIAN PRODUCE.

Article.	Unit of Quantity.	Quantity.			Value. (£'000.)		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Butter .. .. .	ton	77,316	76,969	61,137	24,956	28,646	19,651
Cheese .. .. .	..	14,411	18,927	18,037	4,467	4,990	4,608
Chemicals, drugs, fertilizers .. .. .	..	..	..	..	7,007	7,882	9,000
Coal .. .. .	ton	645,249	1,087,844	1,888,415	2,676	4,327	7,682
Copper .. .. .	..	27,490	21,203	35,909	7,011	6,131	10,003
Fruit—							
Dried .. .. .	..	77,331	52,952	60,320	12,748	9,066	9,097
Fresh, including frozen .. .. .	'000 bus.	6,559	6,876	7,454	9,413	9,294	10,369
Preserved in airtight containers .. .. .	ton	87,511	89,270	67,850	12,950	12,385	9,773
Gold .. .. .	..	..	..	..	3,279	10,211	39,959
Grains and cereals—							
Barley .. .. .	ton	667,945	558,319	756,704	16,898	11,541	14,329
Flour (wheat), plain white .. .. .	ton(a)	447,198	536,022	658,029	13,331	15,143	18,979
Wheat .. .. .	ton	1,463,352	2,444,251	4,098,081	38,381	61,680	102,426
Other .. .. .	..	..	..	..	13,985	12,710	14,423
Hides and skins .. .. .	..	..	..	..	23,572	31,779	27,194
Iron and steel .. .. .	..	..	..	..	25,183	31,288	27,511
Lead, pig .. .. .	ton	143,828	121,420	128,106	12,561	10,878	10,541
Lead, bullion .. .. .	..	59,691	49,265	53,741	6,218	5,260	5,330
Machines and machinery (except dynamo electrical) .. .. .	..	..	..	..	8,639	10,557	12,968
Meats preserved by cold process—							
Beef and veal .. .. .	ton	227,822	188,293	134,014	55,495	55,464	40,110
Lamb .. .. .	..	40,711	26,460	28,778	8,151	4,390	5,793
Mutton .. .. .	..	33,326	32,037	37,087	5,851	4,719	7,437
Other .. .. .	..	..	..	..	9,512	7,914	7,074
Meats, tinned .. .. .	..	56,719	48,073	30,357	15,434	13,341	9,374
Milk and cream .. .. .	'000 lb.	137,768	144,792	108,554	10,238	10,942	9,152
Ores and concentrates .. .. .	ton	630,679	763,763	1,051,181	16,948	22,368	27,943
Petroleum and shale oils .. .. .	'000 gal.	304,348	320,044	463,073	16,196	17,719	21,693
Sugar (cane) .. .. .	ton	802,971	708,084	796,531	32,163	26,671	35,074
Wool (b) .. .. .	'000 lb.	1,314,354	1,430,470	1,382,979	302,243	386,153	334,442
All other articles .. .. .	..	..	..	..	79,403	86,239	90,671
<b>Total Exports (Australian Produce)</b> .. .. .	..	..	..	..	<b>794,909</b>	<b>919,688</b>	<b>942,606</b>

(a) 2,000 lb.

(b) Quantity in terms of greasy wool.

A graph showing exports in principal commodity groups in each of the years 1955-56 to 1960-61 will be found on page 481.

4. Imports of Merchandise and Bullion and Specie.—The table hereunder shows the value of imports into Australia during each of the years 1956-57 to 1960-61, grouped under the headings—Merchandise, and Bullion and Specie. The imports of merchandise are shown under the sub-headings of "free" and "dutiable" goods.

## IMPORTS OF MERCHANDISE AND BULLION AND SPECIE: AUSTRALIA.

(£'000.)

Year.	Merchandise.			Bullion and Specie.	Total Imports.
	Free Goods.	Dutiable Goods.	Total.		
1956-57.. ..	403,496	313,186	716,682	2,309	718,991
1957-58.. ..	426,206	363,055	789,261	2,679	791,940
1958-59.. ..	464,274	330,114	794,388	2,211	796,599
1959-60.. ..	509,824	414,704	924,528	2,563	927,091
1960-61.. ..	576,277	509,054	1,085,331	2,246	1,087,577

5. Exports of Merchandise and Bullion and Specie.—The next table shows the value of exports from Australia during each of the years 1956-57 to 1960-61, grouped under the headings—Merchandise, and Bullion and Specie. The exports of Australian produce and re-exports are shown separately.

## EXPORTS OF MERCHANDISE AND BULLION AND SPECIE: AUSTRALIA.

(£'000.)

Year.	Merchandise.			Bullion and Specie.			Total Exports.
	Australian Produce.	Re-exports.	Total.	Australian Produce.	Re-exports.	Total.	
1956-57 ..	959,348	13,650	972,998	19,896	12	19,908	992,906
1957-58 ..	795,527	14,776	810,303	7,626	17	7,643	817,946
1958-59 ..	790,165	16,540	806,705	4,744	14	4,758	811,463
1959-60 ..	907,971	17,988	925,959	11,716	7	11,723	937,682
1960-61 ..	901,809	26,232	928,041	40,797	5	40,802	968,843

6. Imports and Net Customs Revenue.—The ratio of net customs revenue collected, excluding net primage, to the total value of all merchandise imported in each of the years 1956-57 to 1960-61 was as follows:—1956-57, 8.9 per cent.; 1957-58, 8.8 per cent.; 1958-59, 8.8 per cent.; 1959-60, 8.9 per cent.; and 1960-61, 9.2 per cent. Primage duty was in force during these years, and if this is added to net customs revenue the percentages become:—1956-57, 9.6 per cent.; 1957-58, 9.1 per cent.; 1958-59, 9.0 per cent.; 1959-60, 9.1 per cent.; and 1960-61, 9.4 per cent. The ratios of net customs revenue, excluding primage, to the total value of dutiable goods only were:—1956-57, 20.4 per cent.; 1957-58, 19.1 per cent.; 1958-59, 21.0 per cent.; 1959-60, 19.9 per cent.; and 1960-61, 19.5 per cent. The calculations are based on Australian currency values and on the assumption that the value of clearances approximated to the value of imports during the same period.

## § 13. Ships' and Aircraft Stores.

Prior to 1906, goods shipped in Australian ports on board oversea vessels as ships' stores were included in the general exports. From 1906, ships' and subsequently aircraft stores have been specially recorded as such, and have been omitted from the export figures. The value of these stores during each of the years 1956–57 to 1960–61, with oils separate, is shown in the following table.

**VALUE OF STORES LOADED ON OVERSEA SHIPS AND AIRCRAFT: AUSTRALIA.**  
(£'000.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Oils .. .. .	9,059	8,383	6,704	7,817	8,937
All Stores (including oils) ..	14,208	12,798	10,876	12,413	14,205

In addition to oils, the principal items supplied to oversea ships and aircraft in 1960–61 were:—Meats, £1,581,226; fruit and vegetables, £474,982; eggs, £189,011; butter, £111,142; ale, porter, beer, etc., £356,988; sea food, £221,376; flour, £59,162; rice, £22,736; milk and cream, £35,524; tobacco and cigarettes, £163,676.

## § 14. Movement of Bullion and Specie.

1. **Imports and Exports.**—The following table shows the values of gold and silver bullion and specie, and of bronze specie, imported into and exported from Australia during each of the years 1958–59 to 1960–61.

**IMPORTS AND EXPORTS, BULLION AND SPECIE: AUSTRALIA.**  
(£.)

Item.	Imports.			Exports.		
	1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1960–61.
Gold—Bullion ..	2,175,729	2,518,819	2,201,903	3,276,087	10,207,274	39,959,140
Specie ..	942	4,080	1,182	3,000	4,000	280
<i>Total</i> ..	<i>2,176,671</i>	<i>2,522,899</i>	<i>2,203,085</i>	<i>3,279,087</i>	<i>10,211,274</i>	<i>39,959,420</i>
Silver—Bullion ..	24,493	36,147	31,101	1,400,219	1,400,562	748,156
Specie ..	9,320	3,459	11,303	77,996	109,767	94,028
<i>Total</i> ..	<i>33,813</i>	<i>39,606</i>	<i>42,404</i>	<i>1,478,215</i>	<i>1,510,329</i>	<i>842,184</i>
Bronze—Specie ..	337	824	518	396	1,304	859
Total— Australian Pro- duce ..	..	..	..	4,743,943	11,716,148	40,797,511
Re-exports ..	..	..	..	13,755	6,759	4,952
<b>Grand Total</b> ..	<b>2,210,821</b>	<b>2,563,329</b>	<b>2,246,007</b>	<b>4,757,698</b>	<b>11,722,907</b>	<b>40,802,463</b>

2. Imports and Exports by Countries.—The next table shows the imports and exports of bullion and specie from and to various countries during the year 1960-61.

IMPORTS AND EXPORTS OF BULLION AND SPECIE BY COUNTRIES:  
AUSTRALIA, 1960-61.

(£.)

Country.	Imports.			Exports.		
	Bullion.	Specie.	Total.	Bullion.	Specie.	Total.
<i>Commonwealth Countries—</i>						
Australia (re-imported) ..	..	9,540	9,540	..	..	..
United Kingdom ..	268	518	786	31,595,464	2,556	31,598,020
<i>Australian Territories—</i>						
Nauru ..	..	..	..	..	336	336
New Guinea ..	610,577	..	610,577	..	72,128	72,128
Norfolk Is. ..	..	..	..	..	168	168
Papua ..	..	..	..	..	15,741	15,741
Hong Kong ..	..	..	..	7,977,038	..	7,977,038
New Zealand ..	429,144	2,000	431,144	137,153	1,871	139,024
<i>Pacific Islands (British)—</i>						
Fiji ..	1,192,435	..	1,192,435	7,304	..	7,304
Gilbert and Ellice Is. ..	..	..	..	..	560	560
New Hebrides ..	..	99	99	..	..	..
Solomon Is. ..	526	..	526	..	685	685
<i>Total Commonwealth Countries ..</i>	<i>2,232,950</i>	<i>12,157</i>	<i>2,245,107</i>	<i>39,716,959</i>	<i>94,045</i>	<i>39,811,004</i>
<i>Foreign Countries—</i>						
France ..	16	..	16	13,072	..	13,072
Switzerland ..	..	281	281	354,229	..	354,229
United States of America ..	38	565	603	3,170	1,122	4,292
" For Orders " ..	..	..	..	619,866	..	619,866
<i>Total, Foreign Countries</i>	<i>54</i>	<i>846</i>	<i>900</i>	<i>990,337</i>	<i>1,122</i>	<i>991,459</i>
<b>Grand Total ..</b>	<b>2,233,004</b>	<b>13,003</b>	<b>2,246,007</b>	<b>40,707,296</b>	<b>95,167</b>	<b>40,802,463</b>

§ 15. Exports According to Industries.

1. Classification.—The following table provides an analysis of the total recorded value of Australian exports for the years 1958-59 to 1960-61. This analysis is designed to show fluctuations in the value of exports of Australian produce dissected according to the main industry of their origin, although any such classification is necessarily arbitrary in some respects.

## EXPORTS OF AUSTRALIAN PRODUCE ACCORDING TO INDUSTRIAL GROUPS.

Industrial Group.	Value. (£'000.)			Proportion of Value of Exports of Australian Produce (excluding Gold). (Per cent.)		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
<b>Agriculture, Horticulture and Viticulture—</b>						
Unprocessed .. ..	77,991	94,220	139,227	9.8	10.4	15.4
Processed .. ..	78,213	70,918	81,258	9.9	7.8	9.0
<b>Total .. ..</b>	<b>156,204</b>	<b>165,138</b>	<b>220,485</b>	<b>19.7</b>	<b>18.2</b>	<b>24.4</b>
<b>Pastoral—</b>						
Unprocessed .. ..	366,510	442,966	384,686	46.3	48.7	42.6
Processed .. ..	67,044	75,180	57,170	8.5	8.3	6.4
<b>Total .. ..</b>	<b>433,554</b>	<b>518,146</b>	<b>441,856</b>	<b>54.8</b>	<b>57.0</b>	<b>49.0</b>
<b>Dairy and Farmyard—</b>						
Unprocessed .. ..	2,019	1,513	2,083	0.3	0.2	0.2
Processed .. ..	41,681	47,454	38,055	5.2	5.2	4.2
<b>Total .. ..</b>	<b>43,700</b>	<b>48,967</b>	<b>40,138</b>	<b>5.5</b>	<b>5.4</b>	<b>4.4</b>
<b>Mines and Quarries (other than Gold)—</b>						
Unprocessed .. ..	19,309	26,940	34,327	2.4	2.9	3.8
Processed .. ..	32,750	29,638	35,546	4.1	3.3	3.9
<b>Total (a) .. ..</b>	<b>52,059</b>	<b>56,578</b>	<b>69,873</b>	<b>6.5</b>	<b>6.2</b>	<b>7.7</b>
<b>Fisheries—</b>						
Unprocessed .. ..	4,322	4,839	5,026	0.5	0.5	0.6
Processed .. ..	1,249	960	946	0.2	0.1	0.1
<b>Total .. ..</b>	<b>5,571</b>	<b>5,799</b>	<b>5,972</b>	<b>0.7</b>	<b>0.6</b>	<b>0.7</b>
<b>Forestry—</b>						
Unprocessed .. ..	522	619	586	0.1	0.1	0.1
Processed .. ..	3,866	3,340	3,925	0.5	0.3	0.4
<b>Total .. ..</b>	<b>4,388</b>	<b>3,959</b>	<b>4,511</b>	<b>0.6</b>	<b>0.4</b>	<b>0.5</b>
<b>Total Primary Produce—</b>						
Unprocessed .. ..	470,673	571,097	565,935	59.4	62.8	62.7
Processed .. ..	224,803	227,490	216,900	28.4	25.0	24.0
<b>Total .. ..</b>	<b>695,476</b>	<b>798,587</b>	<b>782,835</b>	<b>87.8</b>	<b>87.8</b>	<b>86.7</b>
<b>Manufactures .. ..</b>	<b>70,988</b>	<b>83,352</b>	<b>88,237</b>	<b>9.0</b>	<b>9.2</b>	<b>9.8</b>
Refined Petroleum Oils .. ..	14,702	15,914	19,811	1.9	1.7	2.2
Unclassified .. ..	10,465	11,624	11,764	1.3	1.3	1.3
<b>Total Australian Produce (excluding Gold) .. ..</b>	<b>791,631</b>	<b>909,477</b>	<b>902,647</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Re-exports (excluding Gold) .. ..</b>	<b>16,553</b>	<b>17,994</b>	<b>26,237</b>	<b>..</b>	<b>..</b>	<b>..</b>
<b>Gold Exports(a) .. ..</b>	<b>3,279</b>	<b>10,211</b>	<b>39,959</b>	<b>..</b>	<b>..</b>	<b>..</b>
<b>Total Recorded Value of Exports .. ..</b>	<b>811,463</b>	<b>937,682</b>	<b>968,843</b>	<b>..</b>	<b>..</b>	<b>..</b>

(a) The value of refined newly-won gold was £16,645,000 in 1958-59, £16,770,000 in 1959-60, and £16,203,000 in 1960-61.



2. **Relative Importance of Industrial Groups.**—In the year 1960–61, Australian produce (other than gold) exported amounted to approximately £903 million. Of this, £783 million or 87 per cent. was mainly produce of primary industries, comprising £566 million of unprocessed produce and £217 million of goods which had been processed in some degree before export. The values of the principal individual items of processed Australian primary produce exported were:—Raw sugar, £34,227,000; flour, etc., £19,637,000; canned fruit, £9,773,000; dried fruit, £9,097,000; wool (scoured, tops, etc.), £38,234,000; canned meats, £9,374,000; butter, £19,651,000; milk (condensed, dried, etc.), £9,152,000; pig lead, £10,541,000; lead bullion, £5,330,000; zinc bars, blocks, etc., £3,178,000; copper ingots, £7,028,000; and undressed timber, £2,495,000.

The value of manufactures exported as classified above was £88 million, or approximately 10 per cent. of Australian produce (other than gold) exported in 1960–61. The values of principal individual items here included were:—Manufactures of metal, £46,823,000; implements and machinery, £10,768,000; drugs and chemicals, £6,874,000; and paper and stationery, £3,671,000.

The items enumerated indicate the arbitrariness of the line necessarily drawn between primary produce and manufactures in any classification of this kind. The value of processed primary products exported includes some element of value added by the simpler processes of manufacture, while the value shown for manufactures exported necessarily includes the value of raw materials (primary produce) used in those manufactures.

Refined petroleum oils exported are shown separately, as they consist of imported crude oils refined in Australia and re-exported in the refined form. The values of principal individual items shown as “unclassified” in 1960–61 were:—individual consignments of less than £50 in value, £5,516,000; and military equipment and stores and supplies for Australian projects overseas, £1,311,000.

## § 16. Australian Index of Export Prices.

1. **General.**—Over the past fifty years, the exports of Australia have become increasingly diversified, but although the proportion of highly manufactured exports has increased, it is still small in relation to total exports. Most of the exports still consist of basic products such as wool, wheat, butter, etc.

2. **Historical.**—An annual index of export prices has been published by this Bureau since its inception.

The first index was compiled annually for the years 1901 to 1916–17. The method of computation was to select all articles of export which were recorded by units of quantity, and to apply to the quantities of these export commodities actually exported during any year the average price per unit ruling in the year 1901 (adopted as the base year). The total value so obtained was divided into the total actual (recorded) value of these exports for the year concerned. The quotient (multiplied by 1,000) thus obtained was the export price index number for that year.

The method was changed in 1918. A weight for all principal exports was calculated on the average quantities of exports for the nineteen and a half years from 1st January, 1897 to 30th June, 1916. To these weights were applied the "average unit export values" of each export in successive years, and a weighted aggregative index of "price" variations was derived. It was published for the years 1897 to 1929-30, and particulars of this index were last published in Official Year Book No. 24, page 147.

After the 1914-18 War, however, the relative importance of different exports changed considerably. In addition, the pattern of exports varied considerably from year to year.

3. **Present Indexes.**—For the reasons just mentioned, two new series of monthly export price indexes—one using fixed weights and the other using changing weights—were published in 1937, computed back to 1928. These are the only export price indexes now published.

The data on which both series are based differ from those used in the old series of annual index numbers. The most important change was the use of actual (or calculated) export prices in place of the "unit values" declared at the Customs.

The old index took no account of gold exports. For gold producing countries, although some exports of gold would be irrelevant (e.g., the Australian shipments of gold reserves during the depression), the exports of newly produced gold should be taken into account. In the new series, therefore, gold is included, but the weight given to it is not the quantity exported but the quantity produced.

The two series are compiled monthly, and both relate to commodities which normally constitute about 80 per cent. of the total value of exports of merchandise and silver together with gold production.

4. **The Fixed Weights Index.**—(i) *General.* This is a weighted aggregative index of price variations. It was computed back to 1928, with that year taken as base. It is now published on the base: Average of three years ended June, 1939 = 100.

The purpose of this index is to provide comparisons, over a limited number of years, of the level of prices of those commodities normally exported from Australia, making no allowance for variations during the period in the proportions of the different kinds of exports.

(ii) *Weights.* The original weights (used for the period 1928 to 1936) were, in round figures, the average annual exports (production in the case of gold) during the five years 1928-29 to 1932-33.

From July, 1936, the weights were revised and were based on the average annual exports (production in the case of gold) during the three years 1933-34 to 1935-36. Whilst these group weights are still retained, the individual items comprising the meats group have been altered from October, 1960. For October, 1960, and subsequent months the meats group index has been varied by the movement in prices of beef, lamb, mutton and canned meats weighted according to their average annual exports during 1956-57 to 1960-61. Consideration is being given to a general revision of the weighting pattern of the index and to enlargement of the index to cover additional items.

The weight adopted for wheat takes into account the wheat equivalent of flour exported; the weight allotted to greasy wool takes account of the greasy equivalent of scoured wool, tops, and wool on skins; and for some metals allowance is made for the metallic content of ores and concentrates exported.

The twenty items, together with the units of quantity and the weights or "quantity multipliers", are given in the following table.

EXPORT PRICE INDEX: COMMODITIES AND WEIGHTING SYSTEM.

(FROM 1ST JULY, 1936.)

Item.	Unit of Quantity.	"Quantity Multipliers" (Weights).	Percentage Distribution of Total Aggregate.			
			Base Period (1936-37 to 1938-39).		1960-61.	
			Excluding Gold.	Including Gold.	Excluding Gold.	Including Gold.
Wool .. ..	lb.	975,000,000	49.05	45.63	52.31	50.46
Wheat .. ..	bushel	101,000,000	18.34	17.06	16.77	16.17
Butter .. ..	cwt.	2,140,000	12.21	11.36	7.65	7.38
<b>Metals—</b>						
Silver .. ..	oz. (standard)	7,300,000	0.68	0.64	} 7.98	7.70
Copper .. ..	ton	3,600	0.20	0.20		
Tin .. ..	"	1,300	0.31	0.28		
Zinc .. ..	"	99,000	2.05	1.90		
Lead .. ..	"	208,500	4.10	3.81		
<b>Meats—</b>						
Beef .. ..	lb.	182,000,000	2.56	2.38	} 9.02 <sup>a</sup>	8.70 <sup>a</sup>
Lamb .. ..	"	138,000,000	3.56	3.31		
Mutton .. ..	"	44,000,000	0.58	0.54		
Pork .. ..	"	16,000,000	0.43	0.40		
Sugar .. ..	ton	305,000	2.58	2.40	3.27	3.16
<b>Dried Fruits—</b>						
Sultanas .. ..	"	38,200	1.45	1.35	} 1.82	1.75
Raisins .. ..	"	3,000	0.12	0.11		
Currants .. ..	"	13,400	0.37	0.35		
Tallow .. ..	cwt.	600,000	0.69	0.64	0.61	0.59
<b>Hides—</b>						
Cattle Hides .. ..	lb.	28,000,000	0.64	0.59	} 0.57	0.56
Calf Skins .. ..	"	1,800,000	0.08	0.07		
Gold .. ..	fine oz.	937,000	..	6.98	..	3.53
			100.00	100.00	100.00	100.00

(a) From October, 1960, the items comprising the meats group have been altered (see paragraph 4 (ii) on page 500).

The percentage distributions of the "Total Aggregate" shown in the foregoing table are of importance, firstly, as showing their variations from time to time because of differential price movements as between the various commodities or groups, and secondly, as regards the effect on the indexes as a whole of the percentage price variations for each commodity or group.

(iii) *Prices.* The adoption of current market prices (as distinct from the former average unit export values) in the present indexes permitted the use of standards for each commodity. All export prices are calculated from information obtained from the most reliable and representative sources available. In most cases, the prices used are those at which current sales are being effected.

(iv) *Index Numbers.* The following table shows export price index numbers for Australia for individual commodities, groups of commodities, and all groups combined for each financial year from 1936-37 to 1960-61 and monthly from July, 1961, to March, 1962.

## EXPORT PRICE INDEX: AUSTRALIA.

## SIMPLE AGGREGATIVE INDEX: FIXED WEIGHTS.

## INDIVIDUAL COMMODITIES, GROUPS OF COMMODITIES, AND ALL GROUPS COMBINED.

(Base of each Index: Average of three years ended June, 1939 = 100.)

Period.	Wool.	Wheat.	Butter.	Metals. (a)	Meats. (b)	Sugar.	Dried Fruits. (c)	Tallow.	Hides. (d)	Gold.	All Groups.
Percentage Distribution of Base Aggregate(e) ..	45.63	17.06	11.36	6.83	6.63	2.40	1.81	0.64	0.66	6.98	100.00
1936-37 .. ..	122	123	92	120	98	104	103	122	113	99	115
1937-38 .. ..	99	111	107	96	106	92	103	100	100	98	102
1938-39 .. ..	79	66	101	84	96	104	94	78	87	103	83
1939-40 .. ..	98	82	108	92	102	126	94	76	120	118	98
1940-41 .. ..	101	102	110	95	103	137	95	82	98	121	104
1941-42 .. ..	101	105	110	101	109	137	106	114	133	120	106
1942-43 .. ..	117	106	114	100	112	152	112	119	145	119	114
1943-44 .. ..	117	116	114	113	113	159	121	123	151	119	117
1944-45 .. ..	117	154	147	129	122	172	128	151	147	120	130
1945-46 .. ..	117	213	147	196	123	213	137	161	152	122	146
1946-47 .. ..	173	305	173	308	139	264	152	361	334	122	203
1947-48 .. ..	287	420	193	372	146	320	157	436	364	122	283
1948-49 .. ..	365	413	233	478	171	343	162	499	421	122	332
1949-50 .. ..	473	400	250	421	196	369	176	400	479	164	383
1950-51 .. ..	999	432	271	689	209	410	226	356	752	176	654
1951-52 .. ..	564	436	291	811	263	464	302	451	486	184	473
1952-53 .. ..	616	445	313	504	314	501	297	358	369	186	483
1953-54 .. ..	615	411	325	450	338	479	287	321	336	179	474
1954-55 .. ..	538	357	313	511	344	445	267	349	218	178	431
1955-56 .. ..	464	324	320	562	355	450	286	353	238	178	397
1956-57 .. ..	578	327	250	545	368	501	319	357	240	178	444
1957-58 .. ..	471	357	218	398	333	518	341	368	240	178	385
1958-59 .. ..	362	350	230	386	394	475	383	367	335	178	339
1959-60 .. ..	425	333	315	428	432	452	349	302	365	178	378
1960-61 .. ..	390	335	229	398	463	461	342	324	296	179	353
1961-62—											
July .. ..	(g) 422	341	209	382	486	499	343	299	306	179	368
August .. ..	422	344	208	381	477	464	330	302	318	178	366
September .. ..	415	343	207	368	470	434	328	282	320	178	360
October .. ..	400	346	207	365	467	417	314	257	316	178	353
November .. ..	392	345	219	353	455	405	312	250	304	178	348
December .. ..	392	355	241	358	(h)	411	314	246	307	178	354
January .. ..	392	359	241	354	(h)	427	308	244	309	178	354
February .. ..	415	361	240	345	(h)	409	308	242	301	178	364
March .. ..	422	360	240	351	(h)	416	308	240	305	178	367

(a) Silver, copper, tin, zinc, lead. (b) Beef, lamb, mutton and canned meats (see paragraph 4 (ii) on page 500).  
 Guaranteed minimum prices are used when operative. (c) Sultanas, raisins, currants. (d) Cattle hides, calf  
 skins. (e) 1936-37 to 1938-39. (f) Preliminary. (g) Nominal. (h) Actual prices realized not yet  
 known; provisional series are included in "All Groups" Index.

A graph showing index numbers for All Groups, for wool, and for All Groups excluding wool appears on page 482.

The group indexes in the table above show the great fluctuations and the wide dispersion of prices of export commodities in recent years. In particular, very great movements upwards and downwards have occurred in the price of wool. Since wool is a predominant export, and comprises 46 per cent. of the base aggregate of the index, fluctuations in wool prices obscure the effect on the "All Groups" Index of movements in prices of the other components. For this reason "Wool" and "All Groups Excluding Wool" are shown separately in the table following. The movement of the weighted average index for "All Groups Excluding Wool" contrasts with the pronounced fluctuations in prices of wool. Index numbers for "All Groups Excluding Gold" and for "All Groups Excluding Gold and Wool" are also shown in the table.

EXPORT PRICE INDEX: WOOL AND "OTHER GROUPS", AUSTRALIA.

(Base of each Index: Average of three years ended June, 1939 = 100.)

Period.	Wool.	All Groups.			All Groups.
		Excluding Wool.	Excluding Gold.	Excluding Gold and Wool.	
1936-37 .. .. .	122	108	116	110	115
1937-38 .. .. .	99	105	102	106	102
1938-39 .. .. .	79	87	82	84	83
1939-40 .. .. .	98	98	96	95	98
1940-41 .. .. .	101	106	103	104	104
1941-42 .. .. .	101	110	105	108	106
1942-43 .. .. .	117	112	114	111	114
1943-44 .. .. .	117	118	117	117	117
1944-45 .. .. .	117	141	130	144	130
1945-46 .. .. .	117	171	148	178	146
1946-47 .. .. .	173	228	209	243	203
1947-48 .. .. .	287	280	296	303	283
1948-49 .. .. .	365	305	348	332	332
1949-50 .. .. .	473	308	399	329	383
1950-51 .. .. .	999	365	690	393	654
1951-52 .. .. .	564	397	495	428	473
1952-53 .. .. .	616	371	505	399	483
1953-54 .. .. .	615	356	496	383	474
1954-55 .. .. .	538	342	450	366	431
1955-56 .. .. .	464	342	414	366	397
1956-57 .. .. .	578	331	464	353	444
1957-58 .. .. .	471	313	400	332	385
1958-59 .. .. .	362	320	351	341	339
1959-60 .. .. .	425	339	393	363	378
1960-61 .. .. .	390	(a) 322	(a) 366	(a) 343	(a) 353
1961-62—					
July .. .. .	(b) 422	(a) 322	(a) 382	(a) 343	(a) 368
August .. .. .	422	(a) 319	(a) 380	(a) 340	(a) 366
September .. .. .	415	(a) 315	(a) 374	(a) 335	(a) 360
October .. .. .	400	(a) 313	(a) 366	(a) 333	(a) 353
November .. .. .	392	(a) 312	(a) 361	(a) 331	(a) 348
December .. .. .	392	(a) 322	(a) 367	(a) 343	(a) 354
January .. .. .	392	(a) 322	(a) 367	(a) 343	(a) 354
February .. .. .	415	(a) 322	(a) 378	(a) 343	(a) 364
March .. .. .	422	(a) 321	(a) 382	(a) 342	(a) 367

(a) Preliminary. (b) Nominal.

5. The Changing Weights Index.—This series was designed for shorter period comparisons—from one or more months of the current year to the corresponding months of the previous year. The fixed weights index numbers indicate satisfactorily the general trend of export prices, but take no account of the relative quantities actually sold at the prices ruling in particular months. The changing weights index numbers, shown below, take account of this factor. In computing these, the "quantity multipliers" are the quantities actually exported (sold, in some cases) in the months (or periods) to which the index numbers relate.

For any given month, the procedure is to multiply the price of each commodity in that month, and its price in the corresponding month of the previous year, by the quantity exported during the given month. A comparison of the resulting aggregates gives one possible measure of the change in prices over the period, i.e., the change assuming that the proportions of the different kinds of exports whose prices are to be measured were the same as their proportions in the given month. Another possible measure is given by assuming that the proportions of the different kinds of exports in the given month

were the same as their proportions in the corresponding month of the previous year. Accordingly, the first step in the procedure is repeated, substituting the quantities exported during the corresponding month of the previous year.

The index numbers so obtained have been proved over a period of years to lie very close together. As it is convenient for practical reasons to have one single figure rather than two close alternatives, the two index numbers are multiplied together and the square root of the product is extracted. This is taken to be the index number for the month, the prices of the corresponding month of the previous year being taken as base.

The index numbers for the whole or portion of a year, as compared with the corresponding period of the previous year, are computed in the same way. The process involves merely the cumulative addition of the aggregates computed for the individual months, and extraction of the index numbers as explained above.

Index numbers computed on this basis are shown in the following table for the months July, 1960, to March, 1962, and for trade year periods ending in those months.

#### EXPORT PRICE INDEX: CHANGING WEIGHTS.

(Base: Corresponding month (or period) of preceding year = 100.)

Month.	Month stated compared with same month of preceding year.		Period of trade year ending in month stated compared with same period of preceding year.	
	All Groups, Excluding Wool.	All Groups.	All Groups, Excluding Wool.	All Groups.
1960-61—				
July .. .. .	96	96	96	96
August .. .. .	95	89	96	92
September .. .. .	97	89	96	91
October .. .. .	97	89	96	90
November .. .. .	96	92	96	90
December .. .. .	94	89	96	90
January .. .. .	93	89	95	90
February .. .. .	95	95	95	91
March .. .. .	95	96	95	91
April .. .. .	98	99	96	92
May .. .. .	(a) 99	(a) 102	(a) 96	(a) 93
June .. .. .	(a) 99	(a) 100	(a) 96	(a) 94
1961-62—				
July .. .. .	(a) 98	(a) 101	(a) 98	(a) 101
August .. .. .	(a) 99	(a) 105	(a) 98	(a) 103
September .. .. .	(a) 96	(a) 105	(a) 98	(a) 104
October .. .. .	(a) 97	(a) 105	(a) 97	(a) 104
November .. .. .	(a) 98	(a) 102	(a) 97	(a) 104
December .. .. .	(a) 101	(a) 103	(a) 98	(a) 103
January .. .. .				
February .. .. .	(a) 104	(a) 104	(a) 99	(a) 104
March .. .. .	(a) 105	(a) 105	(a) 100	(a) 104

(a) Preliminary.

Monthly export price index numbers are issued in the mimeograph publication *Monthly Index of Australian Export Prices*, in the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics* and the *Quarterly Summary of Australian Statistics*.

## § 17. External Trade of Australia and other Countries.

1. **Essentials of Comparison.**—Direct comparison of the external trade of any two countries is possible only when the general conditions prevailing therein, and the system of record, are more or less identical. For example, in regard to the mere matter of record, it may be observed that in one country the value of imports may be the value at the port of shipment, while in another the cost of freight, insurance and charges may be added thereto. Again, the values of imports and exports in one may be declared by merchants, whereas in another they may be the official prices fixed from time to time by a commission constituted for the purpose. In later years, moreover, a very substantial difference in the value of imports would result from the different methods of converting the moneys of foreign countries, i.e., from the application of current rates of exchange or of the mint par. Lastly, the figures relating to the external trade of any country are also affected in varying degree by the extent to which they include transit or re-export trade. This class of trade represents a much greater proportion of the trade of Switzerland and Belgium-Luxembourg than that of other countries. France and the United Kingdom also re-export largely, whereas in Canada, Australia and New Zealand the same class of trade represents a comparatively small proportion of the total.

2. **"Special Trade" of Various Countries.**—In the following table, the figures, which are expressed in Australian currency, relate as nearly as possible to imports cleared for home consumption in the various countries specified and to exports of their domestic products. It is to be noted, however, that these figures do not invariably denote the same thing throughout, since, in the United Kingdom and other manufacturing countries, raw or partly manufactured materials are imported as for home consumption and, after undergoing some process of manufacture or further modification, are re-exported as domestic production. Nevertheless, a comparison of this character reveals approximately the extent of the external trade which otherwise would not be manifest. The countries listed below are not necessarily all the important trading countries of the world, but those important countries for which comparable statistics are available. Information for countries other than Australia has been extracted from publications of the United Nations.

**IMPORTS CLEARED FOR HOME CONSUMPTION, AND EXPORTS OF DOMESTIC PRODUCTS (MERCHANDISE ONLY(a)): VARIOUS COUNTRIES, 1960.**

Country.	Trade. (£A. Million.)			Trade per Head of Population.(£A.)		
	Imports Cleared. c.i.f.	Exports. f.o.b.	Total.	Imports Cleared.	Exports.	Total.
United States of America	(b) 6,566.5	9,073.7	15,640.2	36.6	50.6	87.2
United Kingdom ..	(c) 5,521.4	4,444.2	9,965.6	105.9	85.2	191.1
Germany, Federal Republic of .. ..	4,510.3	5,096.0	9,606.3	84.5	95.5	180.0
France .. ..	2,801.7	3,063.4	5,865.1	61.5	67.3	128.8
Canada .. ..	(b) 2,529.0	2,483.4	5,012.4	142.0	139.4	281.4
Netherlands .. ..	2,022.8	1,798.2	3,821.0	176.2	156.6	332.8
Japan .. ..	(d) 2,004.9	1,810.3	3,815.2	21.5	19.4	40.9
Italy .. ..	2,107.6	1,629.4	3,737.0	42.7	33.0	75.7
Belgium-Luxembourg ..	1,766.5	1,685.3	3,451.8	187.9	179.2	367.1
Sweden .. ..	(d) 1,283.9	1,146.0	2,429.9	171.7	153.2	324.9
Australia(e) .. ..	(b) 1,103.7	902.7	2,006.4	106.2	86.9	193.1
Switzerland .. ..	1,001.3	839.3	1,840.6	185.0	155.1	340.1
Denmark .. ..	(d) 804.5	663.3	1,467.8	176.8	145.8	322.6
Austria .. ..	632.1	500.0	1,132.1	89.7	70.9	160.6
Norway .. ..	(d) 652.2	392.9	1,045.1	181.8	109.6	291.4
Spain .. ..	321.8	323.7	645.5	10.7	10.8	21.5
Indonesia .. ..	256.2	375.0	631.2	2.8	4.0	6.8
Egypt .. ..	297.8	253.6	551.4	11.7	10.0	21.7
Greece .. ..	313.4	90.6	404.0	37.9	11.0	48.9
Chile .. ..	223.2	218.7	441.9	29.2	28.7	57.9
Turkey .. ..	208.9	143.3	352.2	7.5	5.1	12.6

(a) Includes silver. (b) f.o.b. (c) Covers goods imported less goods re-exported.  
 (d) Covers goods imported as distinct from goods cleared for home consumption. (e) Year ended June, 1961.

## § 18. Oversea Trade in Calendar Years.

For the purpose of comparison with countries which record overseas trade in calendar years, the following table has been compiled to show Australian imports and exports for each of the calendar years 1957 to 1961.

**OVERSEA TRADE IN CALENDAR YEARS: AUSTRALIA.**  
(£'000.)

Year.	Merchandise.		Bullion and Specie.		Total.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
1957 .. ..	751,543	981,694	2,509	13,891	754,052	995,585
1958 .. ..	792,891	738,913	2,541	4,083	795,432	742,996
1959 .. ..	827,653	898,623	2,174	3,339	829,827	901,962
1960 .. ..	826,233	892,571	2,177	3,338	828,410	895,909
1961(a) .. ..	1,055,942	874,585	2,387	40,577	1,058,329	915,162

(a) Subject to revision.

## § 19. Excise.

Although excise goods have no immediate bearing on overseas trade, the rate of excise duty is in some cases related to the import duty on similar goods. Moreover, as the Excise Acts are administered by the Department of Customs and Excise, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. Particulars of Customs and Excise revenue are shown in Chapter XXI.—Public Finance. The following table shows the quantities of spirits, beer, tobacco, etc., on which excise duty was paid in Australia during the years 1959–60 and 1960–61.

**QUANTITY OF SPIRITS, BEER, TOBACCO, ETC., ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA.**

Article.	1959–60.	1960–61.	Article.	1959–60.	1960–61.
	gallons.	gallons.		lb.	lb.
Beer .. ..	223,695,660	227,760,154	Cigarettes— Machine-made .. ..	38,536,804	40,802,271
	proof gallons.	proof gallons.	Petrol— Aviation Petrol (By- law) .. ..	7,409,362	7,534,827
Spirits— Brandy .. ..	819,254	810,215	Aviation Petrol (Non By-law) .. ..	12,402,026	6,638,725
Gin .. ..	359,806	351,478	Petrol, n.e.i. .. ..	992,692,169	1,055,561,277
Whisky .. ..	380,081	389,514	Total Petrol .. ..	1,012,503,557	1,069,734,829
Rum .. ..	584,795	564,850	Aviation Turbine Fuel ..	30,277,206	30,190,573
Liqueurs .. ..	61,238	60,890	Diesel Fuel .. ..	48,985,564	46,077,699
Other .. ..	32,392	39,208	Playing Cards .. ..	doz. packs. 104,550	doz. packs. 99,062
Total Spirits (Potable) .. ..	2,237,566	2,216,155	Cigarette Papers and Tubes .. ..	60 papers or tubes. 105,563,114	60 papers or tubes. 98,160,059
Spirits for— Fortifying Wine .. ..	2,299,790	2,151,225	Matches .. ..	8,640 matches. 3,465,463	8,640 matches. 3,403,569
Industrial or Scien- tific purposes .. ..	257,004	255,422	Coal .. ..	tons. 17,072,346	tons. 18,681,695
Manufacture of— Essences .. ..	103,929	100,435	Cathode Ray Tubes .. ..	No. 475,117	No. 326,883
Scents and Toilet Preparations .. ..	68,589	76,986			
Vinegar .. ..	138,510	195,955			
	lb.	lb.			
Tobacco .. ..	15,647,777	14,609,832			
Snuff .. ..	90	..			
Cigars— Hand-made .. ..	12,965	8,288			
Machine-made .. ..	93,600	113,694			
Total Cigars .. ..	106,565	121,982			



## § 20. Interstate Trade.

Prior to the federation of the Australian Colonies (now States), each Colony published statistics of its trade with the other Colonies. A similar record was continued by the Commonwealth Government under the provisions of the Constitution (section 93). On the expiry of the "book-keeping" period, these records were discontinued as from 13th September, 1910, and the last published statements were for the year 1909. Later, the Governments of Western Australia and Tasmania revived the records, and relevant statistics are available again for those States. A detailed collection for Queensland was re-introduced from July, 1953.

At the Conference of Statisticians held in January, 1928, it was resolved that efforts should be made in other States to record the interstate movement of certain principal commodities.

Interstate trade statistics are now published in detail for Queensland, Western Australia and Tasmania, prepared by the Deputy Commonwealth Statisticians in those States. The Deputy Commonwealth Statistician in South Australia publishes some figures for that State, made up from the records of Western Australia and Tasmania. The statistics of interstate trade for New South Wales and Victoria are very meagre. The Melbourne Harbour Trust publishes, in its annual report, the quantities of various commodities of interstate trade loaded and discharged in the Port of Melbourne. The trade with individual States is not disclosed.

## § 21. The Australian Balance of Payments.

1. **Introduction.**—Estimates of a country's balance of payments are prepared for the purpose of providing a systematic record in money terms of the economic transactions which take place over a period between that country and all other countries. Such records are essential to the examination of influences which external factors have on the domestic economy. The Australian economy is subject to fairly large fluctuations in export income, and it is also affected in important respects by variations in the level of foreign investment and the demand for imports. Consequently, these estimates have always assumed particular importance in this country and they are mainly regarded as an analysis of those transactions which contribute directly to movements in the level of Australia's international reserves.

Official estimates of Australia's balance of payments covering the period 1928–29 to 1930–31 were included in the Appendix to Official Year Book No. 24, 1931. Except for the war years (1939 to 1945) estimates have since been published annually, and since 1950–51 they have been issued twice yearly in the form of a separate mimeograph publication *The Australian Balance of Payments*. This publication brings the estimates forward to the end of the most recent financial year or half year and, together with a printed volume *The Australian Balance of Payments, 1928–29 to 1950–51*, provides also a description of the various items included and the sources from which the information is obtained. In February, 1962, an additional statistical statement was introduced giving details of Australia's balance of payments on a quarterly basis.

The form in which the Australian estimates are presented closely follows the pattern originally adopted by the International Monetary Fund. In this presentation a basic distinction is drawn between "current account" transactions and "capital account" transactions. Current account transactions are defined as those which involve changes in the ownership of goods, or, the rendering of services between residents of Australia and the rest of the world. They include such important items as exports, imports, shipping freights, dividends, profits and interest, travel and Government expenditure. The current account also includes transfers in the form of personal gifts and Government gifts of technical

assistance, for which there is no consideration. Capital account transactions are defined as those which involve claims to money and titles to investments between residents of one country and those of another country. For practical purposes they may therefore be divided, on the one hand, into investment items (including oversea investment in companies in Australia and Government loans raised abroad), and, on the other, into financing transactions (such as the recent purchase of £78 million from the International Monetary Fund and changes in the level of international reserves).

By definition, the balance of payments on current account is always equivalent to the balance on capital account and the change in international reserves is used as a control figure to which the net sum of all other figures must reconcile. In practice, errors and omissions may occur in the estimation of the amounts involved in various items included in both current and capital accounts, and in addition there are timing differences between the statistical recording of trade transactions and certain invisible items, and the relevant foreign exchange transactions. Therefore, in order to preserve the identity between the total shown in the current account and the total shown in the capital account, it is necessary to introduce a "balancing item". The "balancing item" is included in the capital account, but, as mentioned above, it may include discrepancies in the current account, and it does not, as is frequently supposed, include only errors and timing differences related to investment and financing transactions.

In the annual estimates originally issued for 1960-61, an important addition was made to the estimates by the inclusion of an Import Valuation Adjustment. This adjustment makes allowance for the estimated excess of the value of imports as recorded in statistics of oversea trade (based on value for duty) over the actual "selling price" to the importer as shown in invoices accompanying customs entries. This difference mainly arises from provisions of the Customs Act, whereby the value for duty is based on the current domestic value of the goods in the exporting country in cases where this value exceeds the actual selling price to the importer. The adjustment is estimated from samples of import entries, which do not permit of accurate estimates for particular commodities and individual countries. Consequently, only the total amount involved is shown. This was estimated at £35 million in 1960-61. As the introduction of the Import Valuation Adjustment resulted in substantial reductions in the size of the balancing items shown in previous years' estimates, a fully revised summary of Australia's balance of payments for the years 1945-46 to 1960-61 was included in the mimeograph publication issued in March, 1962. This summary provides estimates for all years of the Import Valuation Adjustment, together with small revisions to other current and capital account items.

Details of the estimates are assembled from a variety of sources of which the following are the more important:—(i) statistics of exports and imports obtained from Australian trade statistics; (ii) information on particular invisible current account items and capital movements obtained by regular inquiry from private organizations and Government departments; (iii) details of receipts and payments of foreign exchange provided by the banking system; (iv) information on dividends remitted, undistributed income and private investment in companies provided by statistics of oversea investment collected by this Bureau; (v) information on freight on imports and other items concerned with oversea shipping provided by statistics of shipping operations collected by this Bureau; and (vi) information on international reserves supplied by the Reserve Bank.

**2. Current Account.**—The balance of payments on current account is arranged to show a series of credit items and a corresponding series of debit items. Entries on the credit side include all current transactions which result in receipts of foreign exchange (for goods and services, investment income or donations), and on the debit side the similar transactions which result in payments of foreign exchange. The principal exceptions to this rule are the amounts shown for undistributed income. In this instance, no movement of foreign exchange takes place, the amounts concerned being treated as credits or debits in the relevant sections of the current account, and as corresponding outflows or inflows in the relevant sections of the capital account.

The largest items shown in the current account are exports and imports, and the difference between them represents the balance of visible trade. This is the most important and usually the most variable relationship in the balance of payments, and (excluding the Import Valuation Adjustment) resulted in deficits of £9 million in 1959-60 and £147 million in 1960-61. The deterioration between the two years was the result of a large increase in the value of imports.

## BALANCE OF PAYMENTS ON CURRENT ACCOUNT: AUSTRALIA.

(£A. million.)

Particulars.	1959-60.	1960-61.
<b>CREDITS.</b>		
1. Exports f.o.b.(a) .. .. .	937.4	936.7
2. Gold Production .. .. .	16.4	16.4
3. Transportation—		
Oversea ships .. .. .	77.0	86.0
Other .. .. .	8.7	9.0
	85.7	95.0
4. Travel .. .. .	9.9	13.5
5. Income from Investment—		
Undistributed Income .. .. .	3.3	2.7
Other .. .. .	23.6	25.9
	26.9	28.6
6. Government .. .. .	26.3	25.2
7. Miscellaneous .. .. .	9.5	13.0
8. Donations, etc.—		
Immigrants' Funds, etc. .. .. .	21.7	24.7
Other .. .. .	8.9	9.2
	30.6	33.9
<i>Total Credits</i> .. .. .	<i>1,142.7</i>	<i>1,162.3</i>
<b>DEBITS.</b>		
9. Imports f.o.b.(a) .. .. .	946.3	1,083.7
10. Transportation—(b)		
Freight .. .. .	127.0	150.0
Other .. .. .	20.9	23.0
	147.9	173.0
11. Travel .. .. .	36.3	41.7
12. Income from Investment—		
Public Authority Interest .. .. .	26.9	29.0
Direct Investment .. .. .	45.9	49.0
Undistributed Income .. .. .	69.2	62.3
Other .. .. .	7.6	8.0
	149.6	148.3
13. Government—		
Defence .. .. .	16.6	17.1
Papua and New Guinea .. .. .	15.7	17.9
Other .. .. .	16.0	17.6
	48.3	52.6
14. Miscellaneous .. .. .	36.8	35.1
15. Donations, etc.—		
Personal .. .. .	15.0	16.2
Colombo Plan, etc. .. .. .	4.1	4.5
Other .. .. .	10.5	10.6
	29.6	31.3
16. Import Valuation Adjustment .. .. .	—30.0	—35.0
<i>Total Debits</i> .. .. .	<i>1,364.8</i>	<i>1,530.7</i>
<b>Balance on Current Account</b> .. .. .	<b>—222.1</b>	<b>—368.4</b>

(a) The amounts shown represent the recorded trade totals adjusted in respect of coverage for purposes of balance of payments estimates. (b) Total freight and insurance on imports, whether payable overseas or in Australia, is estimated at £127 million in 1959-60 and £151 million in 1960-61.

A full evaluation of the overall position on current account, however, occurs only after invisible transactions have been taken into account. Whilst the balance of visible trade in the years 1959–60 and 1960–61 showed deficits of £9 million and £147 million, further deficits on invisible transactions in the same periods resulted in total deficits on current account of £222 million in 1959–60 and £368 million in 1960–61.

The most important of the current account invisibles are transportation items. These appear on both the debit and credit sides, the principal component on the debit side being freight (mainly freight on imports into Australia), which is estimated at £127 million in 1959–60 and £150 million in 1960–61.

The items next in importance are those concerning income from investment. Debit entries under this heading include interest, dividends, rents, etc., payable overseas, while the credit entries include similar details of amounts receivable by Australian residents. These items include undistributed income for which, as mentioned above, no monetary payments occur. In total, investment income debits amounted to £150 million in 1959–60 and £148 million in 1960–61. Credits in these periods amounted to £27 million and £29 million respectively.

The remaining items are much smaller than those mentioned above. Government debits rose from £48 million in 1959–60 to £53 million in 1960–61. Government credits fell from £26 million in 1959–60 to £25 million in 1960–61. Debits on account of donations, etc., rose slightly from £30 million to £31 million, but in both years were more than offset by credits. The principal credit item is funds brought in by immigrants.

**3. Capital Account.**—The capital account shows the annual movements in assets and liabilities, a basic distinction being made between those items which are regarded as Australian residents' assets overseas and Australian liabilities to overseas residents.

On the assets side, by far the most important item is Australia's holdings of monetary gold and foreign exchange, usually referred to as international reserves. These reserves decreased by £4 million in 1959–60, but rose by £39 million in 1960–61.

On the liabilities side, the most important items are public authority debt and private investment in Australian companies.

In 1959–60 and 1960–61, repayments to the International Bank exceeded drawings by £7 million and £8 million respectively. In both years, official borrowings other than from the International Bank showed substantial inflows of £42 million and £20 million respectively. This represented the net proceeds of new loan raisings and conversions less repayments and other sinking fund operations in London, New York, Canada and Switzerland.

Items 2 and 8 relate to Australia's transactions with international monetary and finance agencies. On the assets side (Item 2) are shown increases in subscriptions to these institutions and on the liabilities side (Item 8) are shown corresponding increases in liabilities or changes in liabilities previously incurred. Liabilities comprise, on the one hand, bank balances and special non-negotiable, non-interest bearing securities, payable in Australian currency but convertible by arrangement into foreign currency or gold, related to capital subscriptions to the various agencies and, on the other, drawings from the International Monetary Fund. The principal movement in 1959–60 was an increase of \$100 million in Australia's quota to the International Monetary Fund, in respect of which a gold payment to the value of \$25 million was made to the Fund. The balance therefore represented an increase in the liabilities to the Fund held in Australia in the form of the securities mentioned. There were similar, but smaller, transactions with the International Bank. In 1960–61, the chief item was a drawing of £78 million from the Fund. A more detailed account of these transactions is provided in *The Australian Balance of Payments, 1958–59, 1959–60 and First Half 1960–61* and in Appendix II. of *The Australian Balance of Payments, 1956–57 to 1960–61*.

In the periods shown, capital inflow resulting from overseas investment in Australian companies was substantially greater than net receipts from official loans raised overseas. Excluding life insurance offices, overseas investment in Australian companies rose from £190 million in 1959–60 to £229 million in 1960–61. These amounts included £35 million and £48 million respectively of portfolio investment and £155 million and £181 million of direct investment. The latter included substantial amounts of undistributed income which totalled £69 million in 1959–60 and £62 million in 1960–61.

The balancing item includes errors and omissions and timing differences, referred to on page 508. The increase in the residual from a figure of £9 million in 1959–60 to £102 million in 1960–61 is thought also to have reflected some increases in short-term credits received in connexion with the financing of imports in that year.

**BALANCE OF PAYMENTS ON CAPITAL ACCOUNT: AUSTRALIA.**  
(£A. million.)

Particulars.	1959-60.	1960-61.
<b>CHANGE IN ASSETS.</b>		
1. International Reserves .. .. .	- 4.4	38.8
2. International Agencies .. .. .	50.5	2.1
3. Other Official .. .. .	- 8.5	4.8
4. Marketing Authorities .. .. .	0.5	2.5
5. Portfolio Investment .. .. .	- 4.4	- 4.6
6. Direct investment—		
Branches—		
Unremitted Profits .. .. .	- 0.3	0.3
Other .. .. .	1.2	3.1
Subsidiaries—		
Undistributed Profits .. .. .	3.6	2.4
Other .. .. .	3.3	0.1
	7.8	5.9
<i>Total—Change in Assets</i> .. .. .	<i>41.5</i>	<i>49.5</i>
<b>CHANGE IN LIABILITIES.</b>		
7. Official Loans—		
International Bank for Reconstruction and Development .. .. .	- 7.2	- 7.6
Other Commonwealth States .. .. .	36.7	1.2
Other .. .. .	6.0	19.6
Other .. .. .	- 0.2	- 0.4
Discounts, etc. .. .. .	- 0.5	- 1.1
	34.8	11.7
8. International Agencies .. .. .	35.8	76.9
9. Foreign Banks .. .. .	- 0.9	0.5
10. Portfolio Investment—		
Government Securities Companies, etc. .. .. .	- 2.3	- 1.9
	34.8	47.1
	32.5	45.2
11. Direct Investment—		
Branches—		
Unremitted Profits .. .. .	9.5	6.4
Other .. .. .	22.0	21.6
Subsidiaries—		
Undistributed Profits .. .. .	59.7	55.9
Other .. .. .	63.9	97.5
	155.1	181.4
12. Life Assurance .. .. .	- 2.4	- 0.2
13. Balancing Item .. .. .	8.7	102.4
<i>Total—Change in Liabilities</i> .. .. .	<i>263.6</i>	<i>417.9</i>
<b>Balance on Capital Account</b> .. .. .	<b>222.1</b>	<b>368.4</b>

4. Balance of Payments on Current Account—Major Groups of Countries.—Estimates are also made of Australia's current account transactions with various countries.

The table following shows the balance on current account in 1959-60 and 1960-61 for sterling and non-sterling countries. The latter include the United States of America and Canada, the European Economic Community, the European Free Trade Association (excluding the United Kingdom), the Soviet Area and "other" countries. (See p. 486 for countries included in the several groups.)

**BALANCE OF PAYMENTS ON CURRENT ACCOUNT: AUSTRALIA.**  
**MAJOR GROUPS OF COUNTRIES.**

(£A. million.)

Particulars.	1959-60.	1960-61.
<b>Exports f.o.b.—</b>		
<b>Sterling—</b>		
United Kingdom .. .. .	246.3	208.5
Other .. .. .	169.8	178.6
<b>Non-Sterling—</b>		
North America .. .. .	91.8	89.3
European Economic Community .. .. .	180.1	160.0
European Free Trade Association .. .. .	8.8	9.1
Soviet Area .. .. .	52.1	66.2
Other .. .. .	188.5	225.0
<i>Total</i> .. .. .	937.4	936.7
<b>Imports f.o.b.—</b>		
<b>Sterling—</b>		
United Kingdom .. .. .	-331.9	-340.1
Other .. .. .	-152.7	-152.3
<b>Non-Sterling—</b>		
North America .. .. .	-200.0	-261.9
European Economic Community .. .. .	-109.6	-128.4
European Free Trade Association .. .. .	-40.0	-49.3
Soviet Area .. .. .	-9.0	-9.8
Other .. .. .	-103.1	-141.9
<i>Total</i> .. .. .	-946.3	-1,083.7
<b>Invisibles—</b>		
<b>Sterling—</b>		
United Kingdom .. .. .	-71.7	-66.5
Other .. .. .	-44.9	-45.0
<b>Non-Sterling—</b>		
North America .. .. .	-101.0	-107.4
European Economic Community .. .. .	-18.0	-18.1
European Free Trade Association .. .. .	0.6	0.2
Soviet Area .. .. .	-1.0	-1.1
Other .. .. .	-16.3	-26.9
International Agencies .. .. .	-7.3	-7.6
Gold Production .. .. .	16.4	16.4
<i>Total</i> .. .. .	-243.2	-256.4
<b>Balance on Current Account—</b>		
<b>Sterling—</b>		
United Kingdom .. .. .	-157.3	-198.1
Other .. .. .	-27.8	-18.7
<b>Non-Sterling—</b>		
North America .. .. .	-209.2	-280.0
European Economic Community .. .. .	52.5	13.5
European Free Trade Association .. .. .	-30.6	-40.4
Soviet Area .. .. .	42.1	55.3
Other .. .. .	69.1	56.2
International Agencies .. .. .	-7.3	-7.6
Gold Production .. .. .	16.4	16.4
Import Valuation Adjustment .. .. .	30.0	35.0
<i>Total</i> .. .. .	-222.1	-368.4

NOTE.—Minus sign (—) denotes debits.

## CHAPTER XIV.

## TRANSPORT AND COMMUNICATION.

NOTE.—The statistics in this chapter relate in the main to the year 1960–61, with comparisons restricted to a few recent years. More detailed figures and particulars for earlier years are included in the annual bulletins, *Transport and Communication*, and *Finance, Part I.—Public and Private Finance*, published by this Bureau.

Current information on subjects dealt with in this chapter appears in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, the *Monthly Bulletin of Registrations of New Motor Vehicles* and two preliminary monthly statements on *Registrations of New Motor Vehicles*.

## A. SHIPPING.

## § 1. Control of Shipping.

1. **Commonwealth Navigation and Shipping Legislation.**—By section 51 (i) of the Commonwealth Constitution, the Parliament of the Commonwealth is empowered to make laws in respect of "Trade and commerce with other countries, and among the States". By section 98, this power is further defined as extending to navigation and shipping. Section 51 (vii) empowers the Commonwealth Parliament to legislate in respect of "Lighthouses, lightships, beacons and buoys" and section 51 (ix) in respect of "Quarantine".

A review of the introduction and development of the Navigation Act 1912–1950 was given in Official Year Book No. 40, pages 110–2. Amendments to the Principal Act were made by the Navigation Acts of 1952, 1953, 1956, 1958 and 1961.

Other shipping Acts under the powers of the Commonwealth are the Sea-Carriage of Goods Act 1924–1961, the Seamen's Compensation Act 1911–1960, the Seamen's War Pensions and Allowances Act 1940–1961, the Australian Coastal Shipping Commission Act 1956, the Australian Coastal Shipping Agreement Act 1956 and the Stevedoring Industry Act 1956–1961.

The control of shipping during the 1939–45 War and in the early post-war period, and the establishment of the Maritime Industry Commission (abolished in 1952), the Australian Stevedoring Industry Board (replaced in 1956 by the Australian Stevedoring Industry Authority), and the Australian Shipping Board (replaced in 1956 by the Australian Coastal Shipping Commission) are described in Official Year Books Nos. 36, pages 121–30 and No. 39, pages 147–8.

2. **Australian Coastal Shipping Commission.**—This Commission was established in 1956 for the purpose of maintaining and operating interstate, oversea and territorial shipping services, and replaced the Australian Shipping Board. It operates the Australian National Line, a Commonwealth-owned merchant shipping service which, at 30th June, 1961, comprised 44 vessels totalling 192,201 gross tons.

These included 15 vessels with a gross tonnage of 500 to 3,000; 13 vessels with a gross tonnage of 3,000 to 5,000; 14 vessels with a gross tonnage of 5,000 to 8,000; and 2 vessels with a gross tonnage exceeding 10,000—the bulk ore carriers *Mount Keira* (10,229) and *Mount Kembla* (10,113). The Commission has recently placed an order for a 7,500 ton bulk carrier, and tenders have been called on its behalf for the construction of a passenger-vehicle ship with a displacement of 8,750 tons, for operation between Sydney and Tasmania. This vessel will augment the service already being provided between the mainland and Tasmania

by the *Princess of Tasmania*, the vehicle-container ship *Bass Trader* and the container vessel *South Esk*. The *Princess of Tasmania* commenced operations in October, 1959, and between that time and August, 1961 had carried 148,000 passengers, 37,000 passenger vehicles and 708,000 tons of cargo on commercial vehicles.

3. **Australian Shipbuilding Board.**—(i) *Constitution.* Originally established in 1941 under National Security Regulations, the Board has been reconstituted a number of times since its inception, and in 1948 was constituted on a permanent basis under the control of the Minister for Shipping and Transport. The membership of the Board consists of a Chairman, who is the General Manager, a Deputy Chairman, a Finance Member and two other members, one of whom represents the Naval Board. The staff of the Board are employed under the Public Service Act as officers of the Department of Shipping and Transport.

(ii) *Functions.* The existing functions of the Board, which have been summarized in earlier issues of the Official Year Book, are set out in detail in regulation 22 (4) of the Supply and Developments Regulations.

The Board has functioned since 1941 without a permanent staff organization. In April, 1960, however, the Government recognized the desirability of placing the Board's administration on a more satisfactory basis to enable it to exercise its functions on a long-term basis. To this end a permanent staff organization is in course of preparation by the Department of Shipping and Transport for the approval of the Public Service Board.

(iii) *Construction Programme.* From its inception to 30th June, 1961, the Board had arranged for the construction of 69 vessels totalling 443,301 tons deadweight. During the war, the Board was also responsible for the construction of numerous small craft and a 1,000 ton floating dock.

Current orders at 30th June, 1961, placed by the Board, were for the construction of 8 vessels totalling 113,200 deadweight tons. The vessels consisted of one 32,250 dw.t. oil tanker on behalf of Ampol Petroleum Ltd., two 21,400 dw.t. bulk carriers for Broken Hill Pty. Ltd., two bulk ore carriers each of 16,400 dw.t. on behalf of Bulkships Ltd., one 2,500 dw.t. passenger-cargo vessel for the State Shipping Service of Western Australia, one 2,000 dw.t. container vessel for Wm. Holyman and Sons Pty. Ltd., and one 850 dw.t. roll-on roll-off passenger-cargo ferry for the Adelaide Steamship Co. Ltd.

In addition, orders have been placed by the Board for a survey vessel for the Department of the Navy, two 70-foot landing craft for the Department of the Army and three new motor ships, each of 1,800 tons, for the Commonwealth Lighthouse Service.

4. **Australian Stevedoring Industry Authority.**—In March, 1947, legislation established a permanent Stevedoring Industry Commission to continue in peace-time the functions performed during the war by the Commission established under National Security legislation. In June, 1949, legislation was enacted to abolish the Stevedoring Industry Commission on which employers and employees were represented, and established in its place a Stevedoring Industry Board of three members, which attended to administrative matters formerly under the control of the Commission, such as the operation of labour bureaux at ports, payment of attendance money and provision of amenities. The industrial functions which previously came within the province of the Commission were assigned to a single Judge of the Commonwealth Court of Conciliation and Arbitration. In August, 1956, following a Committee of Inquiry into the stevedoring industry, the Stevedoring Industry Board was replaced by the Australian Stevedoring Industry Authority of three members, including a representative of the management side of industry and a representative of the trade union movement. At the same time, the judicial and non-judicial functions formerly exercised by the Commonwealth Court of Conciliation and Arbitration were divided between the Commonwealth Industrial Court and the Commonwealth Conciliation and Arbitration Commission respectively. Awards of the Conciliation and Arbitration Commission subsequently placed payment of sick pay, public holiday pay and annual leave under the administration of the Authority. Under amending legislation which operated from 6th June, 1961, the Authority became responsible for payment of long service leave to registered waterside workers, and its disciplinary powers were strengthened to reduce the time lost through unauthorized stoppages. The statutory provisions regulating the industry are now contained in the Stevedoring Industry Act 1956–1961 and in Division 4 of Part III of the Conciliation and Arbitration Act 1904–1961.



## § 2. System of Record.

In the system of recording statistics of oversea shipping, Australia is considered as a unit, and therefore only one entry and one clearance are counted for each voyage, without regard to the number of States visited (*see also* § 4, p. 517).

On arrival at, or departure from, a port in Australia, whether from or for an oversea country or from or for another port in Australia, the master or agent must "enter" the vessel with the Customs authorities at the port, and supply certain prescribed information in regard to the ship, passengers and cargo. At the end of each month, the information so obtained is forwarded to the Bureau of Census and Statistics. This information relates, in the main, only to vessels engaged in the carriage of passengers and/or cargo between Australian States or between Australia and oversea countries.

The size of a vessel may be expressed in a number of ways. A vessel's gross tonnage, expressed in tons of 100 cubic feet, represents the total volume of the enclosed space, i.e. a ship of 25,000 tons has a total enclosed capacity of 2,500,000 cubic feet. Its net tonnage, expressed in tons of 100 cubic feet, represents the volume of enclosed space that can be used for cargo or passengers. Its displacement is its total weight and is expressed in tons of 2,240 lb. Its deadweight tonnage is the difference between the displacement of the vessel loaded to its summer deadline and the displacement light, i.e. it is the weight the vessel can carry, including the weight of bunkers and stores. Net tonnage is the concept generally used in the tables in this chapter but since it can give a misleading impression of the size of ships which have a function other than carrying passengers and cargo (e.g. a tug has no net tonnage), certain figures are also given for deadweight tons and tons gross.

Most of the cargo is recorded in terms of the ton weight of 2,240 lb. However, some additional cargo, mainly bulky commodities, is shipped and recorded on the basis of 40 cubic feet of space used representing 1 ton measurement.

Except in § 5. Shipping at Principal Ports (page 520), intra-State (coastal) movements of vessels, including those of vessels engaged solely in trade within State limits, are excluded from the statistics in the following pages.

## § 3. Oversea Shipping.

1. **Total Movement.**—The following table shows the number of entrances and clearances combined of oversea vessels at Australian ports, and the aggregate net tonnage, during each of the years 1956–57 to 1960–61.

OVERSEA SHIPPING: ENTRANCES AND CLEARANCES (COMBINED) OF VESSELS DIRECT, AUSTRALIA.

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Number of Vessels .. .. .	5,290	5,254	5,463	5,945	6,778
Net Tonnage .. .. . '000 tons	23,659	24,515	26,019	28,874	34,317

Particulars of the total oversea movement of shipping for each year from 1822 to 1920–21 were published in Official Year Book No. 15, page 507, and for each year from 1921–22 to 1950–51 in Official Year Book No. 40, page 97.

2. **Total Oversea Shipping, States.**—The following table shows, for each State and the Northern Territory, the number of entrances and clearances of vessels direct from and to oversea countries, and the aggregate net tonnage, during the year 1960–61.

**OVERSEA SHIPPING: ENTRANCES AND CLEARANCES OF VESSELS DIRECT,  
1960-61.**

Particulars.		N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Entrances	No.	1,160	519	474	255	873	60	41	3,382
	'000 net tons	5,643	3,451	1,715	1,034	5,129	218	79	17,269
Clearances	No.	963	477	679	278	924	42	33	3,396
	'000 net tons	4,857	3,123	2,556	1,117	5,130	196	69	17,048

3. **Shipping Communication with Various Countries.**—A vessel arriving in Australia from overseas is recorded as coming from the country where the voyage commenced, irrespective of the number of intermediate ports of call. Similarly, a vessel leaving Australia is recorded as going to the country where the voyage is scheduled to terminate.

The following table shows statistics of the net tonnage entered and cleared, with cargo and in ballast, according to the principal countries where vessels commenced or terminated their voyages to or from Australia.

**OVERSEA SHIPPING: COUNTRIES FROM WHICH ENTERED OR FOR WHICH  
CLEARED, AUSTRALIA.**

('000 Net Tons.)

Country from which Entered or for which Cleared.	With Cargo or in Ballast.	Entered.			Cleared.		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
United Kingdom	Cargo	1,656	1,570	1,714	2,079	1,939	2,137
	Ballast	51	33	54	39	44	64
New Zealand	Cargo	686	750	760	1,061	1,162	1,261
	Ballast	497	530	615	79	73	82
Other Commonwealth Countries	Cargo	2,392	2,646	2,862	1,943	2,202	2,236
	Ballast	369	265	423	835	959	627
Arabian States	Cargo	1,684	2,189	2,180	27	195	140
	Ballast	20	17	6	2,269	2,453	2,723
Indonesia	Cargo	1,091	1,291	1,391	112	104	175
	Ballast	120	114	186	896	775	858
Iran	Cargo	1,190	798	1,111	23	86	99
	Ballast	7	20	21	241	245	521
Japan	Cargo	555	739	1,065	893	1,288	2,013
	Ballast	390	893	1,405	25	27	26
United States of America	Cargo	674	723	982	590	623	720
	Ballast	4	6	8	17	21	45
Other Foreign Countries	Cargo	1,421	1,741	2,224	1,773	2,064	3,123
	Ballast	140	153	262	170	136	198
Total	Cargo	11,349	12,447	14,289	8,501	9,663	11,904
	Ballast	1,598	2,031	2,980	4,571	4,733	5,144
Total, with Cargo and in Ballast		12,947	14,478	17,269	13,072	14,396	17,048

4. **Country of Registration of Oversea Shipping.**—Vessels registered at ports in Commonwealth countries accounted for 50.0 per cent. of the net tonnage of shipping entering Australian ports in 1960-61. This proportion has varied considerably since the end of the 1939-45 War. By 1946-47, the proportion had increased from the low level of 43.4 per cent. recorded in 1943-44 to 76.2 per cent., but since then has declined.

Particulars of oversea shipping which entered Australian ports during each of the years 1958-59 to 1960-61 are given in the following table according to country of registration of vessels.

**OVERSEA SHIPPING: COUNTRY OF REGISTRATION OF VESSELS  
ENTERED, AUSTRALIA.**  
(<sup>'000</sup> Net Tons.)

Vessels Registered at Ports in—	1958-59.	1959-60.	1960-61.	Vessels Registered at Ports in—	1958-59.	1959-60.	1960-61.
<i>Commonwealth Countries—</i>				<i>Foreign Countries—</i>			
Australia ..	382	391	269	<i>continued—</i>			
New Zealand ..	425	451	343	Norway ..	1,626	1,776	2,045
United Kingdom ..	5,393	6,305	7,390	Panama ..	404	595	462
Other ..	438	472	633	Sweden ..	510	421	624
				U.S.A. ..	355	320	307
				Other ..	680	860	1,698
In Cargo ..	5,767	6,574	7,375				
In Ballast ..	871	1,045	1,260	In Cargo ..	5,582	5,873	6,914
				In Ballast ..	727	986	1,720
<i>Total Commonwealth Countries</i> ..	<i>6,638</i>	<i>7,619</i>	<i>8,635</i>	<i>Total Foreign Countries</i>	<i>6,309</i>	<i>6,859</i>	<i>8,634</i>
<i>Proportion of total</i> %	<i>51.3</i>	<i>52.6</i>	<i>50.0</i>	<i>Proportion of total</i> %	<i>48.7</i>	<i>47.4</i>	<i>50.0</i>
<i>Foreign Countries—</i>				<i>All Countries—</i>			
Denmark ..	282	331	493	In Cargo ..	11,349	12,447	14,289
France(a) ..	327	342	324	Proportion of total %	87.7	86.0	82.7
Germany, Federal Republic of ..	120	155	245	In Ballast ..	1,598	2,031	2,980
Italy ..	505	532	532	Proportion of total %	12.3	14.0	17.3
Japan ..	752	779	907				
Netherlands ..	748	748	997	Grand Total ..	12,947	14,478	17,269

(a) Includes New Caledonia (68 during 1960-61).

The Australian tonnage which entered Australian ports from overseas during the year 1960-61 represented 1.6 per cent. of the total tonnage entered and was confined mainly to the New Zealand and Pacific Islands trade.

The proportion of overseas shipping tonnage which entered Australia in cargo was 82.7 per cent. in 1960-61, and has ranged about this figure in recent years. The proportion of shipping which cleared in cargo was considerably lower (69.8 per cent.), also in keeping with the corresponding figures for recent years.

#### § 4. Interstate Shipping.

1. *System of Record.*—*Interstate Shipping* comprises two elements: (a) vessels engaged solely in interstate trade; and (b) vessels trading between Australia and overseas countries and in the course of their voyages proceeding from one State to another. (However, these vessels, except under special circumstances, do not engage in interstate carrying. Numerous overseas vessels obtain single voyage permits or exemptions under the Navigation Act. Such vessels include overseas tankers carrying petroleum products interstate, and, since the withdrawal of interstate passenger liners, other overseas vessels, under permit, carrying passengers and frozen cargo on the interstate run). No complexity enters into the record of those in category (a), but with regard to the method of recording the movements of the overseas vessels (b), some explanation is necessary. Each State desires that its shipping statistics should show in full its shipping communication with overseas countries, but at the same time it is necessary to avoid any duplication in the statistics for Australia as a whole. In order to meet these dual requirements, a vessel arriving in any State from an overseas country—say the United Kingdom—via another State, is recorded in the second State as from the United Kingdom “Oversea via States”, thus distinguishing the movement from a direct overseas entry. Continuing the voyage, the vessel is again recorded for the statistics of the third State as from the United Kingdom “Oversea via States”. On an inward voyage, the clearance from the first State to the second State is a clearance interstate, and is included with interstate tonnage in conformity with the pre-federation practice of the States, and to preserve the continuity of State statistics. Thus, movements of ships which are, from the standpoint of Australia as a whole, purely coastal movements, must for the individual States be recorded as “Oversea via States” or “Interstate” according to the direction of the movement. The significance of the record of these movements will be seen more clearly

from the following tabular presentation of the inward and outward voyages to and from Australia of an oversea vessel which, it is presumed, reaches Fremantle (Western Australia) and then proceeds to the terminal port of the voyage—Sydney (New South Wales)—via South Australia and Victoria. From the terminal port the vessel will commence the outward voyage and retrace its inward track.

#### ITINERARY OF AN OVERSEA VESSEL ON THE AUSTRALIAN COAST.

Particulars.	Recorded as—		
	For the State and for Australia.	For the States.	
	1.	2.	3.
<b>Inward Voyage—</b>			
Enters Fremantle from United Kingdom	Oversea direct		
Clears Fremantle for Adelaide .. ..		Interstate direct	
Enters Adelaide from United Kingdom via Fremantle .. ..			Oversea via States
Clears Adelaide for Melbourne .. ..		Interstate direct	
Enters Melbourne from United Kingdom via Adelaide .. ..			Oversea via States
Clears Melbourne for Sydney .. ..		Interstate direct	
Enters Sydney from United Kingdom via Melbourne .. ..			Oversea via States
<b>Outward Voyage—</b>			
Clears Sydney for United Kingdom via Melbourne .. ..			Oversea via States
Enters Melbourne from Sydney .. ..		Interstate direct	
Clears Melbourne for United Kingdom via Adelaide .. ..			Oversea via States
Enters Adelaide from Melbourne .. ..		Interstate direct	
Clears Adelaide for United Kingdom via Fremantle .. ..			Oversea via States
Enters Fremantle from Adelaide .. ..		Interstate direct	
Clears Fremantle for United Kingdom ..	Oversea direct		

From the method outlined above, the requirements for Australia and for the individual States are ascertained as follows. (a) The aggregate of all ships recorded for each State as "Oversea direct" gives the oversea shipping for Australia as a whole; (b) the aggregate for all ships recorded in any State as "Oversea direct" plus those recorded as "Oversea via States" gives the total *oversea shipping* for that State; and (c) the aggregate for all ships recorded as "Oversea via States" may also be used, together with those recorded as "Interstate direct" (including those engaged solely in interstate movement) to furnish figures showing the total *interstate movement* of shipping.

2. **Interstate Movement.**—(i) *Interstate Direct.* The following table shows the number of entrances and the net tonnage of vessels recorded into each State and the Northern Territory from any other State (including oversea vessels on interstate direct voyages as in column 2 above) during each of the years 1958-59 to 1960-61.

#### INTERSTATE MOVEMENT OF SHIPPING: ENTRANCES OF VESSELS INTERSTATE DIRECT.

State or Territory.	Number.			Net Tons ('000).		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	1,865	1,903	1,883	5,172	5,493	5,780
Victoria .. ..	1,729	1,720	1,637	4,639	4,640	4,809
Queensland .. ..	701	747	799	1,853	1,947	2,030
South Australia .. ..	1,066	1,060	1,103	3,575	3,518	3,726
Western Australia .. ..	525	596	671	2,509	2,759	3,303
Tasmania .. ..	1,068	1,073	1,100	1,115	1,257	1,472
Northern Territory .. ..	54	70	66	82	128	107
<b>Australia .. ..</b>	<b>7,008</b>	<b>7,169</b>	<b>7,259</b>	<b>18,945</b>	<b>19,742</b>	<b>21,227</b>

(ii) *Oversea via States.* The figures in the following table show the number of entrances and clearances of vessels to and from oversea countries via other Australian States as in column 3 in the table in para. 1 above, and their aggregate net tonnage.

**INTERSTATE MOVEMENT OF SHIPPING: ENTRANCES AND CLEARANCES OF VESSELS OVERSEAS VIA OTHER AUSTRALIAN STATES, 1960-61.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Entrances .. No.	779	898	453	592	46	194	4	2,966
'000 net tons	4,011	4,529	2,057	2,853	257	856	1	14,564
Clearances .. No.	833	812	262	486	13	177	6	2,589
'000 net tons	3,938	4,145	1,205	2,301	72	794	18	12,473

(iii) *Total Interstate Movement.* In order to ascertain the aggregate movement of interstate shipping, including the total interstate movement of oversea vessels, the figures in the two preceding tables must be combined. The following table shows, for each State and the Northern Territory, the number of entrances and clearances of vessels from and for other States (including the interstate movement of oversea vessels) during the year 1960-61, together with the aggregate net tonnage.

**INTERSTATE MOVEMENT OF SHIPPING: TOTAL, 1960-61.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Entrances .. No.	2,662	2,535	1,252	1,695	717	1,294	70	10,225
'000 net tons	9,791	9,338	4,087	6,579	3,560	2,328	108	35,791
Clearances .. No.	2,869	2,583	1,069	1,716	674	1,299	66	10,276
'000 net tons	10,548	9,741	3,282	6,595	3,417	2,328	95	36,006

The following table shows the total interstate movement of shipping, including oversea vessels travelling overseas via States and interstate direct, for Australia for each of the years 1956-57 to 1960-61.

**INTERSTATE MOVEMENT OF SHIPPING: TOTAL, AUSTRALIA.**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Entrances .. .. No.	8,505	9,093	9,446	9,866	10,225
'000 net tons	27,962	29,464	30,932	32,857	35,791
Clearances .. .. No.	8,480	9,093	9,425	9,819	10,276
'000 net tons	27,763	29,553	30,842	32,622	36,006

3. *Shipping Engaged Solely in Interstate Trade.*—The following table shows, for each State and the Northern Territory, the number of entrances direct from other States of vessels engaged solely in interstate trade (i.e., excluding oversea vessels in continuation of their oversea voyages) during the year 1960-61, together with the net tonnage.

**SHIPPING ENGAGED SOLELY IN INTERSTATE TRADE (a): ENTRANCES, 1960-61.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Ships entered ..	1,249	1,038	454	832	238	891	56	4,758
Net tons .. '000	3,054	1,698	680	2,279	834	949	79	9,573

(a) Excludes vessels travelling interstate via ports in the same State.

4. **Australian Trading Vessels.**—The following table shows particulars of all Australian trading vessels of 200 gross tons or more engaged in the regular oversea, interstate or coastal (intrastate) services at 30th June, 1961.

**AUSTRALIAN TRADING VESSELS(a) OF 200 GROSS TONS OR MORE  
AT 30TH JUNE, 1961.**

Vessels.	No.	Deadweight Tons.	Gross Tons.
<b>Interstate Vessels—</b>			
Australian-owned, Australian-registered Vessels ..	109	595,116	441,404
New Zealand-owned, Australian-registered engaged in Australian Coastal Trade .. .. .	9	24,780	21,028
<i>Total Interstate Vessels</i> .. .. .	<i>118</i>	<i>619,896</i>	<i>462,432</i>
<b>Intrastate Vessels</b> .. .. .	26	29,016	23,715
<i>Total Coastal Trading Vessels</i> .. .. .	<i>144</i>	<i>648,912</i>	<i>486,147</i>
<b>Overseas Trading Vessels—</b>			
Australian-owned, Australian-registered operated mainly on Overseas Services .. .. .	7	27,243	30,971
Australian-owned Overseas-registered operated wholly on Overseas Services .. .. .	11	114,108	82,989
<i>Total Overseas Trading Vessels</i> .. .. .	<i>18</i>	<i>141,351</i>	<i>113,960</i>
<b>Total Australian Trading Vessels</b> .. .. .	<b>162</b>	<b>790,263</b>	<b>600,107</b>

(a) Includes 11 vessels of 82,989 gross tons not registered in Australia.

### § 5. Shipping at Principal Ports.

NOTE.—For details of Harbour Boards and Trusts in each State see Chapter XIX., § 6.

1. **Total Shipping, Australia.**—The following table shows the total volume of shipping—overseas, interstate and coastal—which entered the principal ports of Australia during the years 1959–60 and 1960–61. The movements of warships and of other non-commercial vessels are excluded from the table.

**TOTAL SHIPPING: ENTRANCES AT PRINCIPAL PORTS, AUSTRALIA.**

Port of Entry.	1959–60.		1960–61.		Port of Entry.	1959–60.		1960–61.	
	Num-ber.	Net Tons.	Num-ber.	Net Tons.		Num-ber.	Net Tons.	Num-ber.	Net Tons.
		'000.		'000.			'000.		'000.
<b>New South Wales—</b>					<b>South Australia—</b>				
Sydney(a) ..	4,794	13,349	4,689	14,627	Adelaide ..	2,658	5,463	2,727	5,882
Newcastle ..	2,442	4,620	2,232	4,980	Port Lincoln ..	431	465	310	389
Port Kembla ..	921	2,919	1,002	3,346	Port Pirie ..	392	901	434	950
					Rapid Bay ..	112	156	68	157
					Walleroo ..	45	103	133	261
					Whyalla ..	461	1,505	455	1,586
<b>Victoria—</b>					<b>Western Australia—</b>				
Melbourne ..	2,743	10,160	3,016	11,855	Fremantle(b) ..	1,273	6,602	1,476	8,047
Geelong ..	549	2,799	575	3,132	Albany ..	134	562	131	602
					Bunbury ..	119	409	127	485
					Carnarvon ..	76	117	73	113
					Geraldton ..	97	303	122	410
					Yampi ..	142	413	147	594
<b>Queensland—</b>					<b>Tasmania—</b>				
Brisbane ..	1,417	4,675	1,453	4,998	Hobart ..	488	1,237	481	1,303
Bowen ..	38	119	37	93	Burnie ..	316	550	330	641
Cairns ..	292	658	303	631	Devonport ..	364	463	352	556
Gladstone ..	99	356	64	228	Launceston ..	519	566	490	528
Mackay ..	120	283	92	252					
Rockhampton ..	106	242	80	208	<b>Northern Territory—</b>				
Townsville ..	365	1,077	370	1,118	Darwin ..	118	232	112	186

(a) Includes Botany Bay.

(b) Includes Kwinana.

2. Total Shipping—Australia, New Zealand and the United Kingdom.—The following table shows the total shipping tonnage which entered the principal ports of Australia during 1960–61 and of New Zealand and the United Kingdom during 1961.

**TOTAL SHIPPING: ENTRANCES AT PORTS, AUSTRALIA, NEW ZEALAND AND THE UNITED KINGDOM.**

(\*000 Net Tons.)

Port.	Net Tonnage Entered.	Port.	Net Tonnage Entered.	Port.	Net Tonnage Entered.
<b>AUSTRALIA —</b>		<b>NEW ZEALAND—</b>		<b>ENGLAND AND WALES—</b>	
Sydney (N.S.W.) ..	14,627	Wellington ..	4,842	<i>continued.</i>	
Melbourne (Vic.) ..	11,855	Auckland ..	4,535	Tyne Ports ..	7,713
Fremantle (W.A.) ..	8,047	Lyttleton ..	3,409	Bristol ..	5,957
Adelaide (S.A.) ..	5,882	Otago ..	1,539	Hull ..	5,704
Brisbane (Qld.) ..	4,998	Napier ..	1,170	Dover ..	6,342
Newcastle (N.S.W.)	4,980	Taranaki ..	1,018	Swansea ..	4,184
Port Kembla		Bluff ..	881	Middlesbrough ..	4,876
(N.S.W.) ..	3,346			Cardiff ..	3,272
Geelong (Vic.) ..	3,132	<b>ENGLAND AND WALES—</b>			
Whyalla (S.A.) ..	1,586	London ..	44,397	<b>SCOTLAND—</b>	
Hobart (Tas.) ..	1,303	Southampton ..	24,517	Glasgow ..	8,263
Townsville (Qld.) ..	1,118	Liverpool (including			
Port Pirie (S.A.) ..	950	Birkenhead) ..	21,888	<b>NORTHERN IRELAND—</b>	
Burnie (Tas.) ..	641	Manchester (including		Belfast ..	7,886
Cairns (Qld.) ..	631	Runcorn) ..	6,808		

**§ 6. Shipping Cargo.**

1. Oversea and Interstate Cargo.—(i) *Australia.* The table hereunder shows the aggregate tonnage of oversea and interstate cargo discharged and shipped at Australian ports for the years 1956–57 to 1960–61. Most of the cargo is recorded in terms of the ton weight of 2,240 lb., the remainder, mainly bulky commodities, being shipped and recorded on the basis of 40 cubic feet of space occupied representing 1 ton measurement.

**SHIPPING CARGO MOVEMENT: AUSTRALIA.**

(\*000 Tons.)

Year.	Oversea Cargo.				Interstate Cargo.			
	Discharged.		Shipped.		Discharged.		Shipped.	
	Weight.	Meas.	Weight.	Meas.	Weight.	Meas.	Weight.	Meas.
1956–57 ..	12,596	2,752	8,734	1,378	11,862	1,285	11,899	1,290
1957–58 ..	13,719	2,914	7,366	1,489	12,621	1,335	12,614	1,157
1958–59 ..	14,232	2,666	8,646	1,469	12,236	1,288	12,345	1,047
1959–60 ..	15,458	3,263	10,108	1,479	12,535	1,562	12,923	1,360
1960–61 ..	17,265	3,801	13,748	1,551	13,130	1,622	13,713	1,473

(ii) *Principal Ports.* The following table shows the tonnage of oversea and interstate cargo discharged and shipped at the principal ports of Australia during 1960-61.

**CARGO DISCHARGED AND SHIPPED AT PRINCIPAL PORTS, 1960-61.**

(<sup>000 Tons.</sup>)

Port.	Discharged.				Shipped.			
	Oversea.		Interstate.		Oversea.		Interstate.	
	Wt.	Meas.	Wt.	Meas.	Wt.	Meas.	Wt.	Meas.
Sydney .. .. .	2,209	1,334	701	198	1,865	375	529	137
Botany Bay .. .. .	3,117	..	22	..	86	..	696	..
Newcastle .. .. .	410	..	1,833	1	1,570	..	2,320	..
Port Kembla .. .. .	516	..	3,620	..	924	..	674	..
Other .. .. .	7	..	4	..	28	11	..	..
<i>Total, New South Wales</i> .. .. .	<i>6,259</i>	<i>1,334</i>	<i>6,180</i>	<i>199</i>	<i>4,473</i>	<i>386</i>	<i>4,219</i>	<i>137</i>
Melbourne .. .. .	3,020	1,548	1,625	611	758	515	550	528
Geelong .. .. .	2,631	52	618	..	1,294	..	941	1
Portland .. .. .	56	..	51	..	56	..	5	..
<i>Total, Victoria</i> .. .. .	<i>5,707</i>	<i>1,600</i>	<i>2,294</i>	<i>611</i>	<i>2,108</i>	<i>515</i>	<i>1,496</i>	<i>529</i>
Brisbane .. .. .	362	316	749	129	401	107	36	34
Cairns .. .. .	34	1	73	15	169	10	19	15
Gladstone .. .. .	25	..	66	..	55	..	21	..
Mackay .. .. .	7	..	51	..	313	..	18	..
Townsville .. .. .	30	1	180	14	459	..	42	1
Other .. .. .	1	..	32	4	168	3	410	73
<i>Total, Queensland</i> .. .. .	<i>459</i>	<i>318</i>	<i>1,151</i>	<i>162</i>	<i>1,565</i>	<i>120</i>	<i>546</i>	<i>123</i>
Port Adelaide .. .. .	440	393	1,578	83	440	200	196	45
Ardrossan .. .. .	..	..	..	..	126	..	205	..
Port Lincoln .. .. .	54	4	40	..	342	..	13	..
Port Pirie .. .. .	9	..	189	..	490	..	286	..
Rapid Bay .. .. .	..	..	..	..	..	..	265	..
Whyalla .. .. .	..	..	284	..	113	..	3,604	..
Other .. .. .	49	3	3	..	489	11	206	13
<i>Total, South Australia</i> .. .. .	<i>552</i>	<i>400</i>	<i>2,094</i>	<i>83</i>	<i>2,000</i>	<i>211</i>	<i>4,775</i>	<i>58</i>
Fremantle .. .. .	3,624	121	528	64	2,467	104	1,148	51
Bunbury .. .. .	81	..	14	..	297	69	30	5
Geraldton .. .. .	44	..	1	..	340	1	1	..
Yampi .. .. .	..	..	5	..	..	..	1,091	..
Other .. .. .	84	2	38	2	374	7	15	1
<i>Total, Western Australia</i> .. .. .	<i>3,833</i>	<i>123</i>	<i>586</i>	<i>66</i>	<i>3,478</i>	<i>181</i>	<i>2,285</i>	<i>57</i>
Hobart .. .. .	152	16	460	159	37	124	218	149
Burnie .. .. .	51	4	95	35	33	1	35	136
Launceston .. .. .	152	5	103	57	33	5	34	47
Other .. .. .	13	1	111	250	2	8	96	237
<i>Total, Tasmania</i> .. .. .	<i>368</i>	<i>26</i>	<i>769</i>	<i>501</i>	<i>105</i>	<i>138</i>	<i>383</i>	<i>569</i>
Darwin, Northern Territory .. .. .	87	..	56	..	19	..	9	..
<b>Australia</b> .. .. .	<b>17,265</b>	<b>3,801</b>	<b>13,130</b>	<b>1,622</b>	<b>13,748</b>	<b>1,551</b>	<b>13,713</b>	<b>1,473</b>



2. **Oversea Cargo according to Country of Registration of Vessels.**—The following table shows the total oversea cargo, discharged and shipped combined, according to the country in which the vessels were registered, during each of the years 1958–59 to 1960–61.

**OVERSEA CARGO DISCHARGED AND SHIPPED: COUNTRY OF REGISTRATION OF VESSELS, AUSTRALIA.**

(\*000 Tons.)

Vessels Registered at Ports in—	1958–59.		1959–60.		1960–61.	
	Weight.	Meas.	Weight.	Meas.	Weight.	Meas.
<b>Commonwealth Countries—</b>						
Australia .. .. .	363	92	484	113	273	106
Hong Kong .. .. .	213	40	218	68	606	68
New Zealand .. .. .	540	327	617	380	507	404
United Kingdom .. .. .	8,758	2,253	10,606	2,527	12,457	2,703
Other .. .. .	456	182	568	164	612	167
<i>Total, Commonwealth Countries</i> .. .. .	<i>10,330</i>	<i>2,894</i>	<i>12,493</i>	<i>3,252</i>	<i>14,455</i>	<i>3,448</i>
Proportion of Total %	45.2	70.0	48.9	68.6	46.6	64.4
<b>Foreign Countries—</b>						
Denmark .. .. .	708	38	841	46	1,042	33
France and New Caledonia .. .. .	580	55	527	81	465	82
Germany, Federal Republic of .. .. .	323	81	423	141	476	240
Italy .. .. .	439	59	428	58	384	84
Japan .. .. .	1,587	131	1,539	154	1,879	210
Netherlands .. .. .	1,136	260	916	322	1,322	314
Norway .. .. .	3,912	207	4,117	260	4,628	354
Panama .. .. .	865	12	1,259	10	856	56
Sweden .. .. .	1,218	186	953	202	1,108	152
United States of America .. .. .	244	191	305	181	299	138
Other .. .. .	1,536	21	1,765	35	4,099	241
<i>Total, Foreign Countries</i> .. .. .	<i>12,548</i>	<i>1,241</i>	<i>13,073</i>	<i>1,490</i>	<i>16,558</i>	<i>1,904</i>
Proportion of Total %	54.8	30.0	51.1	31.4	53.4	35.6
<b>Grand Total</b> .. .. .	<b>22,878</b>	<b>4,135</b>	<b>25,566</b>	<b>4,742</b>	<b>31,013</b>	<b>5,352</b>

**§ 7. Vessels Registered in Australia.**

1. **Australian-registered Trading Vessels.**—The following table shows the number and gross tonnage of trading vessels of 200 tons and over registered in Australia at 30th June, 1961, classified according to—(i) year of construction, 1957 to 1961, and 1956 and earlier years, (ii) type of trade in which the vessels were engaged, and (iii) vessels built in Australian or in oversea shipyards. The statistics in this table have been compiled by the Australian Department of Shipping and Transport. The Merchant Shipping Act, under which vessels are registered in Australia, does not make it compulsory to register vessels under 15 tons burden if engaged in river or coastal trade. Larger vessels are also exempt from registration if not engaged in trade. Yachts and small trading vessels may be, and frequently are, registered at the request of the owners.

## AUSTRALIAN-REGISTERED TRADING VESSELS, 30TH JUNE, 1961.(a)

Year of Construction.	Oversea and Interstate Vessels.		Intrastate Vessels.		Built in Australian Yards.		Built Overseas.		Total.	
	No.	Gross Tons.	No.	Gross Tons.	No.	Gross Tons.	No.	Gross Tons.	No.	Gross Tons.
1956 and earlier .. .. .	95	332,412	26	23,715	53	194,801	68	161,326	121	356,127
1957 .. .. .	11	46,166	..	..	6	33,881	5	12,285	11	46,166
1958 .. .. .	8	39,046	..	..	3	21,949	5	17,097	8	39,046
1959 .. .. .	6	33,155	..	..	4	26,945	2	6,210	6	33,155
1960 .. .. .	3	24,458	..	..	3	24,458	..	..	3	24,458
1961 .. .. .	2	18,166	..	..	2	18,166	..	..	2	18,166
<b>Total Registered in Australia ..</b>	<b>125</b>	<b>493,403</b>	<b>26</b>	<b>23,715</b>	<b>71</b>	<b>320,200</b>	<b>80</b>	<b>196,918</b>	<b>151</b>	<b>517,118</b>

(a) 200 gross tons and over.

Figures in this table are shown in gross tons, and are therefore not comparable with those in the table following, which relate to *all* registered vessels irrespective of tonnage and type.

2. **Vessels Registered.**—The following table shows the number and net tonnage of steam, sailing and other vessels on the register of each State and the Northern Territory at 31st December, 1961.

## VESSELS REGISTERED, 31st DECEMBER, 1961.

State or Territory.	Steam and Motor.		Sailing.				Barges, Hulks, Dredges, etc., not Self-propelled.		Total.	
			Propelled by Sail only.		Fitted with Auxiliary Power.					
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.
New South Wales ..	300	48,179	110	1,306	25	2,001	11	1,440	446	52,926
Victoria ..	151	156,803	48	1,079	73	1,400	22	7,002	294	166,284
Queensland ..	87	35,464	30	582	46	518	4	830	167	37,394
South Australia ..	44	25,319	2	15	54	2,370	8	1,868	108	29,572
Western Australia ..	97	11,877	209	3,153	79	1,852	5	478	390	17,360
Tasmania ..	50	13,566	42	693	108	2,942	2	308	202	17,509
Northern Territory ..	..	..	16	154	10	208	..	..	26	362
<b>Australia ..</b>	<b>729</b>	<b>291,208</b>	<b>457</b>	<b>6,982</b>	<b>395</b>	<b>11,291</b>	<b>52</b>	<b>11,926</b>	<b>1,633</b>	<b>321,407</b>

3. **World Shipping Tonnage.**—At 1st July, 1961, the total steamships, motorships and auxiliaries of 100 gross tons and upwards throughout the world amounted to 37,792, with a gross tonnage of 135,915,958. Of these totals, steamships numbered 13,548 for 74,256,787 gross tons, motorships 23,364 for 61,496,502 gross tons, and auxiliaries 880 for 162,669 gross tons. Included therein were 4,708 oil tankers of 100 gross tons and upwards, with a gross tonnage of 43,848,760. Australian steamships, motorships and auxiliaries, 314 for 593,080 gross tons, constituted 0.83 per cent. and 0.44 per cent. respectively of the total number and tonnage. This information has been derived from *Lloyd's Register of Shipping*.

## § 8. Miscellaneous.

1. Lighthouses.—A list of the principal lighthouses on the coast of Australia, giving details of the location, number, colour, character, period, candle-power and visibility of each light so far as particulars are available, will be found in *Transport and Communication*, Bulletin No. 46.

2. Distances by Sea.—The distances by sea between principal ports of Australia and some important ports in other countries which trade with Australia are shown in the following table.

DISTANCES BY SEA BETWEEN PRINCIPAL AUSTRALIAN PORTS, AND BETWEEN VARIOUS AUSTRALIAN AND OVERSEA PORTS.(a)  
(Nautical Miles.)

To—	Distance from—					
	Sydney.	Melbourne.	Brisbane.	Adelaide.	Fremantle.	Hobart.
<b>Australian Ports—</b>						
Adelaide .. ..	965	515	1,480	..	1,378	772
Brisbane .. ..	523	1,090	..	1,480	2,664	1,141
Cairns .. ..	1,255	1,821	837	2,205	(b) 3,067	1,875
Darwin .. ..	(b) 2,474	(b) 3,047	(b) 2,048	(c) 3,180	1,848	(b) 3,102
Fremantle .. ..	2,157	1,700	2,664	1,378	..	1,829
Hobart .. ..	633	473	1,141	772	1,829	..
Mackay .. ..	918	1,484	497	1,867	(d) 3,060	1,536
Melbourne .. ..	580	..	1,090	515	1,700	473
Newcastle .. ..	69	637	460	1,029	2,214	690
Sydney .. ..	..	580	523	965	2,157	633
Townsville .. ..	1,104	1,670	684	2,063	(d) 3,219	1,723
<b>Oversea Ports—</b>						
Auckland .. ..	1,274	1,644	1,358	2,035	3,202	1,517
Buenos Aires .. ..	(e) 7,269	(e) 7,384	(e) 7,482	(e) 7,775	8,660	(f) 7,095
Cape Town .. ..	6,904	6,445	7,402	6,107	4,951	6,570
Colombo .. ..	5,161	4,702	(g) 5,293	4,364	3,121	4,827
Djakarta .. ..	(g) 3,869	3,385	(g) 3,466	3,047	1,761	3,510
Hamburg .. ..	11,820	11,361	(g) 12,247	11,023	9,825	11,486
Hong-Kong .. ..	(g) 4,449	(g) 5,014	(g) 4,046	4,789	3,505	(g) 5,066
London .. ..	11,509	11,050	(g) 11,936	10,712	9,514	11,175
Manila .. ..	(g) 3,915	(g) 4,480	(g) 3,512	4,220	(h) 6,055	(h) 4,550
Marseilles .. ..	9,808	9,349	(g) 10,235	9,011	7,813	9,474
Montreal .. ..	(i) 13,389	(i) 12,930	g,i 13,816	(j) 13,206	(i) 11,394	(j) 13,669
Naples .. ..	9,404	8,945	(g) 9,831	8,607	7,409	9,070
New York .. ..	(j) 13,669	(j) 13,210	g,i 13,826	(j) 12,872	(i) 11,404	(j) 13,335
Panama .. ..	7,673	7,916	7,711	8,307	9,357	7,631
Port Said .. ..	8,296	7,837	8,811	7,500	6,301	7,962
San Francisco .. ..	6,456	6,966	6,193	7,357	8,524	6,923
Singapore .. ..	4,301	3,842	(g) 3,821	3,504	2,220	3,967
Valparaiso .. ..	6,274	6,389	6,487	6,780	7,827	6,100
Vancouver .. ..	6,818	7,350	6,489	7,741	8,908	7,338
Yokohama .. ..	4,379	4,961	3,980	5,352	4,460	5,014

(a) Shortest regular route. (b) Via Thursday Island. (c) Via Western Australia.  
(d) Via Bass Strait. (e) Via Cape Horn. (f) Via Wellington, New Zealand. (g) Via Torres Strait. (h) Via Eastern Australia. (i) Via Suez. (j) Via Cape Town.

3. Shipping Freight Rates.—The *Quarterly Summary of Australian Statistics* shows a list of the ruling freight rates for general merchandise in respect of both oversea and interstate shipments. At 31st December, 1961, the rate for general merchandise from Australia to the United Kingdom and the Continent was 214s. per ton weight or measurement.

The following table shows the freight rates from Australia to the United Kingdom and the continent for certain important commodities at 31st December, 1961.

**OVERSEA SHIPPING FREIGHT RATES FROM AUSTRALIA TO THE UNITED KINGDOM AND CONTINENT AT 31st DECEMBER, 1961.**

(1 Ton measurement = 40 cubic feet.)

Commodity.	Shipping Freight Rate.(a)
Apples .. .. .	12s. 2d. per bushel case
Barley (in bags) .. .. .	102s. 6d. per ton weight
Butter (refrigerator)—	
United Kingdom .. .. .	10s. 11½d. per box (56 lb.)
Continent .. .. .	11s. 6½d. per box (56 lb.)
Cheese (refrigerator) .. .. .	2 13/32d. per lb.
Copper (ingots) .. .. .	125s. per ton weight
Eggs (in shell) .. .. .	326s. per ton measurement
Flour, wheaten .. .. .	97s. 6d. per ton weight
Fruit (dried) .. .. .	169s. 6d. per ton measurement
Hides and Skins—	
Calf .. .. .	1 23/32d. per lb.
Sheep—dumped .. .. .	2 9/16d. per lb.
Lead .. .. .	109s. per ton weight
Leather .. .. .	470s. 6d. per ton weight
Meats preserved by cold process (refrigerator)—	
Beef .. .. .	3 11/32d. per lb. net
Lamb .. .. .	4½d. per lb. net
Mutton .. .. .	3 11/32d. per lb. net
Meats preserved in tins .. .. .	214s. per ton measurement
Milk and cream (condensed) .. .. .	214s. per ton measurement
Steel billets (20–30 feet) .. .. .	100s. per ton weight
Sugar (refined)(b) .. .. .	342s. per ton weight
Tallow (unrefined) .. .. .	242s. per ton weight
Timber logs (40–60 feet) .. .. .	74s. 5d. to 85s. 5d. per 100 super feet
Whale oil .. .. .	242s. per ton weight
Wine .. .. .	203s. 6d. per ton measurement
Wool—	
Greasy—dumped .. .. .	3.56d. per lb.
Scoured and washed—dumped .. .. .	4 47d. per lb.
Tops .. .. .	4.26d. net
Zinc—	
Ingots .. .. .	101s. 6d. per ton weight
Dust (in cases) .. .. .	304s. per ton weight
Sheet (in cases) .. .. .	221s. per ton weight

(a) Expressed in sterling, subject to an adjustment of 25½ per cent. when freight is prepaid in Australia.  
 (b) Bagged sugar. There is no freight rate for bulk sugar, as shipments are made on a charter basis, rates being negotiated on the Baltic Exchange in the United Kingdom.

Interstate rates per ton weight or measurement for general cargo at 31st December, 1961 (expressed in Australian currency) were:—Sydney–Melbourne, 157s.; Sydney–Brisbane, 152s.; Sydney–Adelaide, 182s.; Sydney–Fremantle, 243s.; Sydney–Hobart, 147s.; Sydney–Darwin, 258s. 6d.

4. **Depth of Water at Main Ports.**—A table showing the depth of water available and tides at principal ports of Australia is published in the annual bulletin, *Transport and Communication*. For some major ports, information in greater detail is given in Chapter XIX.—Local Government, § 6. Harbour Boards and Trusts.

5. **Shipping Casualties.**—Courts of Marine Inquiry are constituted by a magistrate assisted by skilled assessors, and, when necessary, are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault. Particulars of shipping losses and casualties reported on or near the coast during each of the years 1957 to 1961 are shown in the table below.

## SHIPPING CASUALTIES TO OVERSEA AND INTERSTATE STEAM AND MOTOR VESSELS(a): AUSTRALIA.

Year.	Shipping Losses.			Other Shipping Casualties.			Total Shipping Casualties.		
	Vessels.	Net Tons.	Lives Lost.	Vessels.	Net Tons.	Lives Lost.	Vessels.	Net Tons.	Lives Lost.
1957 ..	1	249	..	224	709,432	..	225	709,681	..
1958 ..	1	98	5	179	525,528	..	180	525,626	5
1959 ..	2	346	1	200	623,475	9	202	623,821	10
1960 ..	..	..	..	183	570,987	..	183	570,987	..
1961 ..	..	..	..	177	589,080	..	177	589,080	..

(a) Vessels over 50 net tons.

6. Ferry (Passenger) Services.—For particulars of ferry passenger services operating in several States see p. 544.

## B. GOVERNMENT RAILWAYS.

1. General.—The first steam-operated railway in Australia, between Melbourne and Port Melbourne, a distance of 2 miles, was opened on 12th September, 1854. It was owned and operated by the Melbourne and Hobson's Bay Railway Company. In the next 100 years, the mileage increased greatly and at 30th June, 1954, 26,624 route-miles (excluding several hundred miles of privately-owned line) were open for traffic. However, the operation of Australia-wide services is greatly hampered by the presence of many break-of-gauge stations, necessitated by the several gauges at present in use, although progress has been made towards the standardization of main trunk routes (see para. 4 following). The policy of government ownership and control of railways has been adopted in each State and at 30th June, 1961, 23,850 route-miles were owned by the State Governments and 2,252 route-miles by the Commonwealth Government. In the following tables, details of the four lines owned by the Commonwealth are grouped and shown with the totals for the various State-owned systems. Separate particulars for each Commonwealth line and more detailed statistics for all lines are shown in the annual bulletin, *Transport and Communication*.

In some States, there are privately-owned railway systems offering passenger and freight services to the public. Details of these private railways were included in Official Year Book No. 39 and previous issues, but owing to their relative unimportance and the incomplete nature of the statistics available, the series has been discontinued.

2. Railway Communication in Australia.—An account of the progress of railway construction in Australia since the opening of the first line in 1854 was given in Official Year Book No. 6, page 681, and in No. 22, page 259. The main ports on the mainland are connected by lines running approximately parallel to the coast and are the focal points of lines which radiate inland to the agricultural, mining and pastoral areas of the continent to a distance of up to 600 miles at some points. However, Darwin in the Northern Territory is not connected by rail to any other port. A 3 ft. 6 in. gauge railway extends southward from Darwin to Birdum, a distance of 317 miles, and from Port Augusta in South Australia a 4 ft. 8½ in. gauge railway of 217 miles extends northwards to Marree and thence as a 3 ft. 6 in. gauge of 540 miles to Alice Springs.

In recent years, besides the construction of air-conditioned passenger trains and high-capacity goods rolling stock, many new locomotives have been built and others purchased. Also, there has been a significant development of diesel-electric traction, the number of diesel-electric locomotives in service having risen from two at 30th June, 1949, to 491 at 30th June, 1961.

3. Distances between Capital Cities.—The distances by rail between the capital cities of Australia are shown in the following table.

## GOVERNMENT RAILWAYS: DISTANCES BETWEEN CAPITAL CITIES.

(Miles.)

Distance to—	Distance from—				
	Melbourne.	Brisbane.	Adelaide.	Perth.	Canberra.
Sydney .. .. .	590	613	1,073	2,695	203
Melbourne .. .. .	..	1,203	483	2,105	519
Brisbane .. .. .	..	..	1,686	3,308	816
Adelaide .. .. .	..	..	..	1,622	1,002
Perth .. .. .	..	..	..	..	2,624

4. **Standardization of Railway Gauges.**—The first step towards uniform gauge railway communication between the capitals of the mainland States was effected in 1930 with the construction of the 4 ft. 8½ in. gauge line from Grafton to South Brisbane. The finance required for the construction was provided by the Commonwealth Government. For details of the agreement between the Commonwealth and New South Wales and Queensland, see Official Year Book No. 31, page 122.

This line is operated by the New South Wales Railways, and details of operations in New South Wales are included with those of the New South Wales system. Details of operations on the Queensland portion are included with Queensland railway statistics unless otherwise specified.

In March, 1944, the late Sir Harold Clapp, Director-General of Land Transport, Commonwealth Department of Transport, and formerly Chairman of Commissioners, Victorian Railways, was requested by the Commonwealth Government to submit a report and recommendation regarding the standardization of Australia's railway gauges on the basis of a 4 ft. 8½ in. gauge. A summary of his report and recommendations, made in March, 1945, together with an outline of the agreement between the Commonwealth Government and the States of New South Wales, Victoria and South Australia regarding the standardization of railway gauges in their respective States, was published in Official Year Book No. 37, pages 146–9. The agreement, which was signed in 1946, was ratified by the Governments of the Commonwealth, of Victoria and of South Australia, but not by the New South Wales Government. After some time had elapsed and New South Wales had failed to ratify the agreement, the Commonwealth Government decided to enter into a separate agreement with South Australia, and the necessary legislation was enacted in 1949 by each Government concerned. The Commonwealth–South Australia Agreement provides for the same standardization work to be carried out in South Australia as would have been carried out had New South Wales ratified the original Commonwealth–Three States Agreement, and that over a period of years the Commonwealth should contribute 70 per cent. and South Australia be responsible for the remaining 30 per cent. of the estimated cost.

As a further step towards standardization, a Committee consisting of members of the Federal Parliament was formed in March, 1956, to ascertain whether a scheme confined to the main trunk routes would be desirable. This Committee recommended in October, 1956, that standard gauge (4 ft. 8½ in.) lines be provided from Wodonga to Melbourne, from Broken Hill to Adelaide via Port Pirie and from Kalgoorlie to Fremantle via Perth.

Preparatory work in the field on the uniform gauge between Albury and Melbourne commenced in November, 1957. By January, 1962, work had progressed sufficiently to allow fast freight trains to commence a new service from Sydney to Melbourne. Passenger services over this new uniform gauge line commenced operation in April, 1962. Funds for this project were advanced by the Commonwealth to enable the work to proceed. An agreement was reached between the Commonwealth and the two States, New South Wales and Victoria, whereby the Commonwealth would meet 70 per cent. of the cost of unification and the two States would share equally the remaining 30 per cent., with the Commonwealth advancing the whole of the necessary funds initially, and the States' portion, plus interest, being repayable over 50 years. Legislation was enacted by the Commonwealth and the two State Governments in three separate Acts assented to towards the close of 1958. Estimated total cost for the project is £14,500,000.

5. Mileage Open for Traffic, all Lines.—Almost all the railways open for general traffic in Australia are owned and controlled by the State or Commonwealth Governments. Private lines have been laid down for the purpose of opening up forest lands, mining districts or sugar areas. These lines are not generally used for the conveyance of passengers or the public conveyance of goods.

The greatest recorded route-mileage of government railways was 27,234 at 30th June, 1941. Although short lengths of line have been opened since that date, most railway construction is being confined to the duplication and electrification of existing main lines. The closure of other lines (mainly developmental branch lines whose retention would have been uneconomic) has resulted in a considerable decrease in route-mileage.

The following table shows the route-mileage of Commonwealth and State lines open in each State and Territory at various periods since the inauguration of railways in Australia in 1854.

GOVERNMENT RAILWAYS: ROUTE-MILEAGE OPEN.

(Miles.)

At 30th June—	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1855(a) ..	14	2	..	7	..	..	..	..	23
1861(a) ..	73	114	..	56	..	..	..	..	243
1871(a) ..	358	276	218	133	..	45	..	..	1,030
1881(a) ..	996	1,247	800	832	92	45	..	..	4,012
1891 ..	2,182	2,763	2,195	1,666	198	351	145	..	9,500
1901 ..	2,846	3,237	2,801	1,736	1,355	457	145	..	12,577
1911 ..	3,762	3,523	3,868	1,935	2,376	470	145	..	16,079
1921 ..	5,043	4,267	5,752	3,408	3,992	630	199	5	23,296
1931 ..	6,247	4,514	6,529	3,898	4,634	665	317	5	26,809
1941 ..	6,368	4,518	6,567	3,809	4,835	642	490	5	27,234
1951 ..	6,354	4,445	6,560	3,805	4,682	613	490	5	26,954
1961 ..	6,303	4,050	6,324	3,836	4,577	517	490	5	26,102

(a) At 31st December.

At 30th June, 1961, 261 route-miles in Victoria and 234 route-miles in New South Wales were electrified.

6. Classification of Lines according to Gauge, at 30th June, 1961.—The next table shows the route-mileage of government railways open in each State and Territory classified according to gauge, and State totals in relation to population and area at 30th June, 1961.

GOVERNMENT RAILWAYS: ROUTE-MILEAGE OPEN, AT 30th JUNE, 1961.

(Miles.)

Gauge.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
5 ft. 3 in. ..	(a) 241	4,016	..	1,674	..	..	..	..	5,931
4 ft. 8½ in. ..	6,062	..	(b) 69	(c) 871	(c) 454	..	..	(c) 5	7,461
3 ft. 6 in. ..	..	..	6,225	(d) 1,291	4,123	517	(c) 490	..	12,646
2 ft. 6 in. ..	..	34	..	..	..	..	..	..	34
2 ft. 0 in. ..	..	..	30	..	..	..	..	..	30
<b>Total ..</b>	<b>6,303</b>	<b>4,050</b>	<b>6,324</b>	<b>3,836</b>	<b>4,577</b>	<b>517</b>	<b>490</b>	<b>5</b>	<b>26,102</b>
Per 1,000 of population ..	1.61	1.38	4.16	3.96	6.21	1.48	18.15	0.08	2.48
Per 1,000 square miles ..	20.40	46.02	9.48	10.09	4.69	19.72	0.94	5.32	8.79

(a) Portion of Victorian system. (b) Queensland section of Grafton-South Brisbane Uniform Gauge Line. (c) Portion of Commonwealth system. (d) Includes 432 miles of Commonwealth system.

7. **Summary of Operations.**—In the following table a summary is shown of the operations of government railways open in Australia during 1960–61.

**GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, 1960-61.**

Particulars.	Commonwealth Railways.	State Railways.	Total.
Route-mileage (30th June) .. .. miles	2,252	23,850	26,102
Track-mileage (30th June) .. .. miles	2,452	30,054	32,506
Gross earnings .. .. £'000	6,036	202,187	208,223
"    "    per revenue train-mile .. pence	618	535	537
Working expenses .. .. £'000 (a)	4,629	195,714	200,343
"    "    per revenue train-mile .. pence	474	518	517
Net earnings .. .. £'000 (a)	1,407	6,473	7,880
"    "    per revenue train-mile .. pence	144	17	20
Revenue train-miles .. .. '000	2,343	90,681	93,024
Passenger-journeys .. .. '000	303	444,559	444,862
Goods and livestock carried .. .. '000 tons	1,738	53,624	55,362
Average number of employees .. ..	2,739	132,148	134,887
"    wages and salaries paid per employee £	1,126	1,110	1,110

(a) Excludes amounts paid for Commissioner's salary, government contributions under the Superannuation Act, Accident and Insurance Fund and proportion of salaries of Auditor-General's staff—total, £147,792.

A graph showing the route-mileage and traffic of government railways from 1870 to 1960–61 appears on page 547.

8. **Gross Earnings.**—(i) *General.* Gross earnings are composed of earnings from (a) coaching traffic, including the carriage of mails, horses, parcels, etc., by passenger trains; (b) carriage of goods and livestock; and (c) rents and miscellaneous items. State Government grants are excluded. Details of these grants made during 1960–61 are shown in para. 11, page 533.

(ii) *Coaching, Goods and Miscellaneous Earnings.* (a) *Summary.* In the following table, gross earnings are shown for the years 1956–57 to 1960–61, together with earnings per average route-mile worked and per revenue train-mile.

**GOVERNMENT RAILWAYS: GROSS EARNINGS.(a)**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Aust.
<b>GROSS EARNINGS.</b>								
(£'000.)								
1956–57 ..	78,689	37,352	36,678	13,770	13,859	2,534	4,415	187,297
1957–58 ..	74,433	35,954	34,636	13,160	12,788	2,569	4,605	178,145
1958–59 ..	75,930	38,150	36,169	12,856	13,516	2,707	4,817	184,145
1959–60 ..	83,563	39,190	35,670	12,758	14,847	2,808	5,327	194,163
1960–61 ..	89,751	42,987	36,530	13,870	16,317	2,732	6,036	208,223
<b>GROSS EARNINGS PER AVERAGE ROUTE-MILE WORKED.</b>								
(£.)								
1956–57 ..	12,894	8,441	5,681	5,398	3,367	4,333	1,933	7,062
1957–58 ..	12,195	8,168	5,365	5,193	3,106	4,492	2,041	6,738
1958–59 ..	12,441	8,756	5,628	5,075	3,283	4,782	2,139	6,987
1959–60 ..	13,681	9,130	5,562	5,037	3,603	4,978	2,365	7,388
1960–61 ..	14,806	10,020	5,751	5,476	3,958	5,127	2,680	7,964
<b>GROSS EARNINGS PER REVENUE TRAIN-MILE.</b>								
(Pence.)								
1956–57 ..	509.99	483.42	438.94	459.80	401.80	328.00	496.08	472.75
1957–58 ..	510.11	470.15	436.78	446.05	418.89	393.28	578.47	473.52
1958–59 ..	517.78	496.89	444.96	447.80	420.87	421.99	572.76	484.13
1959–60 ..	545.26	514.47	449.26	444.59	447.53	434.79	596.86	502.90
1960–61 ..	568.37	565.88	478.77	482.09	500.86	432.50	618.32	537.21

(a) Excludes government grants; see para. 11, page 533.

(b) *Distribution.* The following table shows gross earnings for the year 1960–61 classified according to the three main sources of earnings together with the percentage of each source to total.



## GOVERNMENT RAILWAYS: DISTRIBUTION OF GROSS EARNINGS(a), 1960-61.

Railway System.	Gross Earnings. (£'000.)			Proportion of Total. (Per Cent.)		
	Coaching.	Goods and Livestock.	Miscellaneous.	Coaching.	Goods and Livestock.	Miscellaneous.
New South Wales ..	22,921	63,057	3,773	25.54	70.26	4.20
Victoria ..	13,577	26,582	2,828	31.58	61.84	6.58
Queensland ..	4,873	30,501	1,156	13.34	83.50	3.16
South Australia ..	2,071	10,906	893	14.93	78.63	6.44
Western Australia ..	1,596	13,940	781	9.78	85.43	4.79
Tasmania ..	192	2,456	84	7.05	89.88	3.07
Commonwealth ..	1,046	4,537	453	17.33	75.17	7.50
<b>Australia ..</b>	<b>46,276</b>	<b>151,979</b>	<b>9,968</b>	<b>22.22</b>	<b>72.99</b>	<b>4.79</b>

(a) Excludes government grants; see para. 11 on p. 533.

9. Working Expenses.—(i) *General.* In comparing the working expenses of the several States and Territories, allowance should be made for the variation of gauges and of physical and traffic conditions, not only on the different systems of the State and Commonwealth railways, but also on different portions of the same system. When traffic is light, the proportion of working expenses to earnings is naturally greater than when traffic is heavy; and this is especially true in Australia, where ton-mile rates are in many cases based on a tapering principle—i.e., a lower rate per ton-mile is charged upon merchandise from remote interior districts—and where on many of the lines there is but little back loading. Density or sparseness of population, area to be served, and alternative methods of transport available are other factors to be taken into account.

Working expenses, wherever presented in the Railways section of this chapter, include reserves for depreciation in South Australia, Western Australia and Tasmania but exclude interest, sinking fund, exchange and certain other payments (see para. 11 following).

(ii) *Working Expenses.* The following table shows the total working expenses, the ratio of working expenses to gross earnings and working expenses per average route-mile worked and per revenue train-mile for the years 1956-57 to 1960-61.

## GOVERNMENT RAILWAYS: WORKING EXPENSES.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth. (a)	Aust.
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TOTAL WORKING EXPENSES.  
(£'000.)

1956-57 ..	75,352	39,118	37,765	15,977	17,076	3,447	3,597	192,332
1957-58 ..	72,534	38,174	36,862	15,953	16,091	3,218	3,611	186,443
1958-59 ..	71,102	38,119	37,461	15,102	16,307	3,215	3,647	184,953
1959-60 ..	76,491	39,542	38,310	15,325	16,907	3,363	4,154	194,091
1960-61 ..	79,556	41,627	38,529	15,310	17,147	3,545	4,629	200,343

RATIO OF WORKING EXPENSES TO GROSS EARNINGS.  
(Per Cent.)

1956-57 ..	95.76	104.73	102.96	116.03	123.21	136.03	81.47	102.68
1957-58 ..	97.45	106.17	106.43	121.23	125.83	125.24	78.43	104.65
1958-59 ..	93.64	99.92	103.57	117.47	120.65	118.79	75.72	100.43
1959-60 ..	91.54	100.90	107.40	120.12	113.88	119.77	77.98	99.96
1960-61 ..	88.64	96.84	105.47	110.38	105.08	129.75	76.68	96.22

WORKING EXPENSES PER AVERAGE ROUTE-MILE WORKED.  
(£.)

1956-57 ..	12,347	8,840	5,849	6,263	4,148	5,893	1,575	7,252
1957-58 ..	11,884	8,672	5,710	6,296	3,908	5,625	1,601	7,052
1958-59 ..	11,650	8,749	5,829	5,962	3,961	5,680	1,620	7,018
1959-60 ..	12,523	9,213	5,974	6,050	4,103	5,963	1,845	7,385
1960-61 ..	13,124	9,703	6,066	6,044	4,159	6,652	2,055	7,663

(a) See para. 7, note (a), p. 530.

GOVERNMENT RAILWAYS: WORKING EXPENSES—*continued.*

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth. (a)	Aust.
WORKING EXPENSES PER REVENUE TRAIN-MILE. (Pence.)								
1956-57 ..	488.36	506.28	451.94	533.49	495.07	446.12	404.20	485.46
1957-58 ..	497.09	499.18	464.85	540.73	527.06	492.53	453.67	495.58
1958-59 ..	484.85	496.49	460.85	526.04	507.78	501.28	433.68	486.26
1959-60 ..	499.12	519.09	482.50	534.03	509.63	520.72	465.43	502.72
1960-61 ..	503.81	547.98	504.97	532.15	526.33	561.17	474.15	516.88

(a) See para. 7, note (a), p. 530.

(iii) *Distribution.* The following table shows the total working expenses for the year 1960-61 classified according to the four main expenditure headings.

GOVERNMENT RAILWAYS: DISTRIBUTION OF WORKING EXPENSES, 1960-61.  
(£'000.)

Railway System.	Mainten- ance of Way and Works.	Motive Power.(a)	Traffic.	Other Charges.	Total Working Expenses.
New South Wales .. ..	14,145	29,155	19,766	16,490	79,556
Victoria .. ..	8,538	12,154	11,086	9,849	41,627
Queensland .. ..	10,267	17,294	8,726	2,242	38,529
South Australia .. ..	(b) 3,358	(b) 6,412	(b) 3,771	1,769	15,310
Western Australia .. ..	(b) 3,824	(b) 7,754	3,696	1,873	17,147
Tasmania(b) .. ..	878	1,354	814	499	3,545
Commonwealth(c) .. ..	1,677	1,641	927	384	4,629
<b>Australia .. ..</b>	<b>42,687</b>	<b>75,764</b>	<b>48,786</b>	<b>33,106</b>	<b>200,343</b>

(a) Includes maintenance of rolling stock.

(b) Includes provision of reserves for depreciation.

(c) See para. 7, note (a), p. 530.

10. *Net Earnings.*—The following table shows, for the years 1956-57 to 1960-61, net earnings, i.e., the excess of gross earnings over working expenses and the amount of such net earnings per average route-mile worked and per revenue train-mile.

## GOVERNMENT RAILWAYS: NET EARNINGS.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth. (a)	Aust.
TOTAL NET EARNINGS. (£'000.)								
1956-57 ..	3,337	- 1,766	- 1,087	- 2,207	- 3,217	- 913	818	- 5,035
1957-58 ..	1,899	- 2,220	- 2,226	- 2,793	- 3,303	- 649	994	- 8,298
1958-59 ..	4,828	31	- 1,292	- 2,246	- 2,791	- 508	1,170	- 808
1959-60 ..	7,071	- 352	- 2,640	- 2,567	- 2,061	- 555	1,173	70
1960-61 ..	10,195	1,360	- 1,999	- 1,440	- 830	- 813	1,407	7,880

## NET EARNINGS PER AVERAGE ROUTE-MILE WORKED.

	(£.)							
1956-57 ..	547	- 399	- 168	- 865	- 781	- 1,560	358	- 190
1957-58 ..	311	- 504	- 345	- 1,103	- 802	- 1,133	440	- 314
1958-59 ..	791	7	- 201	- 887	- 678	- 898	519	- 31
1959-60 ..	1,158	- 83	- 412	- 1,013	- 500	- 985	520	3
1960-61 ..	1,682	317	- 315	- 568	- 201	- 1,525	625	301

## NET EARNINGS PER REVENUE TRAIN-MILE.

	(Pence.)							
1956-57 ..	21.63	-22.86	-13.00	-73.69	-93.27	-118.12	91.88	-12.71
1957-58 ..	13.02	-29.03	-28.07	-94.68	-108.17	-99.25	124.80	-22.06
1958-59 ..	32.93	0.40	-15.89	-78.24	-86.91	-79.29	139.08	-2.13
1959-60 ..	46.14	-4.62	-33.24	-89.44	-62.10	-85.93	131.43	0.18
1960-61 ..	64.56	17.90	-26.20	-50.06	-25.47	-128.67	144.17	20.33

(a) See para. 7, note (a), p. 530.

Note.—Minus sign (-) denotes loss.

A graph showing the gross and net earnings and working expenses from 1919-20 to 1960-61 appears on page 548.

11. Net Earnings, Grants to Railways, Interest, Sinking Fund, Surplus or Deficit, 1960-61.—The following table shows, for each railway system for the year 1960-61, (i) net earnings as in para. 10 above, (ii) State grants and other items credited to railways accounts, (iii) loan interest, exchange, sinking fund, etc., payments charged against the accounts, and (iv) the net surplus or deficit after these items have been taken into account. Particulars of items (ii) to (iv) are not included in the preceding tables in this section.

The figures shown in this table accord with those published in the Annual Reports of the Railways Commissioners of the several systems. Because of the differences in Governmental practice in regard to costs other than operative charged against railways accounts, compensation for non-paying and developmental lines, etc., and the inclusion in some railways finances of the operations of ancillary transport services, direct comparison can not, of course, be made between the results shown in the table.

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT AT 30th JUNE, 1961.

(£.)

System.	Net Earnings—Excess of Gross Earnings over Working Expenses.(a)	Plus Grants and other Income.	Less Other Expenses Charged to Railways.					Surplus (+) or Deficit (-).
			Loan Interest and Exchange.	Sinking Fund.	Loan Management Expenses.	Other.	Total.	
State—								
N.S.W. ..	10,195,245	b 1,800,000	9,941,000	2,045,310	193,690	..	12,180,000	- 184,755
Victoria ..	1,359,625	(c) 10,626	3,968,185	211,232	..	d 957,309	5,136,726	e- 3,766,475
Queensland ..	- 1,999,378	(f) 10,998	4,145,425	..	..	g 207,746	4,353,171	h- 6,341,551
S. Australia ..	- 1,440,192	(i) 4,304,128	2,079,827	..	..	(j) 88,270	2,168,097	(e) 695,839
W. Australia ..	- 829,585	..	2,417,328	..	..	(k) 2,051	2,419,379	e- 3,248,964
Tasmania ..	- 812,903	..	398,159	..	..	..	398,159	- 1,211,062
Total States ..	6,472,812	6,125,752	22,949,924	2,256,542	193,690	1,255,376	26,655,532	-14,056,968
Commonwealth ..	- 1,407,490	..	363,595	218,446	..	358	1,147,792	730,191
Australia ..	7,880,302	6,125,752	23,313,519	2,474,988	194,048	1,403,168	27,385,723	-13,379,669

(a) See para. 10, page 532. (b) Grants to meet losses on country development lines, £1,000,000 and to subsidize payments due from superannuation account, £800,000. (c) Kerang-Koondrook Tramway recoup from Treasury. (d) Net loss on road motor services not included in previous pages, £36,962 and charge to Railways Equalization Account £920,347. (e) Includes road motor services. (f) Adjustment for net loss on Queensland portion of Uniform Gauge Railway as included in foregoing tables. (g) Interest on unopened lines. (h) Excludes Queensland portion of Uniform Gauge Railway. (i) Grants towards working expenses, £3,500,000 and debt charges, £800,000, and net profit on Road Motors £4,128 not included in foregoing tables. (j) Interest and repayment under Railways Standardization Agreement. (k) Net loss on road motor services. (l) Includes salary of Railways Commissioner, Government contributions under Superannuation Act, expenditure from Railway Accident and Insurance Fund and proportion of salaries of Auditor-General's staff.

NOTE.—For further information on railways finance, in particular expenditure from loan and other funds, see Chapter XXI., Public Finance of this Year Book. See also the Reports of the several Railways Commissioners.

12. Traffic.—(i) General. Reference has already been made to the differing conditions of the traffic on many of the lines. These conditions differ not only in the several State and Commonwealth systems, but also on different lines in the same system, and apply to both passenger and goods traffic. By far the greater part of the population of Australia is located in a fringe of country near the coast, more especially in the eastern and southern districts, and a large proportion of the railway traffic between the chief centres of population is therefore open to competition from road and air transport.

The following table shows particulars of railway traffic for the years 1956-57 to 1960-61.

## GOVERNMENT RAILWAYS: TRAFFIC.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Aust.
PASSENGER-JOURNEYS (SUBURBAN AND COUNTRY).								
('000.)								
1956-57 ..	a 263,137	167,405	34,270	17,407	13,271	2,813	213	498,516
1957-58 ..	240,746	167,662	33,665	17,564	14,106	2,444	238	476,425
1958-59 ..	236,030	163,483	33,457	16,805	14,615	2,344	259	466,993
1959-60 ..	236,573	158,294	32,347	17,038	13,879	2,292	275	460,698
1960-61 ..	235,416	149,929	28,876	15,574	12,661	2,103	303	444,862

PASSENGER-JOURNEYS (SUBURBAN AND COUNTRY) PER AVERAGE ROUTE-MILE WORKED.  
(Number.)

1956-57 ..	a 43,116	37,832	5,308	6,823	3,223	4,809	93	18,797
1957-58 ..	39,447	38,088	5,214	6,931	3,426	4,273	106	18,019
1958-59 ..	38,674	37,522	5,207	6,634	3,550	4,141	115	17,720
1959-60 ..	38,732	36,881	5,044	6,726	3,369	4,065	122	17,529
1960-61 ..	38,835	34,948	4,546	6,147	3,071	3,946	134	17,015

## GOODS AND LIVESTOCK CARRIED.

('000 Tons.)

1956-57 ..	b 18,791	9,381	8,453	4,498	4,223	1,061	1,069	47,476
1957-58 ..	b 18,502	8,892	7,766	4,146	3,589	1,096	1,259	45,250
1958-59 ..	19,700	9,295	8,373	4,207	3,913	1,138	1,405	48,031
1959-60 ..	22,127	9,687	8,116	4,036	4,533	1,191	1,482	51,172
1960-61 ..	24,104	10,977	7,981	4,537	4,833	1,192	1,738	55,362

## GOODS AND LIVESTOCK CARRIED PER AVERAGE ROUTE-MILE WORKED.

(Tons.)

1956-57 ..	3,079	2,120	1,309	1,763	1,026	1,814	468	1,790
1957-58 ..	3,032	2,020	1,203	1,636	872	1,916	558	1,711
1958-59 ..	3,228	2,133	1,303	1,661	950	2,010	624	1,823
1959-60 ..	3,623	2,257	1,266	1,594	1,100	2,111	658	1,947
1960-61 ..	3,976	2,559	1,256	1,791	1,172	2,236	772	2,118

(a) Includes unremunerative passenger journeys.

(b) Partly estimated.

(ii) *Passenger Traffic.* With the exception of the Commonwealth Railway Systems, which operate only country services, all systems provide both suburban and country passenger services. Traffic classed as "suburban" moves between stations within a classified suburban area around each capital city, whilst traffic classed as "country" originates or terminates at stations outside of this suburban area. Particulars of suburban and country passenger traffic are shown separately in the two tables following.

(a) *Suburban Passenger Traffic.* The following table shows a summary of suburban passenger operations for the years 1956-57 to 1960-61. Most of the suburban services in New South Wales and Victoria are operated within electrified areas.

GOVERNMENT RAILWAYS: SUBURBAN PASSENGER SUMMARY.

Year.	Suburban Passenger-journeys.	Suburban Revenue Train-miles.	Suburban Passenger-miles.	Average Number of Passengers per Train-mile.	Average Mileage per Passenger-journey.	Suburban Passenger Earnings.			
						Gross.	Per Passenger-journey.	Per Passenger-mile.	Per Passenger Train-mile.
	('000.)	('000.)	('000.)		(Miles.)	(£'000.)	(Pence.)	(Pence.)	(Pence.)

NEW SOUTH WALES.

1956-57	<i>a</i> 252,000	11,618	} (c)	(c)	(c)	(c)	(c)	(c)	(c)	
1957-58	<i>b</i> 226,283	11,158				(c)	(c)	(c)	(c)	(c)
1958-59	221,713	11,175				12,027	13.02	(c)	258	
1959-60	221,788	11,212				12,222	13.23	(c)	262	
1960-61	222,333	11,176				12,755	13.77	(c)	274	

VICTORIA.

1956-57	162,255	8,291	1,416,115	171	8.73	7,647	11.31	1.30	221
1957-58	162,632	8,353	1,433,794	172	8.82	7,613	11.24	1.27	219
1958-59	158,613	8,310	1,364,884	164	8.61	8,511	12.88	1.50	246
1959-60	153,660	7,999	1,349,319	169	8.79	8,826	13.78	1.57	265
1960-61	145,558	7,902	1,282,975	162	8.81	8,885	14.65	1.66	270

QUEENSLAND.

1956-57	28,783	2,070	} (c)	(c)	(c)	882	7.36	(c)	102
1957-58	28,524	2,082				890	7.49	(c)	103
1958-59	28,398	2,127				889	7.52	(c)	100
1959-60	27,548	2,131				865	7.54	(c)	97
1960-61	24,582	2,009				962	9.39	(c)	115

SOUTH AUSTRALIA.

1956-57	15,995	1,935	152,021	79	9.50	603	9.04	0.95	75
1957-58	16,390	2,065	131,179	80	8.00	702	10.28	1.28	82
1958-59	15,704	2,087	125,391	60	7.98	706	10.79	1.35	81
1959-60	15,997	2,134	128,183	60	8.01	792	11.89	1.48	89
1960-61	14,584	2,082	117,423	56	8.05	795	13.08	1.62	92

WESTERN AUSTRALIA.

1956-57	12,497	1,303	86,102	66	6.89	391	7.52	1.09	72
1957-58	13,353	1,323	91,755	69	6.87	420	7.54	1.10	76
1958-59	13,880	1,320	93,958	71	6.77	434	7.50	1.11	79
1959-60	13,171	1,343	90,003	67	6.83	478	8.70	1.27	85
1960-61	12,026	1,357	82,612	61	6.87	484	9.65	1.41	86

TASMANIA.

1956-57	2,345	213	13,279	62	5.66	58	5.96	1.05	66
1957-58	2,122	204	12,895	63	6.08	54	6.14	1.01	64
1958-59	2,092	210	12,632	60	6.04	53	6.11	1.01	61
1959-60	2,031	206	12,438	60	6.12	51	5.98	0.98	59
1960-61	1,859	202	11,018	54	5.93	55	7.06	1.19	65

(a) Includes unremunerative passenger journeys.

(b) Estimated.

(c) Not available.

(b) *Country Passenger Traffic.* The following table shows a summary of country passenger operations for the years 1956-57 to 1960-61.

GOVERNMENT RAILWAYS: COUNTRY PASSENGER SUMMARY.

Year.	Country Passenger-journeys.	Country Revenue Passenger Train-miles. (a)	Country Passenger-miles.	Average Number of Passengers per Train-mile.	Average Mileage per Passenger-journey.	Country Passenger Earnings.				
						Gross.	Per Passenger-journey.	Per Passenger-mile.	Per Passenger-Train-mile.	
	('000.)	('000.)	('000.)		(Miles.)	(£'000.)	(Pence.)	(Pence.)	(Pence.)	
NEW SOUTH WALES.										
1956-57	11,137	10,306	(b)	(b)	(b)	(b)	(b)	(b)	(b)	
1957-58	14,463	9,762				(b)	(b)	(b)		
1958-59	14,317	9,497				6,984	117.08	(b)	169	
1959-60	14,785	9,613				6,570	106.64	(b)	158	
1960-61	13,083	9,874				6,825	125.19	(b)	160	
VICTORIA.										
1956-57	5,150	4,709	437,481	93	84.95	3,717	173.25	2.04	189	
1957-58	5,030	4,682	418,012	89	83.10	3,493	166.64	2.01	179	
1958-59	4,870	4,699	414,539	88	85.12	3,466	170.80	2.01	177	
1959-60	4,634	4,588	394,690	86	85.16	3,291	170.44	2.00	172	
1960-61	4,371	4,471	388,258	87	88.84	3,248	178.35	2.01	174	
QUEENSLAND.										
1956-57	(c) 5,487	5,183	(b)	(b)	(b)	2,740	119.85	(b)	115	
1957-58	(c) 5,141	4,935				2,560	119.53	(b)	118	
1958-59	(c) 5,059	4,824				2,452	116.31	(b)	116	
1959-60	(c) 4,799	4,728				2,273	113.70	(b)	110	
1960-61	(c) 4,294	4,659				2,406	134.50	(b)	119	
SOUTH AUSTRALIA.										
1956-57	1,412	2,133	121,135	54	85.81	795	135.14	1.57	85	
1957-58	1,174	2,112	112,781	52	96.05	803	164.18	1.71	89	
1958-59	1,101	2,058	106,506	51	96.70	778	169.55	1.75	89	
1959-60	1,041	2,045	105,386	50	101.31	806	185.89	1.83	93	
1960-61	990	2,002	100,683	49	101.69	822	199.31	1.96	98	
WESTERN AUSTRALIA.										
1956-57	774	1,645	80,700	49	104.32	685	212.58	2.04	100	
1957-58	753	1,565	80,171	51	106.41	670	213.51	2.01	103	
1958-59	735	1,591	79,155	50	107.64	653	213.23	1.98	99	
1959-60	708	1,504	77,450	51	109.32	666	225.56	2.06	106	
1960-61	635	1,254	73,900	59	116.34	641	242.11	2.08	123	
TASMANIA.										
1956-57	468	560	17,476	30	37.31	106	54.07	1.45	43	
1957-58	322	367	14,471	37	44.91	91	67.53	1.50	55	
1958-59	252	252	13,361	41	53.03	86	81.78	1.54	63	
1959-60	261	251	13,805	42	52.92	86	79.07	1.49	63	
1960-61	244	245	12,940	40	53.10	80	78.59	1.48	59	

NOTE.—For footnotes see next page.

GOVERNMENT RAILWAYS: COUNTRY PASSENGER SUMMARY—*continued.*

Year.	Country Passenger-journeys. (‘000.)	Country Revenue Passenger Train-miles. (a) (‘000.)	Country Passenger-miles. (‘000.)	Average Number of Passengers per Train-mile.	Average Mileage per Passenger-journey. (Miles.)	Country Passenger Earnings.			
						Gross. (£’000.)	Per Passenger-journey. (Pence.)	Per Passenger-mile. (Pence.)	Per Passenger Train-mile. (Pence.)
COMMONWEALTH.(d)									
1956-57	213	725	83,984	104	393.95	741	834.47	2.12	220
1957-58	238	718	81,038	113	339.63	736	740.52	2.18	247
1958-59	259	781	80,910	108	312.92	739	685.90	2.19	236
1959-60	275	783	84,371	106	307.57	749	654.89	2.13	225
1960-61	303	798	93,540	113	309.07	838	664.51	2.15	244

(a) Excludes mixed-train miles. (b) Not available. (c) Traffic originating on the 3 ft. 6 in. gauge system and continuing on the Uniform Gauge Railway has been counted once only. (d) Railways controlled by Commonwealth Government.

NOTE.—Train-miles refer to revenue mileages only.

(iii) *Freight Traffic.* (a) *Commodities Carried and Earnings.* The following table shows the quantities of various commodities carried on the various systems and the earnings derived during 1960-61.

## GOVERNMENT RAILWAYS: COMMODITIES CARRIED AND EARNINGS, 1960-61.

Railway System.	Coal, Coke and Briquettes.	Other Minerals. (a)	Agricultural Produce. (b)	Wool.	Live-stock.	All Other Commodities.	Total.
QUANTITY CARRIED. (‘000 Tons.)							
New South Wales ..	9,977	2,485	3,159	227	638	7,618	24,104
Victoria ..	2,676	125	3,153	133	291	4,599	10,977
Queensland(c) ..	1,537	1,093	2,599	53	729	1,970	7,981
South Australia ..	136	1,182	1,288	45	214	1,672	4,537
Western Australia ..	483	305	2,217	77	141	(d)1,610	4,833
Tasmania ..	358	29	36	4	26	739	1,192
Commonwealth ..	998	90	37	6	127	480	1,738
<b>Australia ..</b>	<b>16,165</b>	<b>5,309</b>	<b>12,489</b>	<b>545</b>	<b>2,166</b>	<b>18,688</b>	<b>55,362</b>

FREIGHT EARNINGS.  
(£’000.)

New South Wales ..	(e)	(e)	(e)	(e)	3,740	(e)	63,057
Victoria ..	4,272	173	7,319	647	990	13,181	26,582
Queensland(c) ..	2,886	2,946	5,693	983	4,204	13,789	30,501
South Australia ..	128	3,307	2,150	243	688	4,390	10,906
Western Australia ..	871	591	4,963	492	447	(d)6,576	13,940
Tasmania ..	580	43	87	18	75	1,653	2,456
Commonwealth ..	571	222	201	32	291	3,220	4,537
<b>Australia ..</b>	<b>(e)</b>	<b>(e)</b>	<b>(e)</b>	<b>(e)</b>	<b>10,435</b>	<b>(e)</b>	<b>151,979</b>

(a) Includes sand and gravel. (b) Includes wheat and fruit. (c) Includes Queensland portion of Uniform Gauge Railway. Tonnages carried over both systems have been counted once only. (d) Includes cement. (e) Not available.

(b) *Freight Summary.* A summary of freight traffic on each railway system for each of the years 1956-57 to 1960-61 is shown in the following table.

## GOVERNMENT RAILWAYS: FREIGHT SUMMARY.

Year.	Revenue Goods Train-miles. (a)	Revenue Net Ton-miles.	Average Train Load (Paying Traffic).	Average Haul per Ton.	Goods and Livestock Earnings.				Density of Traffic. (b)
					Gross.	Per Average Route-mile Worked.	Per Revenue Net Ton-mile.	Per Revenue Goods Train-mile.	
	(000.)	(000.)	(Tons.)	(Miles.)	(£000.)	(£.)	(Pence.)	(Pence.)	
NEW SOUTH WALES.									
1956-57	14,317	c2,929,338 (c)	197	(c) 156	51,956	8,513	4.26	840	c 479,983
1957-58	13,290	c2,571,166 (c)	186	(c) 139	48,229	7,902	4.50	837	c 421,295
1958-59	13,710	2,735,635	194	139	50,524	8,279	4.43	859	448,244
1959-60	15,169	3,215,560	202	146	57,598	9,430	4.30	925	526,450
1960-61	16,184	3,613,292	219	150	63,058	10,420	4.19	916	596,056
VICTORIA.									
1956-57	5,502	1,317,393	238	140	22,110	4,997	4.25	961	297,716
1957-58	5,286	1,260,136	238	142	20,849	4,736	3.98	944	286,265
1958-59	5,394	1,352,516	250	146	22,126	5,078	3.93	982	310,424
1959-60	5,672	1,384,773	244	143	22,876	5,330	3.96	966	322,641
1960-61	5,836	1,612,382	276	147	26,582	6,196	3.96	1,091	375,847
QUEENSLAND.(d)									
1956-57	11,065	1,480,694	122	182	29,844	4,673	4.84	590	231,829
1957-58	10,304	1,326,030	114	177	27,974	4,380	5.06	578	207,614
1958-59	10,876	1,462,621	120	181	29,493	4,639	4.84	582	230,080
1959-60	10,561	1,515,242	126	196	29,420	4,637	4.66	586	238,846
1960-61	10,137	1,472,140	131	195	29,803	4,743	4.86	635	234,305
SOUTH AUSTRALIA.									
1956-57	2,811	648,397	215	144	10,990	4,308	4.07	874	254,174
1957-58	2,638	611,032	214	147	10,302	4,065	4.05	867	241,133
1958-59	2,501	605,377	224	144	10,054	3,969	3.99	893	238,996
1959-60	2,479	596,311	224	148	9,840	3,885	3.96	886	235,417
1960-61	2,604	645,331	232	142	10,906	4,305	4.06	940	254,769
WESTERN AUSTRALIA.									
1956-57	5,330	667,695	125	158	11,698	2,841	4.20	527	162,180
1957-58	4,440	572,176	129	159	10,506	2,552	4.41	568	138,979
1958-59	4,797	632,284	132	162	11,243	2,731	4.27	563	153,579
1959-60	5,115	705,245	138	156	12,251	2,974	4.17	575	171,176
1960-61	5,208	747,580	144	155	13,940	3,381	4.48	642	181,319
TASMANIA.									
1956-57	999	100,274	95	95	2,240	3,829	5.36	510	171,409
1957-58	919	102,164	105	93	2,290	4,004	5.38	566	178,609
1958-59	913	110,447	110	97	2,426	4,287	5.27	580	195,136
1959-60	929	118,632	116	100	2,537	4,498	5.13	597	210,340
1960-61	910	113,567	115	95	2,456	4,601	5.19	595	213,072
COMMONWEALTH.(e)									
1956-57	1,159	293,382	221	274	3,626	1,588	2.97	656	128,451
1957-58	918	341,721	286	272	3,265	1,447	2.29	655	151,472
1958-59	960	394,346	311	281	3,476	1,543	2.12	658	175,109
1959-60	(f) 1,084	437,963	326	296	3,963	1,760	2.17	708	194,478
1960-61	(f) 1,440	549,065	362	316	4,537	2,015	1.98	717	243,812

(a) Excludes mixed train-miles. (b) Total ton-miles per average route-mile worked. (c) Partly estimated. (d) Excludes Queensland portion of Grafton-South Brisbane (Uniform Gauge) Line. (e) Railways controlled by the Commonwealth Government. (f) Includes mixed train miles for Trans-Australian Railway as the trains operated by this railway are predominantly mixed.



13. Rolling Stock.—The following table shows the number of rolling stock of Government railways at 30th June, 1961.

GOVERNMENT RAILWAYS: ROLLING STOCK(a) AT 30th JUNE, 1961.

Railway System.	Locomotives.				Coaching Stock.(b)	Goods Stock.	Service Stock.
	Steam.	Diesel-electric.	Other.	Total.			
New South Wales ..	976	140	54	1,170	3,638	22,628	795
Victoria ..	307	92	87	486	(c) 2,405	21,035	(d) 1,739
Queensland ..	730	68	10	808	1,502	24,910	2,174
South Australia ..	225	54	..	279	(c) 653	7,845	(d) 465
Western Australia ..	316	68	10	394	587	11,434	984
Tasmania ..	57	32	17	106	141	(e) 2,586	174
Commonwealth ..	40	37	7	84	186	2,017	564
<b>Australia ..</b>	<b>2,651</b>	<b>491</b>	<b>185</b>	<b>3,327</b>	<b>(f) 9,172</b>	<b>92,455</b>	<b>(f) 6,896</b>

(a) Included in capital account. (b) Includes all brake vans. (c) Excludes 60 interstate coaching stock owned jointly by Victoria and South Australia. (d) Excludes one dynamometer car owned jointly by Victoria and South Australia. (e) Includes 88 privately-owned goods stock vehicles. (f) Includes stock owned jointly by Victoria and South Australia.

14. Accidents.—The following table shows particulars of the number of persons killed or injured through train accidents and the movement of rolling stock on the government railways of Australia during 1960-61.

GOVERNMENT RAILWAYS: ACCIDENTS(a), 1960-61.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	C'wth.	Aust.
Persons killed ..	50	52	19	12	15	3	..	151
Persons injured ..	699	568	148	93	249	12	7	1,776

(a) Excludes accidents to railway employees.

15. Consumption of Coal, Oil and Petrol.—The following table shows the quantities of coal, oil and petrol consumed by the various government railways during 1960-61.

GOVERNMENT RAILWAYS: COAL, OIL AND PETROL CONSUMED, 1960-61.

Railway System.	Coal.		Oil.				Petrol for Rail Cars.
	Locomotives.	Other Purposes.	Diesel Oil.(a)	Fuel Oil.(b)	Lubrication.	Other Purposes.	
	'000 tons.	'000 tons.	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.
New South Wales ..	980	11	14,862	4,234	764	1,340	..
Victoria ..	96	2	9,678	9,543	410	1,756	..
Queensland ..	452	7	6,850	..	234	213	17
South Australia ..	63	4	5,871	7,126	(c) 281	(c) 1,017	5
Western Australia ..	244	4	4,026	375	..	..	46
Tasmania ..	12	(d)	1,276	..	36	57	..
Commonwealth ..	(e)	(f)	4,451	..	99	416	5
<b>Australia ..</b>	<b>1,847</b>	<b>28</b>	<b>47,014</b>	<b>21,278</b>	<b>(g) 1,824</b>	<b>(g) 4,799</b>	<b>73</b>

(a) Used in internal combustion engines of locomotives and rail cars. (b) Used in oil-fired furnaces of steam locomotives. (c) Not available. (d) 340 tons. (e) 76 tons. (f) 173 tons. (g) Excludes South Australia.

16. **Staff Employed and Salaries and Wages Paid.**—The following table shows details of the average staff employed and the salaries and wages paid by the government railways of Australia during 1960–61.

**GOVERNMENT RAILWAYS: AVERAGE NUMBER OF EMPLOYEES AND SALARIES AND WAGES PAID, 1960-61.**

Railway System.	Operating Staff.			Construction Staff.			Total Salaries and Wages Paid (£'000.)	Average Earnings Per Employee (£.)
	Salaried.	Wages.	Total.	Salaried.	Wages.	Total.		
New South Wales ..	9,108	40,144	49,252	..	1	1	57,415	1,166
Victoria ..	(a)5,340	a 24,098	a 29,438	(b)	(b)	(b)	32,794	1,114
Queensland(c) ..	4,396	23,499	27,895	27	532	559	30,384	1,068
South Australia ..	1,827	7,414	9,241	..	736	736	10,563	1,059
Western Australia ..	1,962	10,503	12,465	(d)	(d)	(d)	12,895	1,034
Tasmania ..	367	2,052	2,419	22	120	142	2,568	1,001
Commonwealth ..	418	2,321	2,739	..	..	..	3,085	1,126
Australia ..	e 23,418	e110,031	e133,449	49	1,389	1,438	149,704	1,110

(a) Includes construction staff. (b) Included with operating staff. (c) Excludes Queensland portion of Uniform Gauge Railway. (d) Construction work is carried out by private contractors and the staff engaged is therefore not under the control of the Railway Commissioner. (e) Includes construction staff, Victoria.

**C. TRAMWAY, TROLLEY-BUS AND OMNIBUS SERVICES.**

1. **Systems in Operation.**—(i) *Tramway and Trolley-bus.* Since 1st April, 1947, all systems have been operated by government or municipal authorities. During the year 1960–61 tramway systems were in operation in the following cities—Sydney (to February, 1961), Melbourne, Bendigo, Ballarat, Brisbane, Adelaide and Hobart (to October, 1960). Trolley-bus services operated in Brisbane, Adelaide, Perth, Hobart and Launceston. All systems were electric.

In many parts of Australia, private lines used for special purposes in connexion with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways and the traffic on them has nothing in common with that of the street tramways for the conveyance of passengers, which are dealt with in the present section.

(ii) *Motor Omnibus.* Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal omnibus services located in all State capital cities, Canberra, Newcastle, Maryborough, Rockhampton, Fremantle and the Eastern Goldfields area of Western Australia, and for country road services operated by the Western Australian Government Railways. In Sydney, the government tramway system has now been replaced by omnibus services, and in Perth the Metropolitan Passenger Transport Trust has acquired a number of formerly privately owned metropolitan services. In Hobart the Government trolley-bus and omnibus services have replaced the government tramway service.

Particulars of motor omnibus services under the control of private operators are recorded for the States of New South Wales, Victoria, Queensland, South Australia and Western Australia. In New South Wales, particulars of private services are compiled for the Sydney metropolitan and Newcastle transport districts and the city of Greater Wollongong. In Victoria particulars relate to the Melbourne metropolitan area only, and in South Australia to services licensed by the Metropolitan Transport Trust and the Transport Control Board. In Queensland they relate to all cities with a population of 10,000 or more persons. In Western Australia, particulars of all private services throughout the State are included.

2. Government and Municipal Services.—(i) *Summary of Operations, States.* Because of the development in recent years of the various forms of public road transport under the control of single authorities, and the gradual replacement of tramway services by motor omnibus services, it is no longer possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations. In this section, therefore, statistics of public tramway, trolley-bus and motor omnibus services are combined in single tables with separate details shown for each form of transport where possible.

Since October, 1960 the tramway gauge has been 4 feet 8½ inches throughout.

The following table gives a summary of the operations of tramway, trolley-bus and omnibus systems controlled by Government and Municipal authorities, for 1960–61.

TRAMWAY, TROLLEY-BUS AND OMNIBUS SERVICES: GOVERNMENT  
AND MUNICIPAL, 1960–61.

Particulars.	N.S.W. (a)	Vic.	Qld.	S.A.	W.A.	Tas. (b)	N.T.	A.C.T.	Aust.
Route-miles at 30th June—									
Tram .. .. miles	..	165	66	7	..	..	..	..	238
Trolley-bus .. ..	..	..	20	23	22	27	..	..	92
Omnibus .. ..	542	60	414	108	3,523	813	39	57	5,556
Vehicle miles—									
Tram .. .. '000	1,300	20,140	7,944	543	..	83	..	..	30,010
Trolley-bus .. ..	..	..	1,137	707	1,164	1,550	..	..	4,558
Omnibus .. ..	43,740	5,926	5,556	10,315	14,105	4,707	316	1,259	85,924
Rolling Stock at 30th June—									
Tram .. .. No.	..	831	366	30	..	..	..	..	1,227
Trolley-bus .. ..	..	..	36	56	75	79	..	..	246
Omnibus .. ..	1,793	226	271	333	465	219	11	55	3,373
Passenger-journeys—									
Tram .. .. '000	11,051	178,126	73,659	2,637	..	..	..	..	..
Trolley-bus .. ..	..	..	9,642	3,432	6,387	26,256	..	..	..
Omnibus .. ..	264,187	30,282	26,872	50,085	38,567	..	654	4,099	725,936
Net increase in capital equip- ment during year—									
Tram, Trolley-bus and Om- nibus .. .. £'000	1,692	608	231	242	622	240	8	84	3,727
Gross revenue(c)—									
Tram, Trolley-bus and Om- nibus .. .. £'000	12,686	9,050	3,677	2,758	2,223	1,201	40	174	31,809
Working expenses(d)—									
Tram, Trolley-bus and Om- nibus .. .. £'000	14,716	8,874	3,884	2,677	2,548	1,416	48	231	34,394
Net revenue—									
Tram, Trolley-bus and Om- nibus .. .. £'000	-2,030	176	-207	81	-325	-215	-8	-57	-2,585
Ratio of working expenses to gross revenue—									
Tram, Trolley-bus and Om- nibus .. .. per cent.	116.01	98.05	105.63	97.07	114.61	117.87	119.18	133.03	108.13
Employees at 30th June—									
Tram, Trolley-bus and Om- nibus .. .. No.	8,871	5,762	2,883	(e) 1,692	1,567	742	17	111	21,645
Accidents—									
Tram, Trolley-bus and Om- nibus(f)—									
Persons killed .. .. No.	6	15	1	3	(g)	..	..	..	25
Persons injured .. ..	1,597	560	177	361	(g)	54	..	7	2,756

(a) Tramways ceased to operate in Sydney in February, 1961. (b) Tramways ceased to operate in Tasmania in October, 1960. (c) Excludes government grants. (d) Includes provision of reserves for depreciation, etc., where possible. (e) Average. (f) Excludes accidents to employees. (g) Not available.

NOTE.—Minus sign (–) denotes deficit.

(ii) *Summary of Operations, Australia.* The following table gives a summary of the operations of tramway, trolley-bus and omnibus systems controlled by government and municipal authorities, for the years 1956-57 to 1960-61.

**TRAMWAY, TROLLEY-BUS AND OMNIBUS SERVICES: GOVERNMENT AND MUNICIPAL, AUSTRALIA.**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Route-miles at 30th June—</b>					
Tram .. .. miles	398	344	286	275	238
Trolley-bus .. .. "	96	98	105	92	92
Omnibus .. .. "	4,869	4,803	5,664	5,773	5,556
<b>Vehicle miles—</b>					
Tram(a) .. .. '000	50,601	43,813	37,659	34,379	30,010
Trolley-bus .. .. "	6,053	5,803	5,277	5,444	4,558
Omnibus .. .. "	60,007	64,878	78,881	81,755	85,924
<b>Rolling stock at 30th June—</b>					
Tram .. .. No.	2,106	1,796	1,584	1,514	1,227
Trolley-bus .. .. "	310	305	279	246	246
Omnibus .. .. "	2,464	2,719	3,016	3,154	3,373
<b>Passenger-journeys—</b>					
Tram(a) .. .. '000	479,399	423,471	346,957	312,913	265,473
Trolley-bus .. .. "	32,263	28,607	25,720	25,403	19,461
Omnibus(b) .. .. "	320,605	350,652	404,676	420,360	441,002
<b>Net increase in capital equipment during year—</b>					
Tram, Trolley-bus and Omnibus .. £'000	2,770	2,932	1,880	(c) 1,306	3,727
<b>Gross revenue(d)—</b>					
Tram, Trolley-bus and Omnibus .. .. "	30,307	29,668	31,132	31,817	31,809
<b>Working expenses(e)—</b>					
Tram, Trolley-bus and Omnibus .. .. "	31,986	31,701	32,338	33,629	34,394
<b>Net revenue—</b>					
Tram, Trolley-bus and Omnibus .. .. "	-1,679	-2,033	-1,206	-1,812	-2,585
<b>Ratio of working expenses to gross revenue—</b>					
Tram, Trolley-bus and Omnibus per cent.	105.54	106.85	103.87	105.70	108.13
<b>Employees at 30th June—</b>					
Tram, Trolley-bus and Omnibus No.	23,887	22,679	22,569	21,555	21,645
<b>Accidents—</b>					
Tram, Trolley-bus and Omnibus(f)—					
Persons killed .. No.	63	43	38	40	25
Persons injured .. "	3,827	3,148	3,092	3,147	2,756

(a) Includes particulars for New South Wales trolley-buses up to cessation of operation in August, 1959, and tramway services up to February, 1961. (b) Includes particulars for Tasmanian trams to October, 1960, and trolley-buses. (c) Excludes Western Australia. (d) Excludes government grants. (e) Includes provision of reserves for depreciation, etc., where possible. (f) Excludes accidents to employees.

NOTE.—Minus sign (-) denotes deficit.

3. Private Services.—*Summary of Operations.* The following table shows the operations of motor omnibus services under the control of private operators in New South Wales, Victoria, South Australia and Western Australia during each of the years 1956–57 to 1960–61, and in Queensland during the years 1959–60 and 1960–61.

## MOTOR OMNIBUS SERVICES: PRIVATE.

Year.	Number of Omnibuses.	Omnibus-miles. (‘000.)	Passenger-journeys. (‘000.)	Value of Plant and Equipment. (£‘000.)	Gross Revenue. (£‘000.)	Persons Employed.
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## NEW SOUTH WALES.(a)

1956–57..	..	848	24,449	93,761	1,424	3,676	1,635
1957–58..	..	901	25,385	96,803	1,584	3,722	1,704
1958–59..	..	916	25,496	95,457	1,586	3,721	1,545
1959–60..	..	930	26,676	98,303	1,661	4,025	1,679
1960–61(b)	..	1,011	20,611	76,157	1,847	3,288	1,662

## VICTORIA.(c)

1956–57..	..	459	16,094	74,026	(d) 655	2,196	(e) 732
1957–58(f)	..	472	15,701	73,020	670	2,219	714
1958–59(f)	..	469	15,592	72,005	670	2,206	750
1959–60(f)	..	477	15,448	70,719	759	2,319	705
1960–61..	..	495	15,702	70,273	755	2,467	732

## QUEENSLAND.

1959–60..	..	362	7,605	25,344	713	1,165	539
1960–61..	..	378	8,298	25,806	741	1,238	578

## SOUTH AUSTRALIA.(g)

1956–57..	..	117	6,045	13,254	} (h) {	712	} (h)
1957–58..	..	113	6,096	12,713		726	
1958–59..	..	116	6,042	12,107		732	
1959–60..	..	117	6,208	11,457		833	
1960–61..	.. (i)	281	5,963	11,171		849	

## WESTERN AUSTRALIA.(j)

1956–57..	..	378	11,801	30,802	1,142	1,594	837
1957–58..	..	383	11,644	29,881	1,030	1,577	800
1958–59(k)	..	146	6,028	15,846	260	804	287
1959–60..	..	137	4,142	11,183	243	585	272
1960–61..	..	92	3,358	8,914	257	514	215

(a) Metropolitan, Newcastle and Wollongong transport districts only. (b) Nine months ended March, 1961. (c) Metropolitan area only. (d) Vehicles only. (e) Drivers only. (f) Partly estimated. (g) Services licensed by the Metropolitan Transport Trust and the Transport Control Board. (h) Not available. (i) Includes 156 Transport Control Board licensed omnibuses previously excluded. (j) Includes services operated in metropolitan and rural areas. (k) During 1958–59, five private services were taken over by the Metropolitan Transport Trust.

## D. FERRY (PASSENGER) SERVICES.

1. **General.**—Ferry passenger services are operated in the following States—New South Wales, at Sydney and Newcastle; Western Australia, on the Swan River at Perth; Tasmania, on the Derwent River at Hobart, on the Mersey River at Devonport and across D'Entrecasteaux Channel to Bruny Island. Control is exercised both by governmental authorities and by private operators. In Victoria and Queensland the services operated are not extensive. There are no ferry passenger services in South Australia.

2. **Summary of Operations.**—The operations of ferry passenger services in New South Wales, Western Australia and Tasmania during the years 1956–57 to 1960–61 are summarized in the following table. Particulars of vehicular ferries are not included.

## FERRY (PASSENGER) SERVICES.

Year.	Number of Vessels.	Passenger Accommodation.	Passenger-journeys. (‘000.)	Gross Revenue. (£.)	Persons Employed.
NEW SOUTH WALES—SYDNEY AND NEWCASTLE.					
1956–57 .. .. .	40	22,950	16,810	875,000	341
1957–58 .. .. .	39	22,179	16,375	846,000	318
1958–59 .. .. .	37	19,300	15,906	800,196	308
1959–60 .. .. .	37	19,191	15,365	835,700	298
1960–61 .. .. .	40	19,211	15,093	872,000	316
WESTERN AUSTRALIA—PERTH.					
1956–57 .. .. .	4	785	445	12,836	11
1957–58 .. .. .	4	785	442	13,520	11
1958–59 .. .. .	4	785	407	13,504	11
1959–60 .. .. .	4	785	362	12,219	7
1960–61 .. .. .	4	785	180	9,211	7
TASMANIA—HOBART AND DEVONPORT.					
1956–57 .. .. .	5	1,602	707	29,632	24
1957–58 .. .. .	5	1,602	493	22,399	23
1958–59 .. .. .	5	1,602	445	22,202	23
1959–60 .. .. .	5	1,562	465	22,427	22
1960–61 .. .. .	6	1,802	472	23,243	22

## E. MOTOR VEHICLES.

1. **Motor Industry.**—Chapter VI.—Manufacturing Industry contains summarized information on the motor industry of Australia and includes some data on the imports of motor bodies and chassis. Chapter XIII.—Trade contains further data on imports, including those of petroleum products.

2. **Registration.**—The arrangements for the registration of motor vehicles and the licensing of drivers and riders are not uniform throughout Australia, since they are the function of a separate authority, or authorities, in each State and Territory. Particulars of registration, licences, fees payable, etc., in each State and Territory at 30th June, 1960, were given in Official Year Book, No. 47, pp. 553–6.

3. **Taxi-cabs and Other Hire Vehicles.**—In all the capital cities and in most of the provincial centres, taxi-cabs and other vehicles ply for hire under licence granted by either the Commissioner of Police or the local government authority concerned, but particulars of their operations are not available.

4. **Motor Omnibuses.**—In both urban and provincial centres, motor omnibus traffic has assumed considerable proportions during recent years, and in some States the railway and tramway systems run motor services complementary to their main services. There has been a considerable replacement also, during the last few years, of existing tramway services by trolley-bus and motor omnibus services. (See page 540.)

5. Motor Vehicles on the Register, etc.—(i) *Registrations and Revenue.* The following table shows particulars of the registration of motor vehicles, licences issued and revenue received for 1960–61 and a summary for Australia for each of the years 1956–57 to 1960–61. It should be noted that in Victoria registration is made on the basis of the purpose for which the vehicle is to be used; consequently, motor car registrations are overstated by the inclusion of commercial vehicles registered for private use.

A graph showing, for all motor vehicles other than motor cycles, the registrations in force at 30th June of each year from 1935 to 1961 will be found on page 549.

MOTOR VEHICLES: REGISTRATIONS AND REVENUE.

State or Territory, and Year.	Number of Motor Vehicles Registered at 30th June.(a)				Number of Drivers' and Riders' Licences in force at 30th June.	Gross Revenue derived from—				
	Motor Cars.(b)	Commercial Vehicles.(c)	Motor Cycles.	Total.		Per 1,000 of Population at 30th June.	Vehicle Registrations and Motor Tax. (£'000.)	Drivers' and Riders' etc., Licences. (£'000.)	Other Sources. (£'000.)	Total. (£'000.)
STATES AND TERRITORIES, 1960–61.										
N.S.W. ..	663,943	336,180	24,396	1,024,519	262	1,358,822	11,538	1,414	5,196	18,148
Victoria (d)	695,921	176,892	19,331	892,144	304	1,032,431	10,125	1,210	3,486	14,821
Queensland	257,957	147,286	16,493	421,736	278	(e)	5,639	312	1,810	7,761
S. Aust. ..	220,221	75,774	16,780	312,775	323	391,364	3,989	439	112	4,540
W. Aust. ..	138,187	72,145	12,689	223,021	303	261,908	2,697	303	110	3,110
Tasmania	69,088	26,358	2,622	98,068	280	112,249	1,179	112	156	1,447
Nor. Terr.	5,162	5,116	719	10,997	405	12,557	60	9	1	70
A.C.T. ..	14,392	3,899	352	18,643	317	28,179	(f)	(f)	(f)	164
Australia ..	d2,064,871	d843,650	93,382	3,001,903	286	g3197510	h35,227	h3,799	h10,871	50,061

SUMMARY, AUSTRALIA.

	(d)	(d)		(g)						
1956–57 ..	1,564,335	707,107	119,963	2,391,405	248	2,575,896	27,379	2,205	4,803	34,387
1957–58 ..	1,675,638	735,171	115,883	2,526,692	257	2,703,328	30,699	2,368	5,467	38,534
1958–59 ..	1,782,852	766,281	110,552	2,659,685	264	2,833,040	31,642	2,721	8,373	42,736
1959–60 ..	1,924,197	807,254	102,490	2,833,941	276	2,984,852	34,044	3,275	10,203	47,522
1960–61 ..	2,064,871	843,650	93,382	3,001,903	286	h3,197,510	(h)35,227	(h)3,799	h10,871	50,061

(a) Excludes, at 30th June, 1961, trailers (236,034), road tractors, etc. (74,324), and dealers' plates (9,592). (b) Includes taxis, hire cars and station wagons. (c) Includes utilities, panel vans, trucks and omnibuses. (d) See reference to Victoria above. (e) Not available. (f) Not available separately. (g) Excludes Queensland. (h) Excludes Australian Capital Territory.

NOTE.—All Commonwealth-owned vehicles are included except those belonging to the Defence Services.

(ii) *Relation to Population.* The table following shows the number of vehicles (excluding motor cycles) registered per 1,000 of population in each State and Territory at 30th June for each of the years 1957 to 1961.

MOTOR VEHICLES (EXCLUDING MOTOR CYCLES) REGISTERED PER 1,000 OF POPULATION.

Date.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
30th June, 1957 ..	213	255	233	264	245	231	313	274	236
„ 1958 ..	224	264	243	269	251	241	360	286	245
„ 1959 ..	234	272	253	267	259	248	370	296	253
„ 1960 ..	246	289	260	276	274	264	351	309	266
„ 1961 ..	255	298	267	305	286	272	379	311	277

6. **New Vehicles Registered.**—(i) *States and Territories, 1960–61.* The following table shows the number of new vehicles registered in each State and Territory during 1960–61. This series has been revised and is not strictly comparable with the "On Register" series. A graph showing the number of new motor vehicles (excluding motor cycles) registered during each of the years 1935–36 to 1960–61 will be found on page 549.

**NEW MOTOR VEHICLES REGISTERED, 1960-61.(a)**

Vehicles.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Motor cars(b) ..	86,768	66,931	24,540	20,346	15,159	6,724	501	2,173	223,142
Other motor vehicles(c) ..	21,732	14,873	8,552	5,535	5,549	2,056	431	441	59,169
Motor cycles ..	2,034	1,356	1,203	2,062	1,094	61	22	47	7,879
<b>Total ..</b>	<b>110,534</b>	<b>83,160</b>	<b>34,295</b>	<b>27,943</b>	<b>21,802</b>	<b>8,841</b>	<b>954</b>	<b>2,661</b>	<b>290,190</b>

(a) Revised series, see above. (b) Includes taxis, hire cars and station wagons. (c) Includes utilities, panel vans, trucks, omnibuses and ambulances.

(ii) *Australia.* Particulars of the number of new vehicles registered in Australia during each of the years 1956–57 to 1960–61 are shown in the following table.

**NEW MOTOR VEHICLES REGISTERED: AUSTRALIA.(a)**

Vehicles.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Motor cars and station wagons ..	147,253	166,159	176,314	224,055	223,142
Other motor vehicles (b) .. ..	57,976	61,771	66,336	69,080	59,169
Motor cycles .. ..	9,600	10,433	10,036	9,689	7,879
<b>Total .. ..</b>	<b>214,829</b>	<b>238,363</b>	<b>252,686</b>	<b>302,824</b>	<b>290,190</b>

(a) This series has been revised and is not strictly comparable with the "On Register" series. (b) Includes utilities, panel vans, trucks, omnibuses and ambulances.

7. **World Motor Vehicle Statistics, 1961.**—At 1st January, 1962, there were 135,220,800 motor cars, trucks and omnibuses registered in various countries of the world. This is an increase of 5.6 per cent. on the figure for the previous year, 128,035,000. Of the 1962 registrations, 75,880,000 or 56.1 per cent. of the world total were in the United States of America, whilst Australian registrations amounted to 2.1 per cent. This information is largely derived from the *Automobile International*, May, 1961.

**F. ROADS AND BRIDGES.**

Information on the length of roads in Australia, the class of roads and the composition, together with particulars of the financial operations of the roads authorities in the several States is included in Chapter XIX.—Local Government, of this Year Book.

**G. ROAD TRAFFIC ACCIDENTS.**

**§ 1. Accidents Reported.†**

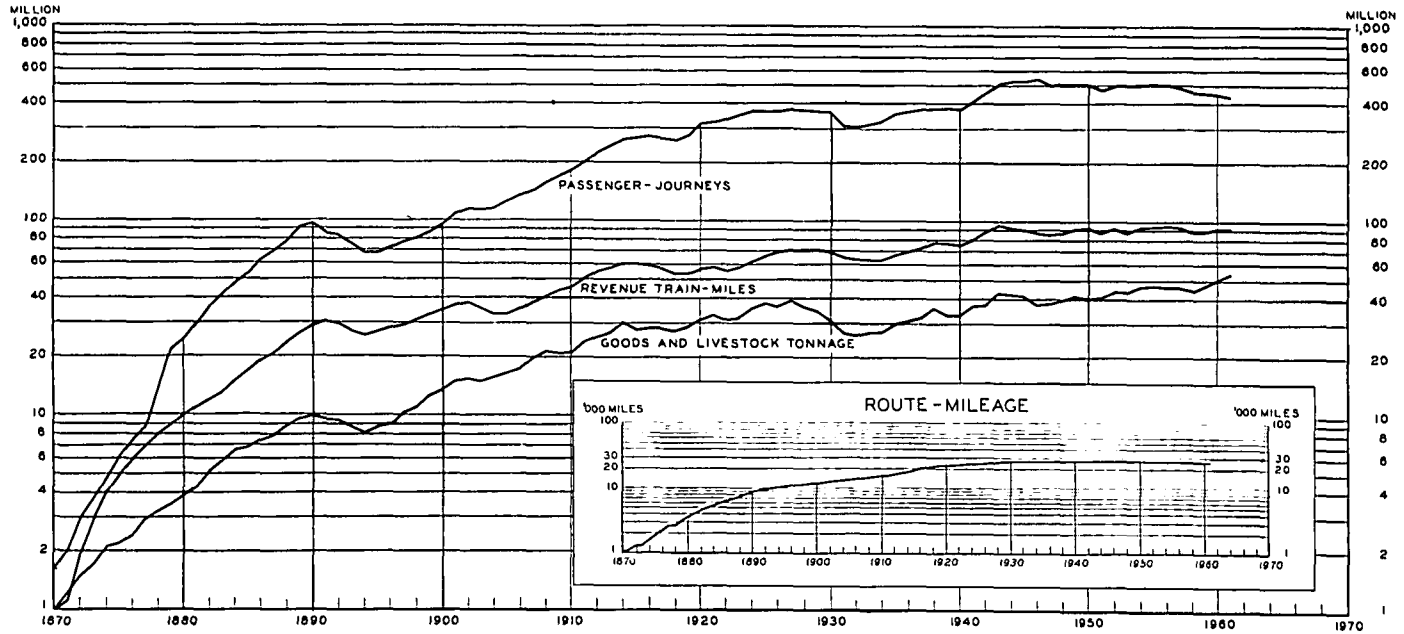
1. **General.**—Statistics of "Total Accidents Recorded" were collected to 31st December, 1957, on a comparable basis for all States except Tasmania, where, under legislation passed on 10th August, 1954, it became no longer obligatory to report accidents involving only damage to property. However, this series was suspended from 1st January, 1958, owing to the inconsistency between States in recording "damage only" accidents.

Details are not available in respect of road traffic accidents which occur in the Northern Territory.



# GOVERNMENT RAILWAYS: AUSTRALIA, 1870 to 1961

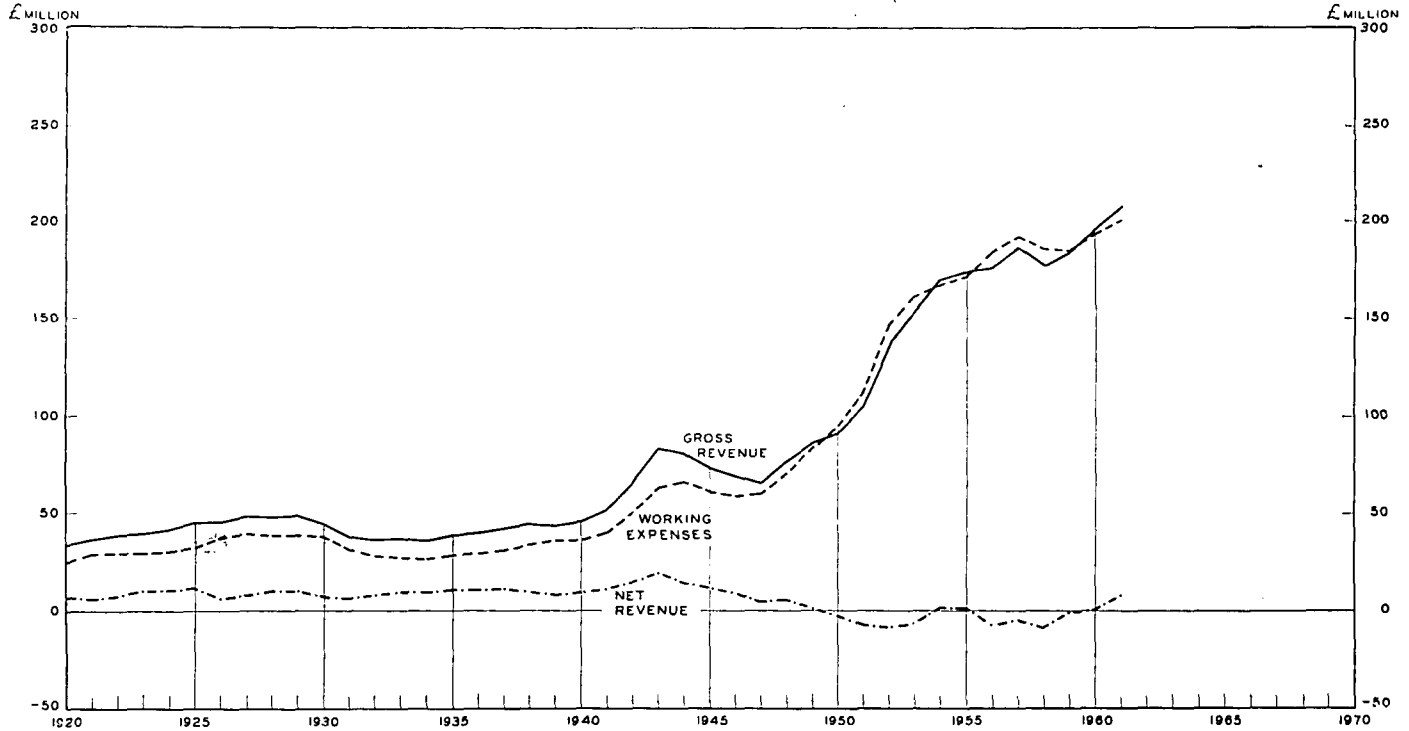
RATIO GRAPH  
ROUTE-MILEAGE AND TRAFFIC



NOTE:- VERTICAL SCALE IS LOGARITHMIC, AND THE CURVES RISE AND FALL ACCORDING TO RATE OF INCREASE OR DECREASE. ACTUAL NUMBERS ARE INDICATED BY SCALE.

# GOVERNMENT RAILWAYS: AUSTRALIA, 1920 to 1961

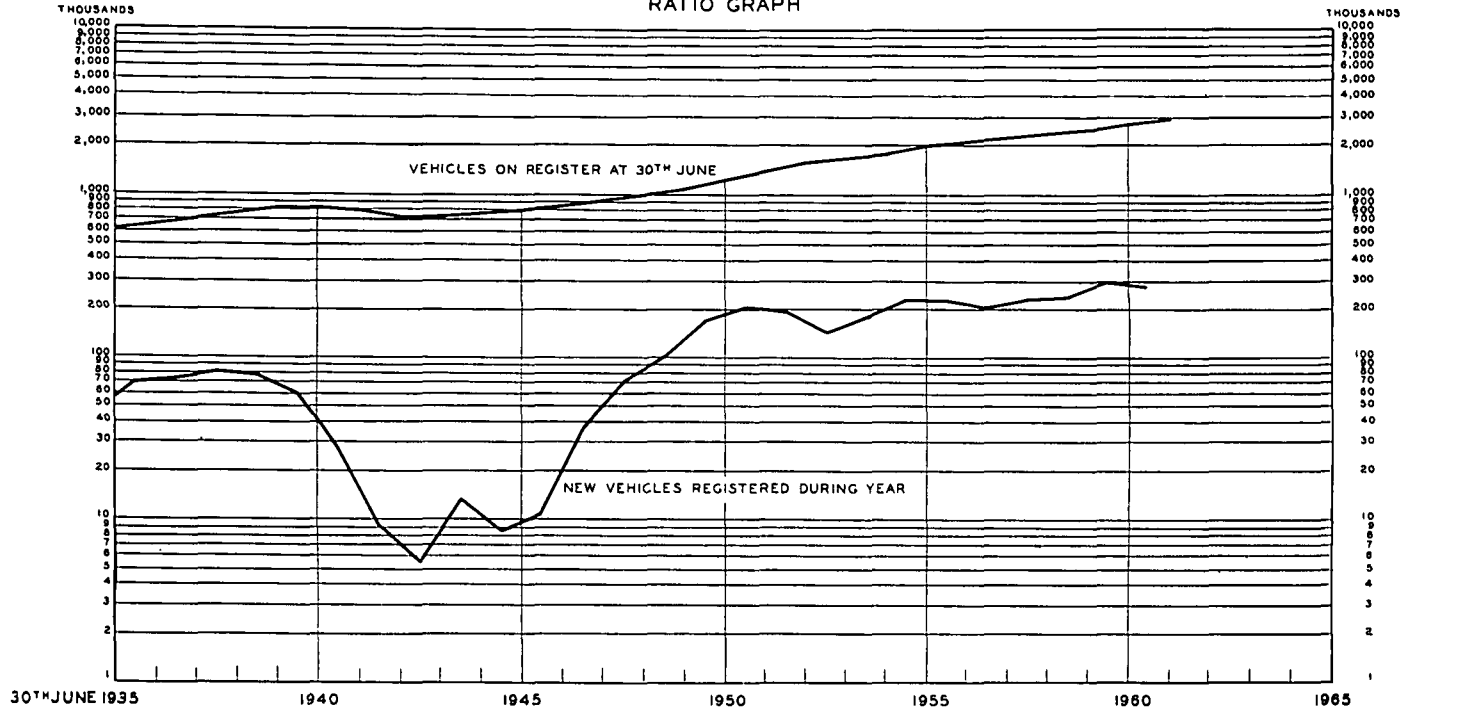
## REVENUE AND WORKING EXPENSES



# MOTOR VEHICLE REGISTRATIONS: AUSTRALIA, 1935 to 1961

## (EXCLUDING MOTOR CYCLES)

RATIO GRAPH



NOTE:- VERTICAL SCALE IS LOGARITHMIC AND THE CURVES RISE AND FALL ACCORDING TO RATE OF INCREASE OR DECREASE. ACTUAL NUMBERS ARE INDICATED BY SCALE.



2. Accidents Involving Casualties.—(i) States, 1960–61. The following table gives a summary of accidents involving casualties in each State and the Australian Capital Territory for the year 1960–61.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a): ACCIDENTS RECORDED AND CASUALTIES, 1960-61.

State or Territory.	Accidents Involving Casualties.	Persons Killed.			Persons Injured.		
		Number.	Per 100,000 of Mean Population.	Per 10,000 Motor Vehicles Registered.	Number.	Per 100,000 of Mean Population.	Per 10,000 Motor Vehicles Registered.
New South Wales ..	16,599	934	24	9	22,244	574	222
Victoria ..	12,140	773	27	9	16,757	579	193
Queensland ..	5,424	353	24	9	7,607	506	183
South Australia ..	6,117	203	21	7	7,665	801	260
W. Australia ..	3,602	197	27	9	4,806	659	223
Tasmania ..	844	75	21	8	1,157	331	121
Aust. Cap. Terr. ..	326	7	13	4	513	929	291
<b>Total ..</b>	<b>45,052</b>	<b>2,542</b>	<b>25</b>	<b>9</b>	<b>60,749</b>	<b>586</b>	<b>209</b>

(a) Accidents (reported to the police) which occurred in public thoroughfares and which caused death, or injury to an extent requiring surgical or medical treatment.

(ii) Riders, Drivers, Pedestrians, etc., Killed or Injured. The following table shows the number of persons killed and the number injured during 1960–61 in each State and the Australian Capital Territory, classified into drivers, riders, pedestrians, etc. Responsibility for cause of accident is not indicated by this classification.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a): DRIVERS, RIDERS, PEDESTRIANS, ETC., KILLED OR INJURED, 1960-61.

Drivers, Riders, Pedestrians, etc.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
<b>PERSONS KILLED.</b>								
Drivers of Motor Vehicles	283	260	112	65	64	24	4	812
Motor Cyclists ..	40	24	25	15	10	3	..	117
Pedal Cyclists ..	31	53	18	17	15	4	..	138
Passengers (all types)(b) ..	226	207	115	54	49	24	1	676
Pedestrians ..	354	227	81	52	59	20	2	795
Other Classes(c) ..	..	2	2	..	..	..	..	4
<b>Total ..</b>	<b>934</b>	<b>773</b>	<b>353</b>	<b>203</b>	<b>197</b>	<b>75</b>	<b>7</b>	<b>2,542</b>

<b>PERSONS INJURED.</b>								
Drivers of Motor Vehicles	7,250	5,498	2,491	2,325	1,363	388	208	19,523
Motor Cyclists ..	1,235	715	789	1,184	718	54	21	4,716
Pedal Cyclists ..	1,047	1,145	474	852	346	52	39	3,955
Passengers (all types)(b) ..	8,884	6,721	3,123	2,418	1,815	463	219	23,643
Pedestrians ..	3,804	2,579	712	882	562	198	24	8,761
Other Classes(c) ..	24	99	18	4	2	2	2	151
<b>Total ..</b>	<b>22,244</b>	<b>16,757</b>	<b>7,607</b>	<b>7,665</b>	<b>4,806</b>	<b>1,157</b>	<b>513</b>	<b>60,749</b>

(a) Accidents (reported to the police) which occurred in public thoroughfares and which caused death, or injury to an extent requiring surgical or medical treatment. (b) Includes pillion riders. (c) Includes tram drivers, riders of horses and drivers of animal-drawn vehicles.

(iii) Ages of Persons Killed or Injured. The following table shows the age groups of persons killed or injured in traffic accidents in each State and the Australian Capital Territory during 1960–61.

## ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a): AGES OF PERSONS KILLED OR INJURED, 1960-61.

Age Group (Years).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
<b>PERSONS KILLED.</b>								
Under 5 .. ..	34	24	9	11	8	2	1	89
5 and under 7 .. ..	12	8	1	5	6	..	..	32
7 " " 17 .. ..	78	60	41	15	16	9	1	220
17 " " 21 .. ..	95	88	44	23	22	12	..	284
21 " " 30 .. ..	149	135	58	27	36	13	1	419
30 " " 40 .. ..	124	104	41	37	20	7	1	334
40 " " 50 .. ..	108	82	48	19	20	11	2	290
50 " " 60 .. ..	109	91	32	19	20	8	..	279
60 and over .. ..	225	168	76	32	49	13	1	564
Not Stated .. ..	..	13	3	15	..	..	..	31
<b>Total .. ..</b>	<b>934</b>	<b>773</b>	<b>353</b>	<b>203</b>	<b>197</b>	<b>75</b>	<b>7</b>	<b>2,542</b>

<b>PERSONS INJURED.</b>								
Under 5 .. ..	866	604	273	260	220	45	23	2,291
5 and under 7 .. ..	424	422	135	171	116	30	15	1,313
7 " " 17 .. ..	2,588	2,176	972	1,059	633	163	79	7,670
17 " " 21 .. ..	3,778	2,772	1,499	1,330	1,080	231	105	10,795
21 " " 30 .. ..	4,686	3,617	1,526	1,308	858	216	109	12,320
30 " " 40 .. ..	3,281	2,526	1,050	1,006	570	152	95	8,680
40 " " 50 .. ..	2,634	1,856	794	752	424	116	44	6,620
50 " " 60 .. ..	1,886	1,335	603	474	362	88	24	4,772
60 and over .. ..	1,875	1,222	615	496	342	52	18	4,620
Not Stated .. ..	226	227	140	809	201	64	1	1,668
<b>Total .. ..</b>	<b>22,244</b>	<b>16,757</b>	<b>7,607</b>	<b>7,665</b>	<b>4,806</b>	<b>1,157</b>	<b>513</b>	<b>60,749</b>

(a) Accidents (reported to the police) which occurred in public thoroughfares and which caused death, or injury to an extent requiring surgical or medical treatment.

(iv) *Accidents Recorded and Casualties, classified according to Type of Vehicle, Road User, etc., Involved.* The following table shows, for the year 1960-61, the number of accidents involving casualties in which each of several classes of vehicles, road users, etc., were involved. The persons killed and injured are similarly classified. As in the table in sub-paragraph (ii) above, responsibility for cause of accident is not indicated by this classification.

## ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a), CLASSIFIED ACCORDING TO TYPE OF VEHICLE, ROAD USER, ETC., INVOLVED: AUSTRALIA, 1960-61.

Particulars.	Motor Vehicle.	Motor Cycle.	Pedal Cycle.	Tram.	Animal and Animal-drawn Vehicle.	Pedestrian.	Fixed Object.	Other Vehicle.
Accidents Involving								
Casualties .. ..	42,471	5,269	4,086	283	364	8,968	2,928	247
Persons Killed .. ..	2,452	148	143	17	8	793	201	68
Persons Injured .. ..	57,814	5,975	4,142	362	426	8,735	4,025	387

(a) Accidents (reported to the police) which occurred in public thoroughfares and which caused death, or injury to an extent requiring surgical or medical treatment.

NOTE.—As accidents and casualties classified according to one type of road user, etc., may also be classified according to another, these totals cannot be added across to obtain grand totals.

The 42,471 accidents involving casualties in which motor vehicles were involved comprised 14,936 collisions with other motor vehicles, 3,505 with motor cycles, 3,476 with pedal cycles, 107 with trams, 211 with animals and animal drawn vehicles, 8,431 with pedestrians, 2,640 with fixed objects, 201 with vehicles other than those mentioned, 8,538 instances of overturning or leaving the roadway, and 426 accidents to passengers only.

3. Road Traffic Accidents Involving Casualties, and Persons Killed or Injured.—The following table shows the number of road traffic accidents involving casualties and persons killed or injured in road traffic accidents in each State and the Australian Capital Territory during each of the years 1956-57 to 1960-61.

## ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a) AND PERSONS KILLED OR INJURED.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.	
								Num-ber.	Per 10,000 Motor Vehicles Registered.

## ACCIDENTS INVOLVING CASUALTIES.

1956-57	..	13,473	10,804	7,527	3,142	3,082	852	186	39,066	167
1957-58	..	14,646	11,233	6,565	4,372	3,338	779	237	41,170	168
1958-59	..	15,216	12,462	5,603	3,984	3,450	791	260	41,766	162
1959-60	..	16,871	12,267	5,720	5,340	3,656	743	322	44,919	164
1960-61	..	16,599	12,140	5,424	6,117	3,602	844	326	45,052	155

## PERSONS KILLED.

1956-57	..	774	589	325	185	168	65	7	2,113	9
1957-58	..	795	571	342	200	164	70	5	2,147	9
1958-59	..	833	661	333	185	178	68	6	2,264	9
1959-60	..	939	698	359	203	180	79	10	2,468	9
1960-61	..	934	773	353	203	197	75	7	2,542	9

## PERSONS INJURED.

1956-57	..	17,321	14,120	9,800	3,944	3,921	1,107	237	50,450	216
1957-58	..	19,378	15,015	8,739	5,492	4,249	1,000	320	54,193	221
1958-59	..	19,854	16,784	7,700	5,183	4,506	990	342	55,359	219
1959-60	..	22,330	16,595	8,054	6,856	4,788	1,004	477	60,104	214
1960-61	..	22,244	16,757	7,607	7,665	4,806	1,157	513	60,749	209

(a) Accidents (reported to the police) which occurred in public thoroughfares and which caused death, or injury to an extent requiring surgical or medical treatment.

## § 2. Road Safety Organizations.

1. The National Safety Council of Australia.—The National Safety Council of Australia was founded in Melbourne in 1927 with the object of developing, mainly by education, safety in all spheres—on the road, in industry, in the home and on the farm. The Council's functions thus extend beyond the development of road safety, but, because of its work in this sphere a description of its activities has been included here. It is a non-profit making organization supported by Government grants, public subscriptions and payments for service. Its work is carried out by a small staff controlled by committees and governed by an executive.

In 1959, the Council's work in industrial safety was consolidated and expanded by the formation of an Advisory Committee composed of leading industrialists with Australia-wide associations, and the Council is now being reorganized on a national basis. A strong Advisory Committee has been established in New South Wales, and action is being taken to register the Council's national headquarters in Canberra. In addition to the Industrial Safety Service of posters, slips for pay envelopes and the bi-monthly journal "Safety News", available to industry by subscription, the Council's Industrial Safety Division also provides advice on setting up safety programmes, information on safety problems, safety surveys of plant and works, safety instruction for foremen, technical library facilities, and safety service to small factories.

In Victoria, the Road Safety Division undertakes campaigns, lectures and film screenings to schools and organizations. Posters and literature are distributed to schools in connexion with road safety lessons, and special films are available on loan for child and adult road safety instruction. With the co-operation of other interested organizations, the Road Safety Division undertakes School Driver Training courses in various Melbourne schools. This scheme is proving most successful and it is hoped to expand it greatly. A "Safe Driving" campaign for individual motor drivers and a "Freedom from Accidents" campaign for employee drivers are conducted, and those completing a year free from any accident for which they were responsible are given a certificate or award in recognition.

2. **Australian Road Safety Council.**—(i) *Origin, Objectives and Organization.* The Australian Road Safety Council was formed in 1947 by the Australian Transport Advisory Council, which comprises Commonwealth and State transport ministers and Commonwealth ministers with associated interests, to conduct a nation-wide programme of public education. It was re-constituted in February, 1961, by the Australian Transport Advisory Council, in order to provide a smaller, more effective, organization.

The objectives of the reconstituted Council are—

- (a) To conduct a continuous programme of public education, aimed at improving the knowledge, skills, attitudes and practices of all classes of road users;
- (b) To encourage a better understanding and observance of State and Commonwealth traffic laws by road users;
- (c) To stimulate greater public interest, support and active participation in road accident prevention;
- (d) To co-ordinate, in a balanced programme, the Commonwealth and State public education campaigns, and to integrate with these campaigns the support accorded by non-governmental bodies and the general public;
- (e) To collect, collate, publish and distribute educational and informative data regarding road accidents; and
- (f) To advise on specific road safety matters referred to it by the Australian Transport Advisory Council.

The Australian Road Safety Council comprises 16 members, representing the Commonwealth and State Governments and the major categories of organized road users. It meets approximately three times each year and has established a number of temporary sub-committees to investigate and report upon particular aspects of its activities. Its first meeting was held in Hobart on April 10th and 11th, 1961.

The Department of Shipping and Transport provides the central executive for the Council. Each section represented on the Australian Road Safety Council—Commonwealth, State and community/commercial—exercises full control over its own activities. One of the Council's principal functions is to co-ordinate the Commonwealth and State public education campaigns and to integrate with these campaigns the support accorded by commerce, industry, and community service organizations.

A sum of £150,000 is provided annually by the Commonwealth Department of Shipping and Transport for the promotion of road safety practices; £50,000 is distributed to the State Governments for public education in road safety, and the remaining £100,000 is used for the national public education campaign. The £50,000 grant to the States is allocated in the following proportions:—New South Wales, £12,500; Victoria, £10,000; Queensland, £9,250; South Australia, £6,250; Western Australia, £8,250; Tasmania, £3,750.

(ii) *Mode of Operation.* The media used by the Australian Road Safety Council in its national campaigns include metropolitan daily press and metropolitan radio and television, platform and pulpit, plus a wide variety of posters, pamphlets, booklets, publications and films. Close liaison is maintained with State and Commonwealth educationists in the preparation and distribution of road safety instructional material for schools.

The Council, through its Central Executive in the Department of Shipping and Transport, works in close collaboration with two companion Committees, established by the Australian Transport Advisory Council. These are the Australian Road Traffic Code Committee, which is charged with the responsibility of drafting recommendations for uniform road traffic laws throughout the Commonwealth in keeping with modern traffic requirements, and the drafting of a complete National Road Traffic Code suitable for adoption in all States and Territories; and the Australian Motor Vehicle Standards Committee, which devises national standards for the construction, equipment, and operational efficiency of all road vehicles.



Because of the great increases in population and vehicle numbers, the exposure to risk of road users is considerably greater today than ever before. This is the basic problem confronting the Australian Road Safety Council, and in its efforts to deal with it, the Council has recognized the consideration that, notwithstanding advances in road and vehicle design and traffic laws, road safety still remains essentially a problem of human behaviour.

The primary aim of road accident prevention, as envisaged by the Council, is thus to create a state of mind under which all classes of road users realize the imminence and consequence of road accidents, and are willing to accept the restraints necessary to prevent them. It is the Council's belief that, for the most part, this can best and often only be done effectively through education in the broad and practical sense, by improving knowledge, skill, attitudes and habits of all classes of road users, and by creating a public conscience about road accidents.

## H. CIVIL AVIATION.

1. **Historical.**—A short review of the progress of civil aviation in Australia up to the date of foundation of a Civil Aviation Administration was published in Official Year Book No. 16, pages 334–5, and a brief account of the foundation and objects of this Administration was published in Official Year Book No. 19, page 299. Official Year Book No. 38 and earlier issues contain information on the control of civil aviation by the Board (1936) and later (1939) by the Department of that name. The Acts defining the broad principles of operation of the administration of civil aviation and the Regulations amplifying them, and the principal functions of the administration are also described.

The Department of Civil Aviation is divided in twelve Divisions as follows:—Air Transport; International Relations; Administration, Personnel and Establishments; Finance and Stores; Airport Engineering; Aviation Buildings and Property; Flying Operations; Airworthiness; Airways Operations; Airways Engineering; Aviation Medicine; Accident Investigation and Analysis.

2. **International Activity.**—(i) *International Organizations.* A full report of the formation of the International Civil Aviation Organization, the Commonwealth Air Transport Council and the South Pacific Air Transport Council appeared in Official Year Book No. 37 and particulars of subsequent activity in the international field were included in issue No. 38. The International Civil Aviation Organization had a membership of 90 nations at the 31st December, 1961. Australia has continued her representation on the Council, a position which she held since I.C.A.O. was established in 1947. The fourteenth meeting of the South Pacific Air Transport Council was held in Melbourne in November, 1960. Further details will be found in Official Year Book No. 40 and earlier issues.

(ii) *International Agreements.* The following agreements between Australia and other countries for the use by Australia of certain overseas routes and reciprocal routes granted in return were in force at 30th June, 1961.

*Canada.*—An Australian route via intermediate specified points to Vancouver; a Canadian route via intermediate specified points to Sydney.

*United States of America.*—Australian routes via intermediate points to San Francisco and beyond to Vancouver, and also beyond San Francisco to New York, the British Isles, Europe and beyond; American routes via intermediate points to various points in Australia and beyond.

*Pakistan.*—Australian routes via specified intermediate points to Karachi and optionally beyond via specified points to the United Kingdom; Pakistan routes via specified intermediate points to Darwin and Sydney.

*India.*—Australian route via specified intermediate points to Calcutta or Delhi and any other points in India to be agreed upon and beyond; Indian route via specified intermediate points to Sydney and Melbourne and/or any other point in Australia to be agreed upon and beyond.

*Ceylon.*—An Australian route via specified intermediate points to Ceylon and beyond via specified points to the United Kingdom; Ceylonese route from Ceylon via intermediate points to Darwin and Sydney.

*Netherlands.*—Australian routes (1 and 2) from Australia via specified intermediate points to Amsterdam and beyond to London; and (3 and 4) from Australia or New Guinea to Netherlands New Guinea; Netherlands routes (1 and 2) from Amsterdam via specified intermediate points to Darwin and Sydney; and (3 and 4) Netherlands New Guinea to Australia or Lae and/or Port Moresby.

- Egypt (now United Arab Republic).*—Australian routes via specified intermediate points to Cairo and beyond via specified points to the United Kingdom; an Egyptian route to be agreed.
- Lebanon.*—Australian routes via specified intermediate points to Beirut and beyond via specified points to London; a Lebanese route from Lebanon via specified intermediate points to Darwin and Sydney.
- South Africa.*—An Australian route from Australia via specified intermediate points to Johannesburg; a South African route from South Africa via specified intermediate points to Perth.
- Japan.*—Australian routes from Australia via specified intermediate points to Tokyo; Japanese routes from Japan via specified intermediate points to Darwin and Sydney.
- Germany.*—An Australian route from Australia via specified intermediate points to Frankfurt and beyond to Holland and/or United Kingdom; a German route from Germany via intermediate specified routes to Darwin and Sydney.
- Ireland.*—An Australian route via Fiji to Shannon and beyond; Ireland was given a reciprocal route to Australia and beyond.
- United Kingdom.*—Australia was given a variety of routes from Australia east about and west about to the United Kingdom and to United Kingdom territories; the United Kingdom was given various routes east about and west about into various points in Australia.
- Malaya.*—An Australian route via specified intermediate points to Kuala Lumpur and Penang and beyond; a Malayan route from Malaya via specified intermediate points to Darwin and Perth.
- Thailand.*—An Australian route via intermediate specified points to Bangkok and beyond to specified points and beyond; a Thai route from Thailand via specified intermediate points to Darwin and Sydney.

(iii) *International Air Services.* Qantas Empire Airways Ltd. has an operational fleet of 11 Boeing 707 jet aircraft, 4 Lockheed Electras and 7 Lockheed Super Constellations. The Boeings operate to the United Kingdom via North America and via the Middle East, and to Hong Kong, Japan and Noumea. The Electras are used on services to New Zealand and Fiji, and the Super Constellations on the South Africa service and on cargo services. Qantas was operating aircraft over 68,080 route miles on international services at 30th September, 1961. A summary of the operations of oversea services wholly or partly Australian-owned appears on page 560.

Three Lockheed Electra aircraft operated by Tasman Empire Airways Ltd., link Sydney with Auckland, Christchurch and Wellington; Melbourne with Auckland and Christchurch; and Brisbane with Auckland.

**3. Australian National Airlines Commission.**—The Commonwealth Australian National Airlines Act 1945 constituted the Australian National Airlines Commission for the purpose of establishing, maintaining and operating airline services for the transport of passengers and goods between Australian States and/or Territories and within Australian Territories. The Commission may, with the approval of the Minister, undertake services between Australia and places outside Australia, and, in certain circumstances, may engage in intra-state operations.

The operating organization set up to give effect to the Act is Trans-Australia Airlines.

**4. Regular Air Services within Australia.**—Details of the Government's rationalization scheme and the 1957 amendment to the Civil Aviation Agreement Act consequent upon Ansett Transport Industries Ltd. purchasing Australian National Airways Pty. Ltd. was published in Official Year Book No. 44, pages 420 and 421. The financial and rationalization provisions of the earlier Acts were varied as a result of the Civil Aviation Agreement Act 1961 which extended the operation of rationalization of domestic services to 1977.

The Airlines Equipment Act, assented to in October, 1958, gave effect to financial arrangements whereby re-equipment programmes would be assisted. An important example of this re-equipment programme was the introduction of Fokker Friendship and Lockheed Electra aircraft into regular air services within Australia. This Act has been affected by the Airlines Agreement Act 1961 to secure its continual application to the two major domestic airlines for the term of the Civil Aviation Agreement Act 1961.

A summary of the operations of regular air services within Australia appears on page 560.

**5. Air Ambulance Services.**—A brief statement on the foundation and objects of the Air Ambulance Services will be found in Official Year Book No. 32, pages 145 and 146.

During the year 1960-61, the Air Ambulance and Royal Flying Doctor Services continued to provide medical aid for the outback regions of Australia. The Royal Flying Doctor Service of Australia, operating from Broken Hill, New South Wales, Cloncurry, Queensland, and Alice Springs, Northern Territory (operated in conjunction with the Department of Health), covers a wide area of inland Australia. The Bush Church Aid Society for Australia and Tasmania, supported by funds from the Church of England, operates from Ceduna in South Australia. The federal Methodist Inland Mission operates services from Meekatharra, Western Australia, and the Queensland Ambulance Transport Brigade operates a service from Cairns in Queensland. Recently a Flying Surgeon Service came into operation in Queensland.

For further information *see* Chapter XVII.—Public Health.

**6. Training of Air Pilots.**—A brief statement of the pre-war policy of the Commonwealth Government regarding assistance to Aero Clubs was given in Official Year Book No. 32, page 146, and details of further assistance granted are given in subsequent Year Books. Year Book No. 44, page 421, contains particulars of the existing system of maintenance grants for hours flown and bonus payments for licences obtained.

During the year 1960-61, the flying training organizations (non-profit aero clubs and commercial flying schools) earned bonuses in respect of 383 private pilot licences, 108 commercial pilot licences and 45 initial instructor ratings. Subsidized hours flown by aero clubs and flying schools numbered 88,392, and the total earnings of all organizations amounted to £197,554. An overall limit placed on the subsidy restricted the total payments to £145,000. There were 37 aero clubs and 16 commercial flying training schools in operation during the year, and, in addition to subsidized civil flying, some 25,723 unsubsidized civil hours and 3,812 service training hours were flown; in all, a total of 117,927 hours.

**7. Gliding Clubs.**—For the year 1960-61, a total subsidy of £3,000 was distributed to member clubs of the Gliding Federation of Australia, on the basis of £1,500 for membership and £1,500 for gliding certificates issued. In addition, the Federation received a grant of £1,000 towards the cost of operation of its school for instructors and engineers.

During 1960-1961 there were 1,037 flying members operating 75 gliders which flew approximately 5,300 hours and recorded 36,000 launchings.

**8. Airways Engineering.**—In the field of airways engineering, which includes the provision of radio navigation facilities, radiocommunication systems, and airport lighting systems, steady progress has continued through 1960-61. The plan for the extension of radiocommunication networks and navigational facilities to cater for increases in traffic, number of aircraft and speed of aircraft has further progressed.

During 1960-61 the following main portions of the plan were completed.

- (a) V.H.F. repeater stations at Mount Major (Vic.) and Pt. Lookout (N.S.W.). Mount Major extends direct speech with aircraft from Melbourne as far as Canberra, while Pt. Lookout provides direct speech to aircraft on the Sydney-Brisbane air route.
- (b) Perth international transmitting station.
- (c) Madang remote transmitting station.
- (d) The following radio navigational aids were installed:—3 distance measuring beacons, 8 non-directional beacons, 1 visual aural range, 1 visual omnirange and 2 instrument landing systems. Two long range surveillance radars have been ordered for Sydney and Adelaide.

In the field of air traffic control engineering new communication centres were installed at Adelaide and Charleville and a new traffic control centre at Brisbane. In the field of airport lighting a high intensity approach lighting system was installed at Cairns, 2 visual approach slope indicators at Sydney and 6 airport lighting systems at country aerodromes.

**9. Meteorological Services.**—The Department of Civil Aviation is the greatest user of meteorological services in the Australian Commonwealth and its territories, and therefore the requirements for civil aviation purposes have played a big part in determining the form of meteorological organization that exists at the present time. The Department and the

Commonwealth Bureau of Meteorology have completed working arrangements designed to meet the very precise requirements of modern civil aviation in Australia, which specify the standards of service, times and places of operation and facilities required for the provision of meteorological services for civil aviation.

10. Search and Rescue.—The Department of Civil Aviation has assumed responsibility for co-ordination of search and rescue activity throughout all Australian flight information regions, and also arranges for the availability of search and rescue facilities.

Particulars of systems and methods of operation are given in the statement following.

**DEPARTMENT OF CIVIL AVIATION: SEARCH AND RESCUE POLICY.**

Function.	Civil Aircraft.		Military Aircraft.	
	Responsibility.	Assistance where Necessary.	Responsibility.	Assistance where Necessary.
Overall Co-ordination of Land, Sea and Air Search	D.C.A.	..	R.A.A.F.	..
Co-ordination of Air Search	D.C.A.	..	R.A.A.F.	..
Provision of Search Aircraft	D.C.A. and civil operators	R.A.A.F. and military	R.A.A.F.	Military, D.C.A. and civil operators
Control of Search Aircraft— D.C.A. and Civil .. .. Military .. .. Naval .. ..	D.C.A. R.A.A.F. R.A.N.	.. .. ..	D.C.A. R.A.A.F. R.A.N.	.. .. ..
Provision and Co-ordination of Land Search ..	Police	Military	(As arranged by military authorities)	

Function.	Hikers, Launches, Ships (other than warships) at Sea, etc.		Warships, R.A.N. and Shipborne Aircraft.	
	Responsibility.	Assistance where Necessary.	Responsibility.	Assistance where Necessary.
Overall Co-ordination of Land, Sea and Air Search	Police, Department of Shipping and Transport for ships at sea	D.C.A.	R.A.N.	..
Co-ordination of Air Search	R.A.A.F. or D.C.A. where D.C.A. or civil aircraft solely used	..	R.A.N.	..
Provision of Search Aircraft	R.A.A.F.	(a) Military and (b) D.C.A. and civil operators if R.A.A.F. unable provide suitable military aircraft	R.A.N.	(a) R.A.A.F. and (b) D.C.A. and civil operators if R.A.A.F. unable provide suitable aircraft
Control of Search Aircraft— D.C.A. and Civil .. .. Military .. .. Naval .. ..	D.C.A. R.A.A.F. R.A.N.	.. .. ..	D.C.A. R.A.A.F. R.A.N.	.. .. ..
Provision and Co-ordination of Land Search ..	Police	Military	Police	Military

11. **Statistical Summaries.**—(i) *Registrations, Licences, etc.* The following table provides a summary of the civil aviation registrations and licences in force in Australia at 30th June in each of the years 1957 to 1961.

**CIVIL AVIATION: REGISTRATIONS, LICENCES, ETC., AUSTRALIA.(a)**

Particulars.	At 30th June—				
	1957.	1958.	1959.	1960.	1961.
Registered aircraft owners ..	485	570	642	745	850
Registered aircraft ..	1,054	1,180	1,246	1,360	1,502
Pilots' Licences—					
Private ..	2,592	2,628	2,801	3,001	3,206
Private Helicopter ..	..	..	..	..	2
Commercial ..	709	845	910	948	973
Senior Commercial ..	99	100	130	132	147
Helicopter (Commercial) ..	21	18	17	30	34
Student ..	3,397	3,489	3,461	3,696	4,151
Student Helicopter ..	..	4	4	14	10
1st Class Airline Transport	606	656	652	618	659
2nd „ „ „	7	} (b) 389	389	418	471
3rd „ „ „	414				
Navigators' Licences—					
Flight Navigator ..	187	176	177	168	142
Radio Operators' Licences—					
1st Class Flight Radio-Tele- graphy Operator ..	69	63	56	55	43
Flight Radio-Telephone Operator ..	1,574	1,823	2,203	2,651	3,679
Flight Engineers' Licences ..	116	176	189	193	200
Aircraft Maintenance Engineers' Licences ..	1,915	2,016	2,266	2,382	2,492
Aerodromes, Australia—					
Government(c) ..	169	168	168	149	132
Licensed(d) ..	313	311	304	323	351
Flying Boat Bases(e) ..	13	13	13	13	13

(a) Except for aerodromes and flying-boat bases, includes the Territory of Papua and New Guinea.  
 (b) 3rd class abolished, and existing 3rd class licences became 2nd class. (c) Under the control and management of the Department of Civil Aviation. (d) Aerodromes under the control and management of a municipality, shire, station owner, private individual, etc. Includes emergency aerodromes.  
 (e) Includes alighting areas.

(ii) *Types of Aircraft on the Australian Register.* At 31st December, 1961, there were 1,545 aircraft on the Australian register, including aircraft based in New Guinea and Papua. Of these, 185 were engaged in regular public transport, and included 11 Boeing 707, 4 Bristol Freighter, 5 Convair 440, 63 Douglas DC3, 7 Douglas DC4 (Skymaster), 4 Douglas DC6B, 20 Fokker Friendship, 10 Lockheed Electra, 8 Lockheed Super Constellation, and 21 Vickers Viscount. At the same date there were 351 aircraft available for charter, including 18 Auster, 198 Cessna, 33 de Havilland and 52 Piper. Aircraft used for private purposes numbered 643, of which Auster (156), Cessna (145), and de Havilland (142) were the most numerous. Aircraft used for purposes such as flying school training, aerial agricultural work, etc., numbered 366, of which de Havilland (224) were the most numerous, including 151 DH82 Tiger Moth.

(iii) *Types of Gliders on the Australian Register.* At 31st December, 1961, there were 122 gliders on the Australian register: 51 were two-seater trainers, 62 were single-seater medium performance gliders, 9 were single-seater high performance gliders.

(iv) *Operations of Regular Internal Services.* The next table summarizes the flying activities of regular internal services operating within Australia during each of the years 1956-57 to 1960-61.

**CIVIL AVIATION: OPERATIONS OF REGULAR INTERNAL SERVICES,  
AUSTRALIA.(a)**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Hours flown .. .. .	251,139	237,981	229,396	225,050	219,918
Miles .. .. .	42,120	40,533	40,287	43,199	42,301
Paying passengers .. .. .	2,125,338	2,122,794	2,235,070	2,660,412	2,639,080
Paying passenger-miles .. .. .	891,196	898,542	944,379	1,132,517	1,109,552
Freight—					
Tons(b) .. .. .	75,092	70,003	62,755	65,402	62,971
Ton-miles(b).. .. .	36,330	32,987	28,841	29,240	28,220
Mail—					
Tons(b) .. .. .	2,514	2,642	2,727	4,825	5,956
Ton-miles(b).. .. .	1,404	1,446	1,472	2,567	3,064

(a) Includes only services operating within the Australian mainland and Tasmania. (b) In terms of short tons (2,000 lb.).

(v) *Operations of Oversea Services wholly or partly Australian-owned.* The following table furnishes a summary of overseas services, wholly or partly owned by Australian interests, during the years 1956-57 to 1960-61. This table incorporates aggregate particulars of all traffic originating on overseas services of Qantas Empire Airways Limited and Tasman Empire Airways Limited, which, in the case of Qantas, includes considerable traffic which does not enter Australia. The transfer of the Australian Government's shares in Tasman Empire Airlines to the New Zealand Government on 25th July, 1961, made TEAL a wholly New Zealand owned airline. Thus statistics of the operations of TEAL will not be shown in Australian statistics after 1960-61. An air services agreement was signed whereby air traffic rights into and through the two countries were exchanged at the same time, and on 1st October, 1961, both airlines commenced joint scheduling arrangements for Trans-Tasman services. The table also includes traffic between Australia and Papua, New Guinea, and Norfolk Island.

**CIVIL AVIATION: OPERATIONS OF OVERSEA SERVICES.(a)**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Route miles (unduplicated) at 30th June ..	62,675	71,729	74,704	76,125	72,290
Hours flown .. .. .	56,939	63,917	68,811	54,668	57,385
Miles .. .. .	13,514	15,267	16,486	16,992	20,068
Paying passengers .. .. .	155,618	164,634	176,120	232,714	291,258
Paying passenger-miles .. .. .	476,831	501,388	534,728	720,099	847,713
Freight—					
Tons(b) .. .. .	2,957	3,205	3,431	5,150	6,575
Ton-miles(b).. .. .	11,203	12,051	15,381	24,625	30,134
Mail—					
Tons(b) .. .. .	1,622	1,749	1,647	2,015	2,335
Ton-miles(b).. .. .	9,450	9,789	8,834	10,351	11,269

(a) Airlines wholly or partly owned by Australian interests. (b) In terms of short tons (2,000 lb.).

(vi) *Accidents and Casualties.* The number of accidents involving aircraft on the Australian register, in which persons were killed or injured, is shown in the following table for the years 1956-57 to 1960-61.

**CIVIL AVIATION: AUSTRALIAN AIRCRAFT<sup>(a)</sup>, ACCIDENTS INVOLVING CASUALTIES.**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Number .. ..	37	35	39	43	40
Persons killed .. ..	24	28	21	44	28
Persons injured .. ..	36	31	30	42	38

<sup>(a)</sup> Aircraft on Australian register and gliders irrespective of location of accident.

12. **Territory of Papua and New Guinea.**—For brief particulars of civil aviation in Papua and New Guinea *see* Chapter V.—The Territories of Australia, pages 138 and 147.

**I. POSTS; TELEGRAPHS; TELEPHONES; OVERSEA TELECOMMUNICATION SERVICES.**

NOTE.—In this Division particulars for the Australian Capital Territory are included with those for New South Wales, while the South Australian figures include particulars for the Northern Territory unless otherwise indicated.

**§ 1. General.**

1. **The Postmaster-General's Department.**—Under the provisions of the Post and Telegraph Act 1901, the Postmaster-General's Department is responsible for the control and operation of postal, telegraphic and telephonic services throughout Australia. The Postmaster-General's Department is also responsible for the provision and operation of the transmitters and technical facilities required for broadcasting and television services by the Australian Broadcasting Commission (*see* pages 572-4), and co-operates with the Overseas Telecommunications Commission (*see* page 569) in providing facilities for communication with overseas countries. Subsidiary to its major activities, the Postmaster-General's Department performs a number of important functions for other Commonwealth and State departments, including the payment of pensions, child endowment, and military allotments, the provision of banking facilities on behalf of the Commonwealth Savings Bank, the sale of tax and duty stamps, and the collection of land tax.

2. **Postal Facilities.**—(i) *Relation to Area and Population.* The following statement shows the number of post offices, the area in square miles and the number of inhabitants to each post office (including non-official offices), and the number of inhabitants to each 100 square miles in each State and in Australia at 30th June, 1961.

**POSTAL FACILITIES: RELATION TO AREA AND POPULATION AT 30th JUNE, 1961.**

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
Number of post offices—							
Official and Semi-official .. ..	515	323	225	169	148	53	1,433
Non-official .. ..	2,000	1,912	1,029	755	484	459	6,639
<b>Total .. ..</b>	<b>2,515</b>	<b>2,235</b>	<b>1,254</b>	<b>924</b>	<b>632</b>	<b>512</b>	<b>8,072</b>
Number of square miles of territory per office .. ..	123	39	532	978	1,544	51	368
Number of inhabitants per office ..	1,581	1,311	1,211	1,078	1,166	684	1,302
Number of inhabitants per 100 square miles .. ..	1,250	3,330	228	110	75	1,347	354

(ii) *Employees and Mail Contractors.* The number of employees and mail contractors in the Central Office and in each of the States at 30th June, 1961 is given in the following table.

NUMBER OF POSTAL EMPLOYEES AND MAIL CONTRACTORS AT  
30th JUNE, 1961.

Particulars.	Central Office.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
Employees .. ..	1,384	35,599	27,132	14,010	9,713	6,760	3,931	98,529
Mail Contractors .. ..	..	2,145	1,142	1,206	362	290	135	5,280

3. *Gross Revenue, Branches—Postmaster-General's Department.—(i) States, 1960-61.* The gross revenue (actual collections) in respect of each branch of the Department during the year 1960-61 is shown in the following table.

POSTMASTER-GENERAL'S DEPARTMENT: GROSS REVENUE, 1960-61.(a)  
(£'000.)

Source.	Central Office.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Postage .. ..	b 1,976	16,738	11,975	5,107	3,522	2,439	993	42,750
Telegraphs .. ..	59	2,410	1,831	1,298	822	625	230	7,275
Telephones .. ..	43	32,853	23,549	10,596	7,256	4,541	2,276	81,114
Money order commission and poundage on postal notes .. ..	..	508	301	137	125	68	30	1,169
Private boxes and bags .. ..	..	104	66	51	33	24	14	292
Miscellaneous .. ..	3	1,540	1,099	415	205	215	88	3,565
<b>Total .. ..</b>	<b>2,081</b>	<b>54,153</b>	<b>38,821</b>	<b>17,604</b>	<b>11,963</b>	<b>7,912</b>	<b>3,631</b>	<b>136,165</b>

(a) The figures in this table relate to revenue actually collected during the year as recorded for Treasury purposes. (b) Revenue from airmail services.

(ii) *Australia.* The following table shows the gross revenue (actual collections) of the Department for each of the five years 1956-57 to 1960-61.

POSTMASTER-GENERAL'S DEPARTMENT: GROSS REVENUE, AUSTRALIA.(a)  
(£'000.)

Source.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Postage .. ..	29,464	31,339	33,165	39,167	42,750
Telegraphs .. ..	5,904	6,169	6,321	6,804	7,275
Telephones .. ..	51,002	55,344	59,717	71,209	81,114
Money order commission and poundage on postal notes .. ..	926	932	956	1,088	1,169
Private boxes and bags .. ..	240	247	258	276	292
Miscellaneous .. ..	2,538	2,745	3,050	3,087	3,565
<b>Total .. ..</b>	<b>90,074</b>	<b>96,776</b>	<b>103,467</b>	<b>121,631</b>	<b>136,165</b>

(a) See note (a) to previous table.

4. *Expenditure, Postmaster-General's Department.—(i) States.* The following table shows, as far as possible, the distribution of expenditure (actual payments) in each State during 1960-61, as shown by records kept for Treasury purposes. The table must not be regarded as a statement of the working expenses of the Department, since items relating to new works, interest, etc., are included therein.



**POSTMASTER-GENERAL'S DEPARTMENT: DISTRIBUTION OF EXPENDITURE, 1960-61.(a)**

(£'000.)

Particulars.	Central Office.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.
<b>Expenditure from Ordinary Votes—</b>								
Salaries and payments in the nature of salary .. ..	743	18,369	13,098	7,104	4,599	3,023	1,755	48,691
General expenses .. ..	123	2,329	1,654	604	528	316	191	5,745
Stores and material .. ..	48	780	674	439	327	183	116	2,567
Mail services .. ..	(b)6,080	1,742	931	873	393	226	131	10,376
Engineering services (other than capital works) .. ..	1,253	15,062	11,217	5,547	3,736	2,775	1,416	41,006
Other services .. ..	142	..	..	..	..	..	..	142
<b>Total .. ..</b>	<b>8,389</b>	<b>38,282</b>	<b>27,574</b>	<b>14,567</b>	<b>9,583</b>	<b>6,523</b>	<b>3,609</b>	<b>108,527</b>
Rent, repairs, maintenance .. ..	..	523	508	213	174	92	33	1,543
Proportion of audit expenses .. ..	5	23	17	9	6	4	2	66
<b>Capital works and services—</b>								
Telegraph and telephone .. ..	90	15,364	10,750	3,995	3,536	2,280	1,281	37,296
New buildings, etc. .. ..	..	1,772	1,309	662	613	384	109	4,849
Other expenditure, not allocated to States .. ..	(c)3,928	..	..	..	..	..	..	3,928
<b>Grand Total .. ..</b>	<b>12,412</b>	<b>55,964</b>	<b>40,158</b>	<b>19,446</b>	<b>13,912</b>	<b>9,283</b>	<b>5,034</b>	<b>156,209</b>

(a) The figures in this table represent actual payments made during the year as recorded for Treasury purposes. (b) Expenditure on airmail services. (c) Includes expenditure not apportioned to States, i.e., interest on loans, £745,000; sinking fund, £513,000; superannuation contributions, £2,652,000; transferred officers' pensions and allowances, £1,000; pensions and retiring allowances, £3,000; and pensions supplements, £14,000.

(ii) *Australia.* The following table shows the distribution of expenditure (actual payments) of the Department for Australia as a whole for each of the years 1956-57 to 1960-61.

**POSTMASTER-GENERAL'S DEPARTMENT: EXPENDITURE, AUSTRALIA.(a)**

(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Expenditure from Ordinary Votes—</b>					
Salaries and payments in the nature of salary .. ..	39,763	41,802	42,842	48,174	48,691
General expenses .. ..	4,292	4,532	4,729	5,255	5,745
Stores and material .. ..	2,042	2,332	2,508	2,563	2,567
Mail Services .. ..	8,313	8,626	8,741	9,637	10,376
Engineering services other than capital works .. ..	31,765	34,353	36,342	40,604	41,006
Other services .. ..	79	84	88	108	142
<b>Total .. ..</b>	<b>86,254</b>	<b>91,729</b>	<b>95,250</b>	<b>106,341</b>	<b>108,527</b>
Rent, repairs, maintenance .. ..	1,118	1,339	1,376	1,374	1,543
Proportion of audit expenses .. ..	45	48	55	63	66
<b>Capital works and services—</b>					
Telegraph and telephone .. ..	27,452	29,998	32,209	35,658	37,296
New buildings, etc. .. ..	3,269	4,313	4,144	4,279	4,849
Other expenditure, not allocated to States .. ..	3,779	3,836	3,799	3,832	3,928
<b>Grand Total .. ..</b>	<b>121,917</b>	<b>131,263</b>	<b>136,833</b>	<b>151,547</b>	<b>156,209</b>

(a) See note (a) to previous table.

5. Profit or Loss, Postmaster-General's Department.—The foregoing statements of gross revenue and expenditure represent actual collections and payments made, and cannot be taken to represent the actual results of the working of the Department for the year. The net results for each branch, after providing for working expenses (including superannuation, pensions and depreciation) and interest charges including exchange, are shown in the following table for the years 1959–60 and 1960–61.

**POSTMASTER-GENERAL'S DEPARTMENT: PROFIT OR LOSS, BRANCHES.**  
(£'000.)

Particulars.	1960–61.				1959–60.
	Postal.	Telegraph.	Telephone.	All Branches.	All Branches.
Earnings .. .. .	46,424	7,221	82,502	136,147	125,587
Working Expenses—					
Direct working expenses .. .. .	40,104	5,729	46,745	92,578	89,409
Management and administration expenses .. .. .	1,684	362	1,723	3,769	3,499
Depreciation .. .. .	503	344	11,538	12,385	11,058
Superannuation liability and pensions ..	2,518	528	3,961	7,007	5,846
<i>Total Working Expenses (excluding Interest) .. .. .</i>	<i>44,809</i>	<i>6,963</i>	<i>63,967</i>	<i>115,739</i>	<i>109,812</i>
Profit or Loss before charging Interest ..	1,615	258	18,535	20,408	15,775
Interest .. .. .	620	429	16,596	17,645	15,347
Profit or Loss after charging Interest ..	995	– 171	1,939	2,763	428

NOTE.—Minus sign(–) denotes loss.

6. Fixed Assets.—The following table shows particulars of the fixed assets of the Postmaster-General's Department from 1st July, 1960 to 30th June, 1961.

**POSTMASTER-GENERAL'S DEPARTMENT: FIXED ASSETS.**  
(£'000.)

Particulars.	Net Value 1st July, 1960.	Capital Expenditure, 1960–61.	Gross Value, 30th June, 1961.	Assets Dis-mantled or Written Off 1960–61.	Net Value, 30th June, 1961.
Telephone and telegraph plant ..	408,869	51,428	460,297	7,905	452,392
Mail-handling plant .. .. .	975	188	1,163	33	1,130
Buildings .. .. .	46,394	5,022	51,416	95	51,321
Motor vehicles .. .. .	10,083	1,922	12,005	1,485	10,520
Assets subject to direct depreciation(a)	5,950	1,166	7,116	616	6,500
Other fixed assets .. .. .	20,294	2,092	22,386	883	21,503
<b>Total .. .. .</b>	<b>492,565</b>	<b>61,818</b>	<b>554,383</b>	<b>11,017</b>	<b>543,366</b>

(a) Includes postal service plant, miscellaneous plant, furniture and office equipment.

The net value of the fixed assets of the Postmaster-General's Department has increased by nearly 52 per cent. from £357,906,000 at 30th June, 1957 to £543,366,000 at 30th June, 1961.

## § 2. Posts.

1. Postal Matter Dealt With.—(i) *States*, 1960–61. The following table shows a summary of the postal matter dealt with in each State during the year 1960–61. Mail matter posted in Australia for delivery therein is necessarily handled at least twice, but only the number of distinct articles handled is included in the following table.

## POSTAL MATTER DEALT WITH(a), 1960–61.

('000.)

State.	Letters.	News- papers and Packets.	Parcels.	Regis- tered Articles.	Letters.	News- papers and Packets.	Parcels.	Regis- tered Articles.
	(b)	(c)	(d)	(e)	(b)	(c)	(d)	(e)
	Posted for delivery within Australia.				Posted for delivery Overseas.			
New South Wales ..	585,809	113,524	5,464	4,029	29,855	10,448	318	602
Victoria ..	481,100	70,721	4,416	3,111	8,485	3,449	125	172
Queensland ..	195,535	28,421	2,160	1,611	6,635	953	40	27
South Australia ..	136,809	13,118	1,274	777	5,475	833	39	63
Western Australia ..	105,762	9,741	915	538	6,248	1,182	21	51
Tasmania ..	41,277	7,541	199	394	311	20	17	5
Australia ..	1,546,292	243,066	14,428	10,460	57,009	16,885	560	920
	Received from Overseas.				Total postal matter dealt with.			
New South Wales ..	51,718	30,794	470	1,118	667,382	154,766	6,252	5,749
Victoria ..	26,901	9,649	317	312	516,486	83,819	4,858	3,595
Queensland ..	4,444	4,463	75	59	206,614	33,837	2,275	1,697
South Australia ..	9,481	6,057	61	31	151,765	20,008	1,374	871
Western Australia ..	3,045	5,829	50	30	115,055	16,752	986	619
Tasmania ..	1,654	1,871	15	5	43,242	9,432	231	404
Australia ..	97,243	58,663	988	1,555	1,700,544	318,614	15,976	12,935

(a) Number of distinct articles handled. (b) Includes letters, cards and other postal articles enclosed in envelopes and sorted with letters. (c) Includes newspapers and postal articles not included in letter mail. (d) Includes registered, cash on delivery and duty parcels. (e) Includes registered articles other than parcels.

(ii) *Australia*. The next table shows the total postal matter dealt with in Australia in relation to the mean population during each of the years 1956–57 to 1960–61.

## TOTAL POSTAL MATTER DEALT WITH: AUSTRALIA.

Year.	Letters, Postcards and Letter-cards.		Newspapers and Packets.		Parcels.(a)		Registered Articles other than Parcels.	
	Total ('000.)	Per 1,000 of Mean Popula- tion.	Total ('000.)	Per 1,000 of Mean Popula- tion.	Total ('000.)	Per 1,000 of Mean Popula- tion.	Total ('000.)	Per 1,000 of Mean Popula- tion.
1956–57 ..	1,443,337	151,372	306,417	32,136	16,998	1,783	17,007	1,784
1957–58 ..	1,538,509	157,865	323,684	33,213	17,726	1,819	15,566	1,597
1958–59 ..	1,599,400	160,702	317,633	31,914	18,903	1,899	15,156	1,523
1959–60 ..	1,602,830	157,619	319,831	31,452	16,433	1,616	13,671	1,344
1960–61 ..	1,700,544	163,656	318,614	30,662	15,976	1,537	12,935	1,249

(a) Includes registered, cash on delivery and duty parcels.

During 1960–61, the total amounts paid for the carriage of mails, as disclosed by the Profit and Loss Account of the Postal Branch, were as follows:—road £4,014,000; railway £1,252,000; sea £218,000; air—internal £1,195,000, oversea £5,156,000; Grand Total £11,835,000.

2. **Cash on Delivery Parcels Post.**—The Postmaster-General's Department undertakes, upon prepayment of a prescribed commission, to deliver registered articles sent by parcels post within Australia, or between Australia and Norfolk Island, Nauru, the Territory of Papua and New Guinea, or Fiji, to recover from the addressee on delivery a sum of money specified by the sender, and to remit the sum to the sender. The object of the system is to meet the requirements of persons who wish to pay at the time of receipt for articles sent to them, and of traders and others who do not wish their goods to be delivered except on payment.

There were 372,000 such parcels posted in Australia during 1960–61 valued at £1,487,000, and the revenue derived from commission and postage thereon amounted to £152,000. Both number and value of these parcels have decreased substantially and with little interruption in trend since the peak reached in 1950–51 (1,155,000 parcels valued at £2,933,000).

3. **Money Orders and Postal Notes.**—The issue of money orders and postal notes is regulated by sections 74–79 of the Post and Telegraph Act 1901–1950. The maximum amount for which a single money order payable within Australia may be obtained is £40, but additional orders will be issued upon request when larger amounts are to be remitted. The maximum amount permitted to be sent to any person in the dollar area is £A.5 a month and for remittances to countries outside the dollar area, £A.10 a week. A postal note is not available for a sum larger than twenty shillings.

The following table shows the number and value of money orders and postal notes issued in Australia in each of the years 1956–57 to 1960–61.

#### MONEY ORDERS AND POSTAL NOTES: TRANSACTIONS, AUSTRALIA.

Year.	Money Orders.			Postal Notes.		
	Issued.		Net Commission Received.	Issued.		Poundage Received.
	Number.	Value.		Number.	Value.	
	'000.	£'000.	£'000.	'000.	£'000.	£'000.
1956–57.. ..	8,127	74,542	551	20,332	9,493	377
1957–58.. ..	8,668	78,411	581	18,937	9,155	340
1958–59.. ..	9,420	87,034	643	18,012	8,845	347
1959–60.. ..	9,535	94,335	805	16,492	8,380	324
1960–61.. ..	9,653	100,760	867	15,959	8,194	307

Of the total money orders issued in Australia during 1960–61, 9,226,000 valued at £99,386,000 were payable in Australia, and 427,000 valued at £1,374,000 were payable overseas. Of the total money orders paid in Australia during 1960–61, 9,354,000 (£99,648,000) were issued in Australia, and 167,000 (£968,000) were issued overseas.

Of the total postal notes paid in Australia during 1960–61, 15,920,000 valued at £8,163,000, 11,340,000 (£6,056,000) were paid in the State in which issued, and 4,580,000 (£2,107,000) were paid in States other than in which issued.

### § 3. Telegraphs.

1. **General.**—A review of the development of telegraph services in Australia up to 1921 appeared in Official Year Book No. 15, page 625, and subsequent developments of importance have been dealt with in later issues. During the past few years substantial improvements in both the speed and grade of telegraph services throughout Australia have been effected, the entire system being subjected to intensive re-organization, and these matters have been dealt with in some detail in recent issues of this Year Book.

2. **Telegraph and Telephone Mileage.**—At 30th June, 1961, the combined single-wire mileages for both telegraph and telephone purposes were:—aerial, underground and submarine cables, 8,982,000 miles; trunk telephone and telegraph cables, 336,000 miles; aerial wires, 1,366,000 miles. There were 122,000 miles of pole routes. Joint use is made of poles for power and telephone reticulation.

3. **Telegraph Offices.**—The numbers of telegraph offices, including railway telegraph offices, in the various States at 30th June, 1961, were:—New South Wales, 2,922; Victoria, 2,294; Queensland, 1,733; South Australia, 986; Western Australia, 966; Tasmania, 522; total, 9,423.

4. **Telegrams Dispatched within Australia.**—The following table shows the number of telegrams dispatched to places within Australia and to adjacent islands and to ships at sea, according to the class of message transmitted.

## TELEGRAMS DISPATCHED, 1960-61.

('000.)

State.	Paid and Collect.							Unpaid (Departmental).	Total Telegrams.
	Ordinary.	Meteorological.	Urgent.	Radio-grams.	Press.	Letter-grams.	Total.		
New South Wales	6,123	226	268	65	50	23	6,755	241	6,996
Victoria ..	3,665	148	149	6	20	10	3,998	137	4,135
Queensland ..	3,154	204	106	85	38	21	3,608	130	3,738
South Australia	1,478	103	38	16	20	19	1,674	57	1,731
Western Australia	1,427	150	20	78	13	18	1,706	40	1,746
Tasmania ..	424	55	11	1	4	7	502	26	528
<b>Australia ..</b>	<b>16,271</b>	<b>886</b>	<b>592</b>	<b>251</b>	<b>145</b>	<b>98</b>	<b>18,243</b>	<b>631</b>	<b>18,874</b>

The number of telegrams dispatched to places within Australia and to adjacent islands and to ships at sea has decreased with few interruptions of trend since the peak of 35,970,000 in 1945-46.

5. **International Telegrams.**—For particulars of telegrams received from, and dispatched to, other countries, see § 5, para. 2, p. 569.

## § 4. Telephones.

1. **General.**—Particulars of the total mileage of lines used exclusively for telephone purposes are not available, but are combined with all other line mileage. Particulars of the total single wire mileage used for telephone, trunk and/or telegraph purposes are shown in § 3, para. 2, above. Developments in the telephone system in recent years have been dealt with in previous issues of this Year Book.

In June, 1959, work was commenced on a coaxial cable link between Sydney, Canberra and Melbourne, and in April, 1962, this link was completed at a cost of approximately £5 million and was immediately placed in service. This 599 mile long cable contains three pairs of tubes, each pair being capable of carrying 1,260 simultaneous telephone conversations or one television programme between the three cities. The cable has a repeater station every six miles and has made possible subscriber trunk dialling from Canberra to Sydney.

2. **Summary.**—Particulars relating to the telephone services in each State at 30th June, 1961 are shown in the following table.

**TELEPHONE SERVICES: SUMMARY, 30th JUNE, 1961.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Exchanges .. .. .	2,171	1,764	1,337	739	767	383	7,161
Services in operation .. '000	631	509	206	144	92	49	1,631
Instruments connected .. '000	889	708	277	199	126	67	2,266
(i) Subscribers' instruments '000	871	692	268	193	122	64	2,210
(ii) Public telephones .. '000	9	6	4	2	2	1	24
(iii) Other local instruments '000	9	10	5	4	2	2	32
Instruments per 100 of population	22.6	24.2	18.4	20.3	17.2	19.1	21.6

Of the total telephones (2,266,307) in service at 30th June, 1961, 813,185 or 36 per cent. were connected to exchanges situated beyond the limits of the metropolitan telephone networks.

3. **Trunk Line and Local Calls.**—Because of the introduction of a scheme of extended local service areas on 18th May, 1960, whereby many telephone calls which would previously have been short distance trunk calls became local calls, precise statistics distinguishing between local calls and trunk line calls are no longer available. However, estimates of the local and trunk line traffic during 1959–60, on the basis of the system existing prior to the introduction of the new scheme, are as follows:—effective paid local calls, 1,625,000,000; trunk line calls, 75,000,000, representing averages of 1,106 local calls and 49 trunk calls per line respectively.

4. **Oversea Telephone Services.**—These services are provided by the Overseas Telecommunications Commission (see § 5, para. 1) for operation by the Postmaster-General's Department. At 30th June, 1961, telephone calls could be made from Australia direct to over 100 countries. International telephone calls to and from Australia during 1960–61 numbered 128,257, an increase of 18,466 or 17 per cent. on 1959–60. Additional capacity was provided to Papua and New Guinea, New Zealand, the United Kingdom (via Vancouver), India, Japan and the United States, and services were extended to Trinidad (via the United Kingdom), and to Sarawak (via Singapore).

5. **World Telephone Statistics, 1961.**—The following table shows the number of telephones in use in various countries with 2 million or more telephones at 1st January, 1961, together with the number per 100 of population and the proportion in each country to the world total.

**WORLD TELEPHONE STATISTICS(a) AT 1st JANUARY, 1961.**

Country.	Number of Telephones '000.	Telephones per 100 of Population.	Proportion of Total. (Per cent.)
United States of America(b) .. .. .	74,102	41	52.3
United Kingdom(c) .. .. .	8,270	16	5.8
Germany, Federal Republic of .. .. .	5,994	11	4.2
Canada .. .. .	5,728	32	4.1
Japan(c) .. .. .	5,526	6	3.9
France .. .. .	4,358	10	3.1
U.S.S.R. .. .. .	4,276	2	3.0
Italy .. .. .	3,861	8	2.7
Sweden .. .. .	2,761	37	1.9
Australia(d) .. .. .	2,266	22	1.6
Other .. .. .	24,607	..	17.4
<b>Total .. .. .</b>	<b>141,749</b>	<b>..</b>	<b>100.0</b>

(a) Partly estimated. Information derived, in the main, from the "World's Telephones" compiled by the American Telephone and Telegraph Company. (b) Excludes Hawaii. (c) At 31st March, 1960. (d) At 30th June, 1961.

### § 5. Oversea Telecommunication Services; Radiocommunication Stations Authorized.

1. **General.**—The Overseas Telecommunications Commission (Australia) is the authority responsible for the operation of Australia's external telecommunication services by cable and radio.

The Commission was established in August, 1946, under the Overseas Telecommunications Act. This Act implemented, in Australia, a recommendation of the 1945 Commonwealth Telecommunications Conference for national ownership of the external telecommunication services of the British Commonwealth countries concerned and for the establishment of a representative advisory board, the Commonwealth Telecommunications Board, to co-ordinate their development.

The Commission provides telegraph, telex, photo-telegraph, and, in conjunction with the Postmaster-General's Department, telephone services with overseas countries and Australian territories. Leased one and two-way circuits are also provided for large commercial users. In addition, it operates the Australian coastal radio services for communication with ships at sea in Australian waters and high frequency radio services for communication with ships in any part of the world. The Commission's coastal radio stations also provide certain services to a number of remote stations within Australia and its territories.

Details of overseas communication systems operating in Australia prior to 1946 and developments leading to the establishment of the Commission were published in Official Year Book No. 37, pages 220-4.

To meet Australia's increasing demand for overseas communication channels, and because of limitations to performance and capacity inherent in current forms of telegraph cables and high frequency radio systems, the Commission is at present engaged, in partnership with the overseas telecommunications authorities of Britain, Canada and New Zealand, in constructing and laying a large capacity telephone cable across the Pacific Ocean, connecting Australia, New Zealand and Canada via Suva and Honolulu. This project stems from the Pacific Cable Conference held in Sydney, 28th September, to 20th October, 1959, at which representatives of Britain, Canada, Australia and New Zealand met to discuss and make recommendations on the feasibility of such a cable, and to formulate a financial and construction programme.

Following agreement of the four governments concerned in the plan, work was commenced in August, 1960, and the first section, between Australia (Sydney) and New Zealand (Auckland), opened in July, 1962. When completed in 1964, the cable will form part of the projected British Commonwealth round-the-world large capacity cable scheme, in which a complementary cable between Britain and Canada was officially opened late in 1961.

The Pacific Cable project is administered by a Management Committee consisting of representatives of the overseas telecommunication authorities of the four partner Governments.

2. **International Telegrams.**—(i) *Number of Telegrams.* The number of telegrams received from and dispatched overseas in each State during 1960-61 is shown hereunder.

#### INTERNATIONAL TELEGRAMS, 1960-61.

(<sup>000</sup>.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Received .. ..	753	(a) 429	87	69	75	(a) 23	1,436
Dispatched .. ..	706	488	87	82	74	19	1,456
<b>Total</b> .. ..	<b>1,459</b>	<b>917</b>	<b>174</b>	<b>151</b>	<b>149</b>	<b>42</b>	<b>2,892</b>

(a) Estimated. Tasmanian statistics are included with Victorian traffic.

The traffic in international telegrams to and from Australia has not varied greatly in recent years.

(ii) *Number of Words.* Particulars of the international business, originating and terminating in Australia, transacted over the cable and radio services during 1960-61 are shown in the following table.

**INTERNATIONAL TELEGRAMS: NUMBER OF WORDS, AUSTRALIA,(a) 1960-61.**  
(<sup>'000</sup> Words.)

Class of Telegram.	Words Transmitted to—			Words Received from—		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Letter .. ..	4,296	11,167	15,463	4,190	9,645	13,835
Ordinary .. ..	4,808	9,774	14,582	4,274	7,944	12,218
Press .. ..	3,133	1,959	5,092	8,197	2,847	11,044
Government .. ..	150	748	898	651	1,366	2,017
Greetings .. ..	670	656	1,326	544	856	1,400
Urgent .. ..	240	386	626	107	351	458
Other .. ..	..	11	11	..	115	115
<b>Total .. ..</b>	<b>13,297</b>	<b>24,701</b>	<b>37,998</b>	<b>17,963</b>	<b>23,124</b>	<b>41,087</b>

(a) Year ended 31st March.

Words transmitted to "Other places" included 10,933,348 words to other Commonwealth countries and 13,767,066 to foreign countries. Words received from "Other places" included 11,772,152 words from other Commonwealth countries and 11,352,278 from foreign countries.

3. *Oversea Telephone Services.*—See § 4, para. 4, page 568 for particulars of these services.

4. *Coast Stations.*—At 30th June, 1961, there were 90 radio stations established at points around the Australian coast and 15 about the coast of Papua and New Guinea and other External Territories. During the year ended 31st March, 1961, these stations handled 717,986 messages (586,371 paying, 26,497 free traffic and 105,118 meteorological) with a total of 16,150,264 words.

5. *Radiocommunication Stations Authorized.*—The following table shows particulars of the different classes of radiocommunication stations authorized in Australia and the External Territories at 30th June, 1961. Figures relate to radiocommunication (radio telegraph and radio telephone) stations only; particulars of broadcasting stations and of broadcast listeners' licences are shown on pages 575 and 577 respectively.

The number of radiocommunication stations has increased considerably in recent years, having nearly doubled since June, 1956. While the increase is fairly generally distributed, it is perhaps most noticeable in the mobile services stations.



RADIOCOMMUNICATION STATIONS AUTHORIZED, 30th JUNE, 1961.

Class of Station.	N.S.W.	Vic.	Old.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	Ext. Terr.	Total.
<b>TRANSMITTING AND RECEIVING.</b>											
<b>Fixed(a)—</b>											
Aeronautical .. .. .	36	6	16	6	14	7	6	1	92	25	117
Services with other Countries	57	14	..	..	11	..	..	..	82	12	94
Outpost(b) .. .. .	210	..	409	132	358	16	167	..	1,292	434	1,726
Other .. .. .	307	153	180	62	82	30	28	1	843	89	932
<b>Land(c)—</b>											
Aeronautical .. .. .	28	8	22	6	13	7	5	1	90	17	107
<b>Base—</b>											
Land Mobile Services ..	1,184	752	534	309	170	134	18	20	3,121	20	3,141
Harbour Mobile Services	26	16	12	7	33	4	..	..	98	..	98
Coast(d) .. .. .	20	11	13	11	13	20	2	..	90	15	105
Special Experimental ..	74	60	21	25	20	7	..	1	208	8	216
<b>Mobile(e)—</b>											
Aeronautical .. .. .	..	..	..	..	..	..	..	..	(f) 666	37	703
Land Mobile Services ..	11,673	6,913	3,900	3,070	1,850	717	132	308	28,563	103	28,666
Harbour Mobile Services	155	110	42	46	64	15	..	..	432	18	450
Outpost .. .. .	..	..	..	..	..	..	..	..	(g) 1,091	53	1,144
Ship .. .. .	..	..	..	..	..	..	..	..	(g) 2,524	145	2,669
Amateur .. .. .	1,338	1,307	442	501	287	149	18	35	4,077	91	4,168
<b>Total</b> .. .. .	<b>15,108</b>	<b>9,350</b>	<b>5,591</b>	<b>4,175</b>	<b>2,915</b>	<b>1,106</b>	<b>376</b>	<b>367</b>	<b>(g) 43,269</b>	<b>1,067</b>	<b>(g) 44,336</b>

RECEIVING ONLY.

Fixed(a) .. .. .	83	191	67	7	36	1	4	..	389	..	389
Land(c) .. .. .	..	..	..	..	..	..	..	..	..	..	..
Mobile(e) .. .. .	1	34	20	..	..	..	..	..	55	..	55
<b>Total</b> .. .. .	<b>84</b>	<b>225</b>	<b>87</b>	<b>7</b>	<b>36</b>	<b>1</b>	<b>4</b>	<b>..</b>	<b>444</b>	<b>..</b>	<b>444</b>

TOTAL STATIONS AUTHORIZED.

<b>Grand Total</b> .. .. .	<b>15,192</b>	<b>9,575</b>	<b>5,678</b>	<b>4,182</b>	<b>2,951</b>	<b>1,107</b>	<b>380</b>	<b>367</b>	<b>(g) 43,713</b>	<b>1,067</b>	<b>(g) 44,780</b>
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(a) Stations established at fixed locations for communication with other stations similarly established. (b) Stations established in out-back areas for communication with control stations such as those of the Royal Flying Doctor Service. (c) Stations established at fixed locations for communication with mobile stations. (d) Land stations for communication with ocean-going vessels. (e) Equipment installed in aircraft (aeronautical), motor vehicles (land mobile services), harbour vessels (harbour mobile services) and ocean-going vessels (ships), and mobile equipment of organizations such as the Royal Flying Doctor Service. (f) Stations which cannot be classified according to States, etc. (g) Includes 4,281 mobile transmitting and receiving stations, which cannot be classified according to States, etc.

J. BROADCASTING AND TELEVISION.

§ 1. General.

Broadcasting and television services in Australia operate under the Broadcasting and Television Act 1942-1961 and comprise the National Broadcasting Service, the National Television Service, the Commercial Broadcasting Service and the Commercial Television Service. General control of these services is a function of the Australian Broadcasting Control Board (see below). Details of each service will be found on pages 572-7. Licence fees for commercial broadcasting and television stations are payable under the Broadcasting and Television Stations Licence Fees Act 1956.

The Australian Broadcasting Control Board, which was constituted on 15th March, 1949, consists of five members (including two part-time), and operates under the Ministerial jurisdiction of the Postmaster-General. Its principal functions, as set out in section 16 of the Broadcasting and Television Act 1942–1961, are to ensure:—(a) that services by broadcasting stations and television stations are provided in accordance with plans prepared from time to time by the Board and approved by the Minister; (b) that the technical equipment and operation of such stations are in accordance with such standards and practices as the Board considers to be appropriate; (c) that adequate and comprehensive programmes are provided by the stations to serve the best interests of the general public; and (d) that sources of interference to the transmission and reception of broadcast and televised programmes are detected and that assistance is given in the detection and prevention of such interference. In addition, the Board may exercise such other functions as are prescribed in relation to broadcasting stations and television stations. For information as to the powers and constitution of the Board see Official Year Book No. 46 and earlier issues.

The Australian Broadcasting Commission, which consists of seven members, at least one of whom must be a woman, controls the activities of the National Broadcasting Service and the National Television Service.

## § 2. Broadcasting.

1. **The National Broadcasting Service.**—(i) *General.* In sound broadcasting, the programmes of the National Broadcasting Service are provided by the Australian Broadcasting Commission, and the provision and operation of transmitters and technical facilities in the studios are the responsibility of the Postmaster-General's Department.

(ii) *Technical Facilities.* At 30th June, 1961, the National Broadcasting Service comprised 69 transmitting stations, as follows.

### *Medium-frequency Stations—*

#### New South Wales—

2BL and 2FC Sydney, 2BA Bega, 2CO Albury, 2CR Orange, 2GL Glen Innes, 2KP Kempsey, 2LG Lithgow, 2ML Murwillumbah, 2NA and 2NC Newcastle, 2NB Broken Hill, 2NR Grafton, 2NU Tamworth, 2TR Taree, 2WN Wollongong.

#### Victoria—

3AR and 3LO Melbourne, 3GI Sale, 3WL Warrnambool, 3WV Horsham.

#### Queensland—

4QG and 4QR Brisbane, 4AT Atherton, 4GM Gympie, 4MI Mount Isa, 4QA Mackay, 4QB Maryborough, 4QL Longreach, 4QN Townsville, 4QS Toowoomba, 4QY Cairns, 4RK Rockhampton, 4SO Southport.

#### South Australia—

5AN and 5CL Adelaide, 5CK Port Pirie, 5LN Port Lincoln, 5MG Mt. Gambier, 5MV Renmark, 5PA Penola, 5WM Woomera.

#### Western Australia—

6WF and 6WN Perth, 6AL Albany, 6GF Kalgoorlie, 6GN Geraldton, 6NM Northam, 6WA Wagin.

#### Tasmania—

7ZL and 7ZR Hobart, 7NT Launceston, 7QN Queenstown.

#### Northern Territory—

8AL Alice Springs, 8DR Darwin, 8KN Katherine, 8TC Tennant Creek.

**Australian Capital Territory—**

2CN and 2CY Canberra.

**Papua—**

9PA Port Moresby.

**High-frequency Stations—**

VLI Sydney, New South Wales, VLG, VLH and VLR Lyndhurst, Victoria, VLM and VLQ Brisbane, Queensland, VLW and VLX Perth, Western Australia, VLT Port Moresby, Papua.

The medium-frequency transmitters operate in the broadcast band 525 to 1,605 kilocycles per second. The high-frequency stations, using frequencies within the band 3 to 30 megacycles per second, provide service to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland, and in Papua and New Guinea and adjacent islands.

Many of the programmes provided by country stations are relayed from the capital cities, high-quality programme transmission lines being used for the purpose. A number of programme channels are utilized to link national broadcasting stations in the capital cities of Australia, and, when necessary, this system is extended to connect both the national and commercial broadcasting stations.

In June, 1961, 47 of the medium-frequency stations were situated outside the six State capital cities. Additional country stations are to be established, and, when these additions are complete, the medium-frequency and high-frequency stations together will provide for clear reception of the programmes of the National Broadcasting Service in practically every part of Australia.

(iii) *Programme Facilities.* (a) *General.* The programmes of the Australian Broadcasting Commission cover a wide range of activities, which are indicated briefly in the following paragraphs. The proportion of broadcasting time allocated to the various types of programme during 1960–61 was as follows:—Classical Music, 25.5 per cent.; Light Music, 11.0 per cent.; Variety, 18.3 per cent.; News, 7.3 per cent.; Talks, 6.3 per cent.; Sporting, 5.7 per cent.; Parliament, 4.4 per cent.; Youth Education, 3.6 per cent.; Drama and Features, 3.4 per cent.; Religious, 3.7 per cent.; Children's Session, 2.8 per cent.; Rural, 1.7 per cent.; Non-departmental, 6.3 per cent.

(b) *Music.* The A.B.C., in addition to its extensive activities in the field of musical broadcasting, is one of the largest concert-giving organizations in the world. Its regular broadcasts command a large audience, and a total of 1,016,802 people attended A.B.C. concerts during 1960–61. There are symphony orchestras in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart, which have developed from the studio broadcasting orchestras set up in 1936.

In 1960–61, the A.B.C. organized 608 public orchestral concerts (including 201 free concerts for school children and 42 free concerts for adults) and 157 public recitals by famous artists throughout the Commonwealth. In 1959, the Czech Philharmonic Orchestra became the first oversea orchestra to visit Australia.

(c) *Drama and Features.* Drama programmes are designed to give listeners opportunities, which they might not otherwise have, of hearing the world's great plays as well as adaptations of the best modern stage plays and also those written specially for broadcasting. The main regular radio drama programmes are broadcast on Sunday afternoons and Sunday and Monday evenings, and special series of longer plays are also given at various times. In recent years the technique of the feature programme has also been developed. The feature is a form of entertainment which is unique to radio, consisting of specially written programmes designed to present information in an interesting way.

(d) *Youth Education.* The A.B.C. provides a regular series of broadcasts to schools as an addition to normal class-room education. The total number of listening schools at the end of June, 1961 was 9,627 or about 94 per cent. of all schools, State and private, throughout the Commonwealth. (See also Chapter XV.—Education, on this subject.)

(e) *Talks.* The aim of the Talks Department is to provide programmes which will keep the listener well informed on current affairs and on general topics. Many of the talks in the first category are now presented in a magazine type of session consisting of a number of short items linked by a narrator. An extension of this type of programme is the documentary. Major controversial topics are covered in sessions such as the "Nation's Forum of the Air" and "I Put it to You". Another session in this type of programme is "News Review", containing comments on the news of the day recorded over landline from all States of the Commonwealth and, in the case of significant world events, from overseas by radio-telephone.

(f) *Rural Broadcasts.* The Rural Broadcasts Department exchanges programmes with several oversea countries and provides service, educational, and entertainment programmes all designed to be of value to the man-on-the-land and industries allied with primary production. A complete weather and marketing service is provided. Rural programmes are broadcast on a national, State, and regional basis, with separate programmes originating from 20 Regional Stations and relayed through a total of 33 stations. The 20 Rural Officers in Regional Stations present specific information and educational programmes in relation to their own regions. During 1961-62 a total of 7,486 rural talks and interviews, as well as 8,684 market reports, were broadcast.

(g) *News.* The Commission collects all its Australian (including Papua and New Guinea) news through its own staff journalists and part-time correspondents. It also maintains a news room in London for the selection and transmission of news obtained from major oversea agencies, and has special representatives in south-east Asia. Regional bulletins are broadcast from country centres and also from capital cities to cover near-city districts. Radio Australia (the Overseas Service of the A.B.C.) broadcasts Australian and oversea news daily in English, French, Mandarin, Indonesian, Japanese, Cantonese and Thai, with special attention to Asia and the Pacific. Each day the A.B.C. re-broadcasts two news bulletins from the British Broadcasting Corporation. The A.B.C. broadcasts 160 news bulletins each day, including those given over Radio Australia.

(h) *Other Activities.* The proceedings of the Federal Parliament are broadcast regularly on one of the two national transmitters in each capital city, one in Newcastle and one domestic short-wave station (VLR).

The National Children's Hour, presented seven days a week, is composed of over 40 programme items, including stories, music, games, art, literature, natural history and sport.

In co-operation with the various religious denominations, the A.B.C. broadcasts several religious sessions each week-day in addition to those given on Sundays. These religious broadcasts include relays of normal church services and a variety of special programmes of talks and sacred music. The modern trend towards the use of religious drama is also followed.

The variety and sporting programmes of the A.B.C. provide the lighter side of the service. With its variety session the policy of the A.B.C. is to assist local artists in order to increase the amount of first-class talent in this country, and encouragement is also given to Australian composers of light music.

A comprehensive coverage of sport at home and abroad is provided by the A.B.C. On Saturday afternoons the sporting panel provides listeners with progress results, scores and descriptions from several fields of sport. Events of international interest such as Test matches and the Davis Cup are covered by simultaneous descriptions from A.B.C. commentators.

2. **The Commercial Broadcasting Service.**—Commercial broadcasting stations are operated under licences granted and renewed by the Postmaster-General after taking into consideration any recommendations which have been made by the Broadcasting Control Board. The initial period of a licence is five years and renewals are granted for a period of one year. The fee payable for a licence is £25 on the grant of the licence, and thereafter £25 a year plus one per cent. of the gross earnings of the station from the broadcasting of advertisements or other matter during the preceding financial year. Licensees of these stations rely for their income on the broadcasting of advertisements and other publicity.

3. **Oversea Broadcasting Service.**—There are six high-frequency stations at Shepparton, Victoria (VLA, VLB, VLC, VLD, VLE, VLY), which provide the oversea service known as "Radio Australia". As in the case of the National Broadcasting Service, these stations are maintained and operated by the Postmaster-General's Department and their programmes are arranged by the A.B.C. During certain periods, station VLG Lyndhurst is also used for the purpose of oversea transmission. The programmes, which give news and information about Australia presented objectively, as well as entertainment, are directed mainly to south-east Asia and the Pacific. The oversea audience has grown very substantially in recent years, as evidenced by a large and increasing number of letters from listeners abroad.

4. **Broadcasting Stations.**—The following table shows the number of broadcasting stations in operation at 30th June, 1961.

BROADCASTING STATIONS, 30th JUNE, 1961.

Type of Station.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Papua and New Guinea.	Total.
National—										
Medium Frequency ..	16	5	13	8	7	4	4	2	1	60
High Frequency ..										
Domestic ..	1	(a) 3	2	..	2	..	..	..	1	9
Overseas ..	..	6	..	..	..	..	..	..	..	6
Commercial ..	37	20	21	8	14	8	1	1	..	110

(a) One station (VLG) is shared between domestic and oversea service.

Tables showing the call sign, location, frequency and aerial power of national and commercial broadcasting stations in operation at 30th June, 1961, are shown in *Transport and Communication*, Bulletin No. 52.

### § 3. Television.

1. **General.**—Television services in Australia operate under the Broadcasting and Television Act 1942–1961 and comprise the National Television Service and the Commercial Television Service.

2. **The National Television Service.**—(i) *General.* The A.B.C. provides the programmes for the National Television Service from stations provided and operated by the Postmaster-General. Six stations have been established—ABN Sydney, commenced operation, 5th November, 1956; ABV Melbourne, commenced operation, 18th November, 1956; ABQ Brisbane, commenced operation, 2nd November, 1959; ABS Adelaide, commenced operation, 11th March, 1960; ABW Perth, commenced operation, 7th May, 1960; and ABT Hobart, commenced operation, 4th June, 1960—each of which operates on Channel 2. Additional national television stations have been authorized as follows:—Australian Capital Territory—Canberra area ABC (channel 3); New South Wales—Central Tablelands area ABCN (channel 1), Newcastle–Hunter River area ABHN (channel 5), Richmond–Tweed Heads area ABRN (channel 6), Illawarra area ABWN (channel 5A); Victoria—Bendigo area ABEV (channel 1), Ballarat area ABRV (channel 3), Latrobe Valley area ABLV (channel 4), Goulburn Valley area ABGV (channel 3); Queensland—Darling Downs area ABDQ (channel 3), Rockhampton area ABRQ (channel 3), Townsville area ABTQ (channel 3); Tasmania—North Eastern Tasmania area ABNT (channel 3). It is expected that services will commence progressively from the middle of 1962.

(ii) *Programme Facilities.* (a) *General.* The television programmes provided by the A.B.C. cover a wide range of activities. The proportion of television time allocated among the A.B.C.'s various departments to 30th June, 1961, was as follows:—Drama and Features, 17.1 per cent.; Talks Department, 18.7 per cent.; Sport, 13.2 per cent.; Children's Session, 9.8 per cent.; News, 9.0 per cent.; Variety, 12.6 per cent.; Youth Education, 5.5 per cent.; Rural Services, 2.9 per cent.; Religion, 3.8 per cent.; Classical Music 1.9 per cent.; Light Music, 0.4 per cent.; Non-departmental (including trade demonstration films), 5.1 per cent. A summary of the activities of the departments in the field of television is given in the following paragraphs. Transmission hours in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart, for the 12 months ended 30th June, 1961, totalled 16,815.

(b) *Talks.* In television, talks cover a very wide field, ranging from commentaries on international affairs to panel games and outside telecasts of public events. Discussions, topical interviews, magazine programmes, women's programmes, demonstrations and film and studio documentaries are all part of the regular output.

(c) *Drama and Features.* A considerable proportion of television time is devoted to drama and features, and "live" television plays featuring Australian artists may usually be seen fortnightly in all State capitals. A Television Writers' Workshop gives writers practical advice on television writing. Of 23 live plays produced during 1960–61, 9 were by Australian authors and, in addition, twelve half-hour episodes of a locally written serial, "Stormy Petrel"—based on the life of Governor Bligh—and "The Outcasts" were telecast.

(d) *Music.* During 1957, the A.B.C.'s musical activities extended to the field of television. A number of public concerts and studio performances were successfully telecast and there is reason to believe that the new medium will contribute to the further development of musical appreciation in Australia.

(e) *Rural Services.* Weather reports and forecasts are telecast six evenings a week on National T.V. stations. Emphasis is placed on films showing facets of Australian agriculture and livestock activities. These films are exchanged with the European Broadcasting Union, films received in return being featured in the "Farming Overseas" series. "Gardening", "To Market, to Market" and "Food Front" sessions are planned for city viewers and consumers. Demonstration programmes of a technical nature are programmed in such series as "Microscope", the "Australian Homestead" and "Wool Customer".

(f) *Education.* The A.B.C. provides a daily television programme for schools in all Australian States with certain series repeated to meet their convenience. In addition there is a daily programme for pre-school children entitled "Kindergarten Playtime". At the adult level there are two television programmes weekly, designed in series and known as "University of the Air". These programmes are presented in the evening.

(g) *News.* Television news bulletins and newsreels have been included in the programmes presented in both Sydney and Melbourne since the television services began in November, 1956. Since then those news items have been included in the programmes of State capitals. The A.B.C. is a member of the British Commonwealth International Newfilm Agency (B.C.I.N.A.), through which it receives world-wide television newfilm and provides newfilm of Australian origin for international distribution.

(h) *Other Activities.* Special television programmes are presented for children, including filmed material obtained on an exchange basis from oversea television organizations. Special religious services and programmes have also been televised. Outside television cameras have covered a number of sporting events, including the Olympic Games, Davis Cup tennis, Test and Sheffield Shield cricket and swimming championships.

3. **The Commercial Television Service.**—Commercial television stations are operated under licences granted by the Postmaster-General. Licences for commercial television stations have been granted as follows:—Australian Capital Territory—Canberra area CTC (channel 7); New South Wales—Sydney ATN (channel 7), TCN (channel 9), Central Tablelands area CBN (channel 8), Newcastle—Hunter River area NBN (channel 3), Richmond—Tweed Heads area RTN (channel 8), Illawarra area WIN (channel 4); Victoria—Melbourne HSV (channel 7), GTV (channel 9), Bendigo area BCV (channel 8), Ballarat area BTV (channel 6), Latrobe Valley area GLV (channel 10), Goulburn Valley area GMV (channel 6); Queensland—Brisbane BTQ (channel 7), QTQ (channel 9), Darling Downs area DDQ (channel 10); South Australia, Adelaide ADS (channel 7), NWS (channel 9); Western Australia—Perth TVW (channel 7); Tasmania—Hobart TVT (channel 6), North Eastern Tasmania area TNT (channel 9). Commercial stations have been authorized in the Rockhampton and Townsville areas. Licences for these stations will be issued shortly. The following stations commenced operations on the dates indicated:—ATN Sydney, 2nd December, 1956; TCN Sydney, 16th September, 1956; GTV Melbourne, 19th January, 1957; HSV Melbourne, 4th November, 1956; BTQ Brisbane, 1st November, 1959; QTQ Brisbane, 16th August, 1959; ADS Adelaide, 24th October, 1959; NWS Adelaide, 5th September, 1959; TVW Perth, 16th October, 1959; TVT Hobart, 23rd May, 1960. It is expected that the other stations will commence operations in late 1961 or early 1962.

The initial grant of a licence is for a period of five years, and thereafter the licence is renewable annually. The fee payable is £100 for the first year, and thereafter £100 a year plus one per cent. of the station's gross earnings from the televising of advertisements or other matter during the preceding financial year.

4. **Extension of Television Services.**—The Government has approved the establishment of a national station in each of the following areas, and the calling of applications for a commercial television station in each area has also been approved:—New South Wales—Upper Namoi (Tamworth), South Western Slopes and Eastern Riverina (Wagga-Cootamundra), Grafton-Kempsey, Manning River (Taree), Central Western Slopes (Dubbo), Murrumbidgee Irrigation Area (Griffith), Bega-Cooma, Broken Hill; Victoria—Upper Murray, Mildura, Murray Valley (Swan Hill); Queensland—Wide Bay (Maryborough), Cairns, Mackay, Southern Downs (Warwick); South Australia—Spencer Gulf North, South East (Mt. Gambier); Western Australia—Bunbury, Southern Agricultural Area (Katanning-Albany), Central Agricultural Area (Northam-York).

When the stations commence operation, it is estimated that 91 per cent. of the Australian people will be able to receive a television service.

#### § 4. Licences, Revenue from Fees, etc.

1. **Broadcast Listeners' and Television Viewers' Licences.**—(i) *General.* Broadcast listeners' and television viewers' licences are issued at post offices in accordance with the provisions of the Broadcasting and Television Act 1942-1961, which stipulates that, except as prescribed, a person shall not use, maintain or have in his possession a broadcast or television receiver unless there is in force a licence which applies to that receiver. A broadcast listener's licence authorizes the operation of any broadcast receiver, and a television viewer's licence any television receiver, which is:—(a) in the possession of the holder of a licence, or of a member of his family, at the address specified in the licence and/or ordinarily kept at that address; (b) installed in a vehicle which is ordinarily in the possession of the holder, or of a member of his family, and is ordinarily kept at that address while not in use.

The fee for a broadcast listener's licence or a renewal thereof is:—Zone 1, £2 15s.; Zone 2, £1 8s. Zone 1 is the area within approximately 250 miles of specified broadcasting stations and Zone 2 is the remainder of the Commonwealth. A television viewer's licence costs £5.

A licence may be granted at reduced rates to persons who are in receipt of certain types of pension and are otherwise qualified to receive this concession.

A licence may be granted free of charge to a blind person over 16 years of age or to a person or authority conducting a school. Inmates of a hospital or charitable institution are covered by the licence held by the institution.

(ii) *Broadcast Listeners' Licences. (a) Number in Force.* The following table shows the number of broadcast listeners' licences in force at five-year intervals from 1925 to 1960 and for 1961.

#### BROADCAST LISTENERS' LICENCES IN FORCE.

At 30th June—	N.S.W.(a)	Vic.	Qld.	S.A.(b)	W.A.	Tas.	Aust.
1925 .. ..	34,857	20,290	1,267	3,331	3,562	567	63,874
1930 .. ..	111,253	140,072	23,335	25,729	5,755	6,048	312,192
1935 .. ..	279,166	237,247	67,546	76,515	41,257	20,121	721,852
1940 .. ..	458,256	348,264	151,152	124,928	87,790	42,191	1,212,581
1945(c) .. ..	548,074	394,315	180,089	146,611	98,210	47,930	1,415,229
1950(c) .. ..	683,271	505,078	260,033	195,261	133,199	64,369	1,841,211
1955 .. ..	746,050	549,690	293,542	223,593	150,199	71,602	2,034,676
1960 .. ..	832,659	606,587	344,198	249,148	171,693	78,900	2,283,185
1961 .. ..	825,528	589,437	341,101	249,475	172,881	77,420	2,255,842

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory. (c) Excludes licences for receivers in excess of one. These licences were introduced in July, 1942, and were abolished on 31st December, 1951.

Of the 2,255,842 broadcast listeners' licences in force at 30th June, 1961, 1,347,078 or 59.7 per cent. were held by persons living in metropolitan areas and 908,764 or 40.3 per cent. by persons in country areas.

(b) *Revenue Received from Fees.* The following table shows the revenue received from broadcast listeners' licence fees for the years 1956-57 to 1960-61.

**REVENUE RECEIVED FROM BROADCAST LISTENERS' LICENCE FEES.**  
(£'000.)

Year.	N.S.W.(a)	Vic.	Qld.	S.A.(b)	W.A.	Tas.	Aust.
1956-57 .. ..	1,771	1,320	718	536	353	167	4,865
1957-58 .. ..	1,952	1,422	791	604	398	191	5,358
1958-59 .. ..	2,116	1,528	812	621	422	192	5,691
1959-60 .. ..	2,023	1,545	846	626	420	196	5,656
1960-61 .. ..	1,992	1,488	827	619	419	191	5,536

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

(iii) *Television Viewers' Licences.* (a) *Number in Force.* The following table shows the number of television viewers' licences in force each year at 30th June and 31st December, 1957 to 1961.

**TELEVISION VIEWERS' LICENCES IN FORCE.**

Date.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
30th June, 1957 ..	28,912	44,986	..	..	..	{ 11	73,909
31st December, 1957 ..	74,627	91,922	..	..	..	{ 27	166,576
30th June, 1958 ..	143,422	147,721	..	..	..	{ 43	291,186
31st December, 1958 ..	232,473	222,172	..	..	..	{ 51	454,696
30th June, 1959 ..	300,871	270,073	360	6,124	..	{ 74	577,502
31st December, 1959 ..	358,544	307,950	27,590	34,060	9,621	{ 90	737,855
30th June, 1960 ..	409,334	353,091	67,337	84,967	35,604	{ 4,662	954,995
31st December, 1960 ..	456,989	384,375	96,644	110,658	57,792	{ 14,362	1,120,820
30th June, 1961 ..	488,516	401,395	113,954	124,808	69,628	{ 18,985	1,217,286
31st December, 1961 ..	516,525	429,492	131,104	132,785	77,610	{ 22,880	1,310,396

(a) These licences were for television sets in the north coast area of Tasmania which were able to receive programmes from Victoria.

Of 1,217,286 television viewers' licences in force at 30th June, 1961, 1,007,268 or 82.8 per cent. were held by persons living in metropolitan areas.

(b) *Revenue Received from Fees.* The following table shows the revenue received from television viewers' licence fees during the years 1956-57 to 1960-61.

**REVENUE RECEIVED FROM TELEVISION VIEWERS' LICENCE FEES.**  
(£'000.)

Year.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
1956-57 .. ..	131	212	..	..	..	..	343
1957-58 .. ..	698	724	..	..	..	..	1,422
1958-59 .. ..	1,449	1,298	(a)	27	..	(b)	2,775
1959-60 .. ..	1,994	1,717	321	406	165	21	4,624
1960-61 .. ..	2,292	1,938	542	594	324	91	5,781

(a) £262.

(b) £356.



## CHAPTER XV.

## EDUCATION AND RESEARCH.

NOTE.—For the most recent statistics available on subjects dealt with in this Chapter, reference should be made to the series of mimeograph bulletins *Social Statistics* and *University Statistics* issued by this Bureau. The *Quarterly Summary of Australian Statistics* contains summarized information on these subjects, and financial aspects are dealt with in the annual bulletin *Finance, Part I.—Public and Private Finance*.

## A. EDUCATION.

## § 1. Introduction.

An account of the development of the Australian school system up to 1929 may be found in Official Year Books Nos. 1, 2, 17 and 22. In Official Year Book No. 40, a reasonably complete review of changes which occurred up to 1951 and of the practices then current was presented from material furnished by the Commonwealth Office of Education.

In the sections which follow, the information relating to the educational programme applies mainly to the year 1961. The statistics given in the tables relate to 1960.

## § 2. Education in Australian Schools.

1. *Administration*.—Primary and secondary education in Australia is provided by both government and non-government schools. Education in government schools is mainly the responsibility of the State Governments, but the Commonwealth Government provides financial assistance to students and meets the full cost of such education in Commonwealth Territories (*see* Chapter V.). Non-government schools are mainly conducted by religious denominations, subject to certain government controls (*see* para. 4, p. 581). In general, non-government schools charge fees and are not usually assisted financially by State or Commonwealth Governments.

Although there is a tendency towards regional administration, State educational administration is centralized. The permanent head of the Education Department in each State is responsible to the Minister for Education. Contact with the schools is maintained principally through Inspectors or Superintendents. Departments are usually divided into primary, secondary and technical divisions. Some technical colleges are in a large measure autonomous. Universities are independent foundations, although much of their income is derived from State and Commonwealth grants.

Examination Boards, which represent universities, Education Departments and non-government schools, control public examinations and syllabuses, and curriculum committees prepare primary and secondary curricula. State Ministers for Education meet periodically as the Australian Education Council, and Directors of Education meet annually to discuss matters of common interest.

2. *The School System*.—(i) *Compulsory*. In all States, there is legislation for compulsory school attendance. The Victorian Education Act was passed in 1872, followed by similar Acts in Queensland (1875), South Australia (1875), New South Wales (1880), and Tasmania and Western Australia (1893).

In 1961, the ages between which children were required by law to attend school were as follows:—New South Wales, 6 to 15 years; Victoria, 6 to 14 years; Queensland, 6 to 14 years; South Australia, 6 to 14 years (children may not leave school until the end of the term during which they reach the age of 14 years); Western Australia, 6 to 14 years; and Tasmania, 6 to 16 years. The full-time employment of children of school age is restricted by law.

In Victoria, South Australia, and Western Australia, amendments to the Acts have provided for the raising of the school leaving age to 15 years, but to date this legislation has not been proclaimed.

(ii) *Non-Compulsory.* Modern development has demanded a diversity of skills and a general raising of the educational level of the population. The trend towards raising of the school leaving age and the tendency everywhere for children to stay longer at school have been expressions of public realization of this. In recent years, less than half of all children left school when they reached the age limit for compulsory attendance. Indeed, a substantial number now proceed to some form of further education beyond secondary school, either as full-time students, as part-time apprentices or trainees released during the day by their employers, or as part-time evening students.

In the early years of government provision of education, the main emphasis was on the primary school, which catered for children receiving compulsory education and offered a course largely confined to the "tool" subjects, reading, writing and arithmetic. However, a process of extension and differentiation both at the bottom—infants' schools and kindergartens—and at the top—secondary schools—was well under way during the early years of this century.

3. *The Educational Ladder.*—(i) *Infants' Schools.* It is now customary, although not compulsory, for children to begin school when they are five years old. In larger primary schools they enter the infants' school, and in smaller schools infants' classes, which occupy two or three years, the first year in some States being called "Kindergarten" or "Preparatory". The emphasis in the infants' classes is very much on general development, on play activities and on the informal aspects of the educational processes. Whether in a separate establishment or as a part of a primary school, there is a gradual move towards formal instruction in infants' departments. At the end of the period, most children are able to read with some fluency, carry out simple arithmetical operations founded on the basic number facts, and can write in pencil. In addition, they have acquired skills with art materials and the like. A good deal of the instruction is carried on through activity methods, involving, for example, dramatic work, puppetry, and school "shops". Children then pass at about the age of eight or nine years to the more formal primary school, in which they normally spend four or five years.

(ii) *Primary Schools.* The main emphasis in the primary school as distinct from the infants' school still lies on the "tool" subjects (reading, writing and arithmetic) and, in more recent years, on oral language, but the methods of teaching have undergone considerable changes. Changes in the purpose and outlook of educationists, and the raising of the professional standards of teachers, have made for greater freedom for pupils and teachers, some departure from the methods of mass instruction, and the closer linking of the curriculum with the child's social environment.

In general, there is now less emphasis on results than formerly, and basic skills are taught at a somewhat later stage. At the same time, the curriculum has been broadened. More individual instruction has led to a reduction in minimum standards of achievement for the less able, and a stress on curriculum enrichment for the bright. Retardation, i.e., the repeating of grades, has been considerably reduced, the aim being for each child to remain with his age group. In all States, opportunity classes exist for backward children, and in one State opportunity classes are provided for the especially bright.

(iii) *Secondary Schools.* At the age of 12 or 13 years (in Queensland, 14) children transfer to a secondary school course. In the cities and larger country centres, this is provided in a separate school, but in less densely populated areas secondary classes share the same buildings as primary classes. In rural areas, secondary pupils may share teachers or classrooms with primary pupils, and in one-teacher schools a few secondary students may carry out correspondence assignments under the supervision of the primary teacher-in-charge.

Secondary curricula have developed from the matriculation requirements of the universities. Formerly English grammar and literature, and mathematics, including algebra, geometry and trigonometry, were the core. Languages, chiefly Latin and French, or science, chiefly physics and chemistry, and history had an important place. Geography and drawing were often taken in the first two or three years.

As a result of changes in the academic course for matriculation, greater emphasis has been placed on oral and written expression in the English course and on language generally (English or foreign languages); in two universities, new matriculation regulations require a pass in either mathematics or a foreign language (not necessarily Latin, which in recent years has been less popular than previously). A general science course has been introduced in some States, and social studies, a synthesis of history, geography and civics, is a subject to matriculation level in two States. More emphasis has been placed on art, music and physical education.

In recent years, expert committees in all States have examined the problem of the provision of secondary education for all. The reports made by these committees, perhaps the best known of which is the "Wyndham Report" in New South Wales, have principally recommended the broadening of secondary school studies to provide a basic general education for all students. Alongside the academic course other courses have grown up. In country areas, they may be offered in the same school, or the academic course may even be largely abandoned. In the city, it is usual to offer non-academic courses in separate schools, although there is a trend towards comprehensive high schools offering several types of courses and catering for all the pupils from the district. Schools providing academic courses are usually known as High Schools, while the other types are generally distinguished by such names as Junior Technical Schools and Home Science Schools.

Particular mention should be made of the recent development of the all-stage consolidated school, sometimes with an agricultural bias, found under various names in different States. Tasmania and South Australia adapted the idea of the English village area schools to Australian conditions and established "Area Schools", some of which have farms attached.

The courses followed in the non-academic schools are, in general, broader than in the academic schools. There is less concentration on establishing an academic discipline and method peculiar to each subject, but more attention to correlation between fields of knowledge, sometimes expressed by projects involving them all. Generally, less time is devoted to mathematics and the formal sciences, and more time to practical work and to art and musical appreciation. In English, oral language is emphasized rather more and grammar much less than in the academic schools.

(iv) *State Details.* Very brief particulars of the position in each of the States are given on pages 432-3 of Official Year Book No. 40.

4. **Public Authority and the Non-Government Schools.**—In all States, it is compulsory for all children between certain ages to receive education in a government school, unless the child is under "regular and efficient" instruction elsewhere. This may be at home, or in a non-government school. The provision for control over the regularity and efficiency of instruction in the non-government schools varies considerably from State to State. In New South Wales and Western Australia, provision is made for an initial inspection when a new school starts, and for inspections thereafter as the Minister requires, to ensure efficiency. In Victoria and Tasmania, registers are kept of teachers and schools, and both teachers and schools must satisfy the administering authority that they are efficient before registration is granted. Without such registration, neither a teacher nor a school may operate. Provision is made, too, for inspections at any time by the registering authority.

In Queensland, eight grammar schools, which exist by statutory authority and are subsidized by the State, are subject to annual inspection. These are the only non-government schools in Australia for which an annual inspection is prescribed by statute. Other non-government schools in Queensland may be inspected at their own request, but it is possible for these schools—and also those in South Australia—to exist without inspection.

Public authority over schools or institutions having scholars above the compulsory ages is generally less direct. It is effected directly by the registration procedures in Victoria and Tasmania, and in all States there is a measure of indirect control through provisions governing the award of State scholarships, bursaries or other forms of financial assistance to secondary scholars, which are available only in government or approved non-government schools. In New South Wales, also, the Intermediate and Leaving Certificates are awarded only to pupils of schools whose courses of study are approved by the Department of Education.

In all States, non-government schools are required, under the authority of either the Education Acts or Statistics Acts, to furnish certain statistical returns. The form of these returns may be prescribed in the Acts or may be subject to alteration with the Minister's consent.

5. **The Organization of Roman Catholic Schools.**—There is, in each State capital, an official who acts under the Archbishop as a Director of Catholic Education for the area. Each diocese within the area is, however, autonomous and manages its own educational affairs subject to the local episcopal authority. The State Director has, in addition to possible inspectorial functions within his own diocese, the duty of co-ordination of educational matters within his area, and of liaison with other educational authorities, particularly the State Education Department.

The system includes kindergartens, sub-primary, primary, academic secondary, home science, commercial, agricultural and technical schools, juniorates and seminaries, schools for the mentally and physically handicapped, orphanages and a variety of special schools of a charitable nature for under-privileged or socially handicapped children.

With the exception of a small number of permanent lay teachers and a number of visiting teachers, usually specialists in such matters as physical education, sport, and speech, teaching is done by members of religious orders.

**6. The Organization of Other Non-Government Schools.—(i) General.** Practically all non-government schools, except a limited number under private ownership, are governed by a controlling body known variously as a School Council or Board of Trustees or Governors.

Although the other non-government schools may be organized into loose forms of association for purposes such as sports, conferences, and uniform conditions, there is no system within each State corresponding in size, detail or organization with the Roman Catholic schools.

The Headmasters' Conference of Australia and the Headmistresses' Association of Australia are composed of headmasters and headmistresses respectively of a number of the larger non-government schools, including some Roman Catholic schools. Neither body has executive powers. One of the chief considerations for the admission of new members is the degree of independence enjoyed by the governing body and principal of the school concerned.

(ii) *Church of England Schools.* The various types of Church of England schools include small schools associated with a local parish; schools under direct ownership of a diocese; schools established by Acts of the Church Synod, in which the majority of the members of the council are church representatives but which, otherwise, have almost complete independence; and schools conducted by religious orders of the church.

The proportion of members of a school council nominated by the church varies. In some schools, members may also be nominated by parents, by former students, and by the council itself.

In general, schools incorporating the words "Church of England" in their title follow a diocesan syllabus of religious education.

(iii) *Other Denominational Schools.* In general, control of Presbyterian schools is exercised through School Councils appointed by the General Assembly of the Presbyterian Church in the State concerned. Councils vary considerably in size and in the bodies represented on them. Similarly, appointments to councils of Methodist schools are made by the annual Conference of each State. In Queensland, five schools are operated under the joint auspices of the Presbyterian and Methodist churches.

A limited number of schools are conducted by other denominations, such as the Baptist, Congregational and Lutheran churches and by the Seventh-day Adventists. The Society of Friends conducts one school in Australia, the Friends' School, Hobart.

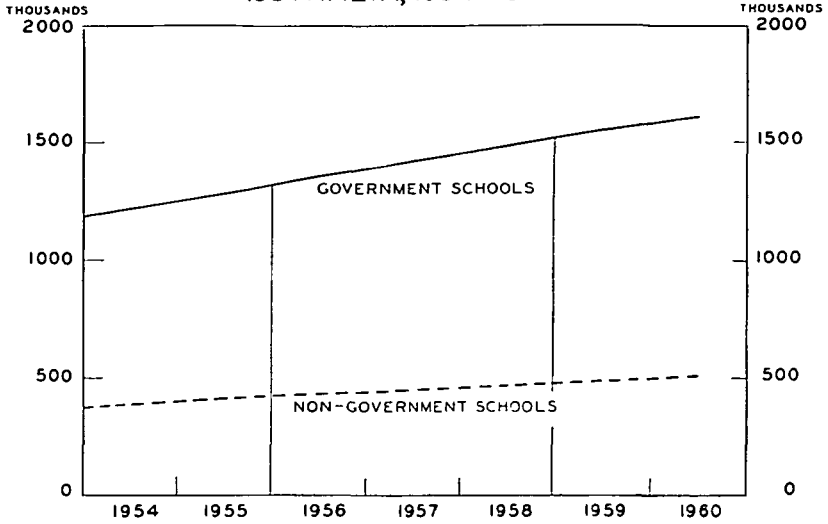
Jewish schools are conducted in several capital cities.

(iv) *Undenominational Schools.* There are a number of undenominational schools in Australia. Some of the larger, although not State-operated, have Government nominees on their boards. They include Sydney Grammar School, the Hale School, Perth, and the eight Queensland grammar schools. Other undenominational schools operate under the auspices of corporate bodies, usually in the form of a limited liability company, while others are privately owned. The majority of schools in this last category are small kindergartens, preparatory and primary schools.

**7. Examinations and Accrediting.—(i) Examinations.** The various public examinations which were formerly held at different stages of education were described in previous Year Books, in particular in No. 40 (1954). There are no public examinations in primary school, but each school normally holds internal examinations yearly or half-yearly. In most States, there is no public examination barrier at the end of primary school, and pupils proceed to high schools of various types. The trend is towards greater use of internal examinations and headmasters' recommendations. In Queensland, a Scholarship Examination is held at the end of primary school, and pupils passing this examination qualify for scholarships tenable at government and non-government secondary schools.

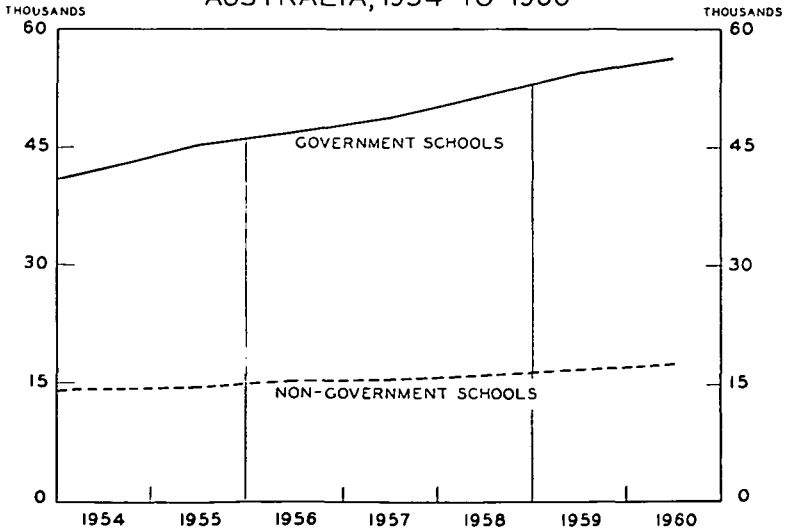
## STUDENTS ENROLLED

AUSTRALIA, 1954 TO 1960



## TEACHERS EMPLOYED

AUSTRALIA, 1954 TO 1960





There are two important examinations in secondary school—one about half-way through the course, and one at the end. The first examination is usually called the Intermediate or Junior, and pupils sit for this after two, three or four years of secondary study at the age of 15 or 16 years. Many pupils leave school at this stage and enter technical and agricultural colleges, or undertake commerce, insurance, banking certificate, or nursing and secretarial courses. The remaining pupils, after one or two years further study, sit for the Leaving or Matriculation examination and qualify for entry to universities, teachers' colleges, and technical college diploma courses. There are, of course, many variations from State to State, and details of these are given below. Most of the examinations are public ones, set and marked by an external authority and conducted on a state-wide scale, but some examinations are taken internally, or a compromise between these two forms may be arranged to meet special circumstances.

(ii) *State Details. New South Wales.* The Intermediate Certificate Examination is taken after three years, either internally or externally, at an average age of 15 years, and the Leaving Certificate Examination (Matriculation) is taken after five years, at an average age of 17 years. Following the report made by the Committee Appointed to Survey Secondary Education, it has been decided, from 1962, to make the secondary school course a six-year one, with a School Certificate after four years and a Higher School Certificate after six years.

*Victoria.* The Proficiency Certificate is taken internally after three years at school, at an average age of 14½ years, the Intermediate is taken at the end of the fourth year, the School Leaving at the end of the fifth year, and the Matriculation at the end of the sixth year. Pupils at approved schools may be accredited for the Intermediate and Leaving—i.e., the Certificate is awarded under certain conditions by the Education Department on the recommendation of the school principal.

*Queensland.* The Junior Public Examination is taken at the end of second year; pupils are then aged about 16 years. The Senior Public Examination (Matriculation) is held at the end of fourth year.

*South Australia.* The Intermediate Examination is taken at the end of third year, at an average age of 15½ years, the Leaving Certificate (Matriculation) at the end of fourth year, and the Leaving Honours at the end of fifth year.

*Western Australia.* The Junior Certificate Examination is taken at the end of third year by pupils aged about 15½ years; the Leaving (Matriculation) is taken at the end of fifth year. Certain schools are approved for accrediting in a few subjects at the Junior Certificate Examination.

*Tasmania.* The Secondary School Certificate (an internal examination) is taken at the end of third year, when pupils are aged about 15½ years, the Schools Board Certificate is taken at the end of fourth year, and the Matriculation at the end of fifth year. Certain schools are approved for accrediting for the Schools Board Certificate.

### § 3. Numbers of Schools, Teachers and Pupils.

1. *General.*—The government schools shown in the following tables include primary, secondary, junior technical, correspondence and subsidized schools, but exclude senior technical colleges, evening schools and continuation classes.

Particulars relating to senior technical colleges are given in § 6, page 594.

Pupils enrolled may be counted in a number of ways, such as "gross enrolment", "net enrolment", and "average weekly enrolment". Throughout the tables in this section the figures shown for the numbers of pupils are the "census enrolment", which means the number of children enrolled on a chosen day, usually in the first week of August.

2. Statistical Summary.—The numbers of schools, teachers and pupils for 1960 are shown in the following table.

## SCHOOLS: NUMBER, TEACHERS, PUPILS, 1960.

Type of School.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
NUMBER OF SCHOOLS.									
Government(a) .. ..	2,699	2,154	1,521	654	521	286	14	18	7,867
Non-Government—									
Denominational—									
Church of England..	35	36	16	13	9	5	..	3	117
Hebrew .. ..	2	5	..	..	2	..	..	..	9
Lutheran .. ..	3	7	2	13	..	..	..	..	25
Methodist .. ..	7	4(b)	5	3	2	1	..	..	23
Presbyterian .. ..	13	14	3	2	2	1	..	..	35
Roman Catholic ..	671	439	267	122	173	44	2	9	1,727
Seventh-day Adventist	17	7	3	3	5	3	..	..	38
Other .. ..	..	4	..	2	1	1	..	..	8
Undenominational ..	68	35	10	5	123	5	..	..	246
Total Non-Government ..	816	551	306	163	318	60	2	12	2,228
Total—All Schools	3,515	2,705	1,827	817	839	346	16	30	10,095

## TEACHERS (EXCLUDING TEACHERS IN TRAINING).

Government(a) .. ..	19,601	14,934	8,774	6,272	4,097	2,540	168	316	56,702
Non-Government—									
Denominational—									
Church of England..	796	788	272	235	168	105	..	48	2,412
Hebrew .. ..	15	94	..	76	3	..	..	..	112
Lutheran .. ..	17	9	31	..	..	..	..	..	133
Methodist .. ..	184	188	108	89	66	25	..	..	660
Presbyterian .. ..	339	385	57	80	58	19	..	..	938
Roman Catholic ..	5,245	2,826	1,869	787	758	304	14	89	11,892
Seventh-day Adventist	55	28	7	11	21	..	..	..	122
Other .. ..	..	102	..	26	2	54	..	..	184
Undenominational ..	533	325	135	88	224	37	..	..	1,342
Total Non-Government ..	7,184	4,745	2,479	1,392	1,300	544	14	137	17,795
Total—All Schools	26,785	19,679	11,253	7,664	5,397	3,084	182	453	74,497

## PUPILS (CENSUS ENROLMENT).

Government(a) .. ..	587,060	422,395	239,082	166,714	119,788	65,284	3,363	8,595	1,612,281
Non-Government—									
Denominational—					(d)	(e)			
Church of England..	11,626	13,957	4,374	4,280	3,192	1,798	..	802	40,029
Hebrew .. ..	197	1,550	..	..	47	..	..	..	1,794
Lutheran .. ..	197	258	448	1,369	..	..	..	..	2,272
Methodist .. ..	2,693	3,675	1,964	1,549	1,370	353	..	..	11,604
Presbyterian .. ..	5,316	7,295	751	1,364	1,176	289	..	..	16,191
Roman Catholic ..	164,599	127,275	59,353	24,873	26,886	8,809	775	3,342	415,912
Seventh-day Adventist	929	493	137	160	365	148	..	..	2,232
Other .. ..	..	1,989	..	495	70	814	..	..	3,368
Undenominational ..	6,403	4,083	2,889	1,280	4,095	505	..	..	19,255
Total Non-Government ..	191,960	160,575	69,916	35,370	37,201	12,716	775	4,144	512,655
Total—All Schools	779,020	582,970	308,998	202,084	156,989	78,000	4,138	12,739	2,124,938

(a) Excludes Senior Technical Colleges. (b) Presbyterian and Methodist Schools' Association.  
 (c) At 30th June, 1960. (d) Estimated. Includes Kindergartens. (e) December, 1960.



3. **Growth of Schools.**—The numbers of schools, teachers and pupils in Australia are shown in the following table for years 1956 to 1960.

**SCHOOLS: NUMBER, TEACHERS, PUPILS, AUSTRALIA.**

Particulars.	1956.	1957.	1958.	1959.	1960.
<b>Number of Schools—</b>					
Government Schools(a) ..	7,650	7,712	7,761	7,833	7,867
Non-Government Schools ..	2,088	2,122	2,128	2,195	2,228
<i>Total—All Schools</i> ..	<i>9,738</i>	<i>9,834</i>	<i>9,889</i>	<i>10,028</i>	<i>10,095</i>
<b>Number of Teachers(b)—</b>					
Government Schools(a) ..	46,968	48,807	51,797	54,857	56,702
Non-Government Schools ..	15,194	15,690	16,320	16,973	17,795
<i>Total—All Schools</i> ..	<i>62,162</i>	<i>64,497</i>	<i>68,117</i>	<i>71,830</i>	<i>74,497</i>
<b>Number of Pupils(c)—</b>					
Government Schools(a) ..	1,355,293	1,425,126	1,496,256	1,558,518	1,612,281
Non-Government Schools ..	432,962	453,980	474,845	493,594	512,657
<i>Total—All Schools</i> ..	<i>1,788,255</i>	<i>1,879,106</i>	<i>1,971,101</i>	<i>2,052,112</i>	<i>2,124,938</i>

(a) Excludes Senior Technical Colleges. (b) Excludes teachers in training. (c) Census enrolment.

Particulars of the average daily attendance at schools for a series of years back to 1891 may be found in earlier issues of this Year Book.

4. **Ages of Pupils.**—The ages of pupils at government and non-government schools at the school census date 1960 (which for most States was in August) are shown in the following table.

**SCHOOLS: AGES OF PUPILS, AUSTRALIA, 1960.**  
(Census Enrolment.)

Age last Birthday (years).	Government Schools.			Non-Government Schools.			Total—All Schools.								
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.						
Under 6 ..	66,453	62,908	129,361	} 44,376	45,244	89,620	192,958	185,609	378,567						
6 ..	82,129	77,457	159,586												
7 ..	83,773	79,000	162,773												
8 ..	82,165	76,791	158,956												
9 ..	81,294	75,723	157,017												
10 ..	81,094	75,386	156,480												
11 ..	78,708	73,155	151,863												
12 ..	78,788	71,576	150,364												
13 ..	84,390	76,522	160,912												
14 ..	61,418	52,624	114,042												
15 ..	38,765	29,592	68,357												
16 ..	17,318	11,909	29,227												
17 and over ..	8,830	4,513	13,343												
<b>Total</b> ..	<b>845,125</b>	<b>767,156</b>	<b>1,612,281</b>							<b>252,334</b>	<b>260,323</b>	<b>512,657</b>	<b>1,097,459</b>	<b>1,027,479</b>	<b>2,124,938</b>

The ages of all pupils in each State at the same date are shown in the following table.

**SCHOOLS: AGES OF PUPILS: 1960.**

(Census Enrolment.)

Age last Birthday (years).	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Under 5 ..	70,083	2,092	230	15,152	26,677	13,475	399	40	378,567
5 ..									
6 ..	73,625	56,329	30,695	19,310	15,799	7,531	511	1,298	209,808
7 ..	75,965	57,592	30,895	20,321	15,799	7,612	474	1,231	204,705
8 ..	73,752	55,345	30,817	19,423	16,097	7,404	467	1,192	202,598
9 ..	73,019	55,277	30,222	19,212	15,768	7,362	437	1,259	202,493
10 ..	73,407	55,067	30,069	19,702	15,271	7,087	401	1,214	196,954
11 ..	71,507	53,016	29,475	19,314	15,075	6,956	371	1,109	197,226
12 ..	72,483	53,367	29,477	18,648	14,800	7,669	338	1,157	210,580
13 ..	76,827	57,692	30,596	20,263	16,081	6,075	209	1,146	153,950
14 ..	62,661	39,460	20,427	14,107	10,188	4,143	128	823	97,594
15 ..	33,769	27,286	15,563	9,777	6,420	1,797	70	308	47,012
16 ..	15,476	14,306	7,266	4,703	3,086	558	21	125	23,451
17 ..	6,446	5,048	3,031	1,660	1,329	331	6	22	
18 and over..									
Total ..	779,020	582,970	308,998	202,084	156,989	78,000	4,138	12,739	2,124,938

**§ 4. Other Aspects of Education in Schools.**

1. **Health Services to Schools.**—Information relating to school medical and dental services is given in Chapter XVII.—Public Health.

2. **Guidance.**—Each Australian State now has a comprehensive system of educational guidance administered by trained and experienced educational psychologists and backed by a system of school record cards. In general, the functions of these services are:—selection and differentiation for secondary education, diagnosis and guidance of atypical children, preliminary vocational guidance and, in some States, research. The weight given to each of these functions varies considerably from State to State, but the aim is to provide thorough educational guidance for all children.

Throughout Australia, branches of the Commonwealth Employment Service cooperate with State Education Departments by giving post-school vocational guidance, using the data obtained and made available by the Education Departments during the school career of the children. In New South Wales, a similar service is also provided by the Youth Welfare Section of the Department of Labour and Industry.

3. **Research.**—(i) *State Education Departments.* All State Education Departments have set up research branches which function as integral parts of head offices. In several States, the officer who directs research is also responsible for the guidance service offered by his department. The research undertaken is directed towards departmental activities and the findings are examined carefully in the determination of policy and procedures; in addition, many problems of immediate importance are handled. In the majority of States, too, the Research Branch supervises the collation of statistics and also plays an important part in curriculum revision and modification of examinations.

(ii) *Australian Council for Educational Research.* The Australian Council for Educational Research, a non-governmental body, is also engaged on educational research in a wide variety of fields, ranging from tertiary to pre-school education. It conducts surveys and inquiries, makes grants to approved educational investigators, serves as a centre for

disseminating educational information, provides training for research workers, and standardizes and distributes educational and psychological tests for use in Australia. Although this council is an autonomous body, the Commonwealth and State Governments contribute some financial support.

4. *Atypical Children.*—Pupils who, for one reason or another, cannot progress to their best advantage in an ordinary school are catered for by special schools or classes. Among groups given special attention are the mentally backward, the gifted, the physically handicapped, the blind, deaf and dumb, the epileptic, the cerebral palsied, the partially sighted, the hard-of-hearing and the socially maladjusted. The provision of special schools and classes has involved the appointment of departmental specialists, special training courses and close liaison with school health services. In some States, special clinics attached to hospitals, or functioning as an independent child-welfare service, handle cases of personality maladjustment and work in co-operation with the psychological services of the Education Departments.

5. *Education of Native Children in Australia.*—The Commonwealth Government is responsible for the education of full-blood native children in the Northern Territory. Each State has responsibility for the welfare and education of native children within its boundaries.

Native children are admitted to government schools in all States except in areas where separate facilities are provided. In those States where natives are more numerous, special schools are located at or near aboriginal reserves, settlements and stations. The schools are for the most part staffed by teachers from the Education Departments, and the curriculum is similar to that in ordinary government schools with a bias towards handicrafts. Numbers of native children also attend the mission schools conducted in several States by the various religious denominations. The standard of education in these schools is generally similar to that in the government schools.

6. *Provision for Rural Areas.*—(i) *General.* The population of Australia is so scattered that there is a problem in providing primary, and more especially secondary, education for all children. One method of meeting this problem has been the establishment of a wide network of one-teacher primary schools, staffed in the main with trained teachers. The practice of sending itinerant teachers to assist correspondence students in outlying areas has been introduced in the far north of Western Australia. The School of the Air, which is dealt with more fully below, is another method used for dealing with the problem.

(ii) *Subsidized Schools.* Where a group of children is too small to warrant the establishment of a one-teacher school, a "subsidized school" may be opened. The Education Department pays part of the cost, and in some States appoints a teacher. Some States also administer "provisional schools", which are completely financed by the Government but which are not large enough, or sufficiently assured of adequate continued attendance of pupils, to warrant classification as permanent schools.

(iii) *Consolidated Schools.* In some States, in districts where a number of small centres are scattered around a larger centre or country town, recent policy has been to close the one-teacher schools and transport pupils each day by bus to a "consolidated" school in the larger centre. Consolidated schools provide primary instruction and from two to four years of post-primary instruction. The post-primary curriculum adopted usually has a bias towards practical activities and training in subjects bearing on the primary industries of the locality.

(iv) *Special Assistance.* Another way of bringing children to the school has been the provision of financial assistance for children who have to live away from home in order to attend school. Most of these board in private homes, but in the several States there are a few government hostels and over 60 private hostels (excluding private boarding schools), many of which are government-subsidized. Together, these cater for almost 2,000 children of secondary school age and a small number of primary school children also. In all States, some provision is made for financial assistance towards the living and travelling expenses of children who are obliged to live away from home in order to attend school.

(v) *Correspondence.* For children who are still unable to attend school, systems of correspondence tuition have been established in every State. The Education Departments provide tuition through primary and secondary school levels and up to matriculation standard if required. In addition, there is a Technical Correspondence School in each State which arranges for correspondence tuition up to matriculation standard for students over the school leaving age. Further reference to the work of the Technical Correspondence Schools is made on page 595 of this chapter.

**7. School Broadcasting and Television.**—Over the years, an extensive school broadcasting system has been developed in Australia by the co-operative efforts of the Australian Broadcasting Commission and education authorities. The A.B.C.'s Education Department is responsible for the broadcasting of the programmes, but it draws freely on the advice and services of teachers and maintains permanent liaison officers with State Education Departments. It was estimated that in 1961 over 90 per cent. of Australian schools were equipped to receive radio lessons.

School broadcasts are presented as part of the regular A.B.C. programmes without separate stations or wave lengths. Special efforts are made, however, to relate the broadcast to school work by the extensive distribution of booklets, giving details of programmes in advance, and subject notes accompanied by picture sheets, work books, and teachers' notes.

Broadcasting has proved to be a most effective way of reaching the outback children of Australia, and radio lessons have been designed to supplement correspondence lessons. The success of the first School of the Air, which has been in operation at Alice Springs in the Northern Territory since 1950 and serves correspondence pupils of the South Australian Education Department, has led to the opening of similar schools based at Ceduna and Port Augusta in South Australia, at Broken Hill in the far west of New South Wales, at Meekatharra, Derby and Kalgoorlie in Western Australia, and at Cloncurry in Queensland. In all, these schools serve a total of a million square miles. By means of special two-way radio equipment, children hundreds of miles apart can participate in the same lesson and teachers and pupils can talk directly with each other.

During 1961, more than 300 schools throughout Australia made use of the telecasts provided for schools by the A.B.C. A working party on school television set up by the A.B.C. and the Directors of Education is at present planning specific tests to establish subjects in which television can best be used.

The "Kindergarten of the Air" and the television programme, "Kindergarten Playtime" are described on page 594 of this chapter.

**8. Teacher Training and Recruitment.**—(i) *General.* The training of government school teachers is carried out by the State Education Departments, but in most States persons who wish to train for teaching in private schools may attend government training colleges on payment of a fee. Many non-government school teachers have been drawn from the government teaching services and others have been recruited at the university graduate level. Private training institutions also provide some teachers.

An account of the early growth of teacher training systems is to be found in Official Year Book No. 22, and subsequent developments were reviewed extensively in Official Year Book No. 40. The pupil-teacher system has been abandoned as the chief method of training teachers and, in general, students are recruited for primary school teaching at the Leaving Certificate level, and undergo training at colleges controlled by the Education Departments. Secondary school teachers are usually recruited at the matriculation level and train principally at universities. The raising of standards and lengthening of training have led to a close association between the Education Departments and universities. The trend has been towards placing teacher training on the same basis as other professional training.

The teacher shortage evident in past years is not now quite as serious, some States having no difficulty in obtaining satisfactory students for training as primary teachers. However, the need for increased numbers of graduate secondary teachers is apparent almost everywhere, and most States make special efforts towards recruiting people in this field.

(ii) *Training Colleges.* Every State maintains at least one teachers' training college. Most students are trained at colleges in the capital cities, although there has been a movement towards the establishment of colleges in the country. At the end of 1961, there were in Australia 26 teachers' colleges conducted by Education Departments and professional training in education was being provided by eight universities.

(iii) *Training of Primary Teachers.* In most States, teachers for government primary schools are trained in co-educational teachers' training colleges controlled and administered by the State Education Departments. Departmental trainees are given a monetary allowance while in training, and are required to enter into a bond to serve for a specified period on completion of training or to repay all or portion of the cost of training.

The entrance standard is generally at the Leaving Certificate level at about the age of seventeen. In some States, intending teachers can obtain a scholarship at the Intermediate Certificate level to enable them to complete teachers' college entrance requirements. In return, they are required to enter into a bond of service additional to that normally required of departmental teachers' college trainees.

In general, the duration of courses is two years for primary teachers, including infants' teachers. The basic subjects taken in the various courses are principles, history and general methods of teaching, special methods of teaching primary school subjects and educational psychology. In addition, students undertake courses in physical education, art, music, school hygiene and handicrafts as well as lectures designed to widen their own cultural background.

In South Australia, primary teacher trainees attend certain university courses, including education, as part of their training. In Tasmania, while the majority of departmental teacher trainees receive their training at the university, there is also a government teachers' college providing courses in infant, primary and home arts teaching.

In some States, separate courses are provided for teachers in infants' schools and in small one-teacher schools. In Victoria, an extension course of one year following the primary course is designed to train teachers of home-crafts for primary schools.

(iv) *Training of Secondary Teachers.* Prospective secondary teachers are required to undertake a university degree course followed by a one-year post-graduate course leading to a degree or diploma in education, a four-year degree course in education, or a two or three year course at a teachers' college. All these forms of training include lectures on subjects associated with educational theory and practice, study of methods and techniques appropriate to secondary school subjects, periods of practice teaching, and the observation of classroom techniques in the teaching of special subjects.

(v) *Training of Specialist Teachers.* Teachers of specialist subjects such as music, art, manual arts, domestic science and commercial subjects receive from two to five years' training varying according to the institution concerned and the type of secondary school in which the teacher is to teach. In several States, the shorter courses are provided wholly by the teachers' colleges. Where the specialist course is given at an institution other than the teachers' college—for example, at a university, technical college or conservatorium of music—as is usual for teachers of specialist subjects in high schools, trainees are required to attend teachers' college or university lectures in education, and in some cases the specialist course is followed by a year of professional training.

In four States, teachers of music receive their specialist training at conservatoria of music; in New South Wales and Queensland, the conservatorium is a State institution under the Minister for Education; in Victoria and South Australia, it is attached to the university.

Courses designed to train physical education teachers are offered in five States, in one at a teachers' college and in the others by the universities.

Training for teachers of agricultural subjects in secondary schools is available in five States and consists of either an agricultural college diploma or a university degree course together with professional training. In Victoria, the two-year agricultural college diploma course follows the normal two-year primary teachers' course. In New South Wales, in addition to the three-year university agricultural course followed by one year's professional training, there is a two-year teachers' college agricultural course.

(vi) *Training of Technical Teachers.* Teachers of general subjects in technical schools and colleges usually receive their training either as primary or as secondary teachers and, after some experience in either or both fields, are transferred to a technical institution.

Teachers of specialist subjects in technical schools are usually recruited from the ranks of qualified tradesmen engaged in either industry or commerce. Upon appointment, teachers of technical subjects usually receive instruction in classroom teaching techniques and procedures. In Victoria, there is a separate Technical Teachers' College.

(vii) *In-service Training.* As almost all teachers now enter the profession by way of teachers' colleges, where they receive basic professional training, in-service training in Australia is directed chiefly towards keeping teachers abreast of developments and adding to their basic training.

Such training usually takes the form of short courses held sometimes during vacations, sometimes during school-time or in the evenings. Courses consist of discussions and lectures given by senior staff members of Education Departments and university and teachers' college lecturers, on such subjects as classroom techniques and supervision, librarianship, visual aids, music, arts and crafts and physical education. In some States, there are also in-service courses for special groups of teachers, such as headmasters or teachers of one-teacher schools. In addition, district inspectors are responsible for organizing short conferences of teachers where professional topics are discussed.

Education Departments encourage teachers to pursue university courses, and in some States pay the cost of courses undertaken by selected teachers.

The official publications of the Education Departments contain articles dealing with educational theory and practice. In most States, the magazines of the teachers' organizations, which reach the majority of government teachers, also contain articles of this type.

(viii) *State Details.* The details of teacher training in the States are given on pages 442-3 of Official Year Book No. 40.

(ix) *Sex and Status of Teachers.* Although about half of the teachers in government schools in Australia are men, the ratio varies from State to State. In the infants' schools and generally in girls' departments, women teachers only are employed. Men, however, predominate in the senior positions, both because of their greater numbers amongst those with long service and because, except in infants' schools and girls' schools, the higher promotion positions are generally reserved for men.

9. *School Buildings and Grounds.*—In 1930, school building programmes were seriously cut because of the financial difficulties of the depression. The 1939-45 War intervened before school building could be resumed on a large scale. After the War, the building of schools was given a high priority, but the rapid post-war increases in school population have imposed a severe strain on available school accommodation, and such emergency measures as the use of halls, cloakrooms and weather-sheds for class instruction have been adopted in some areas.

In more recent years, there has been great activity in the field of school building. The temporary and emergency structures of the immediate post-war period are giving way to more permanent buildings. As well as the increased expenditure on school buildings, there has been greater attention given to their appearance and to their functional design. In most new plans for schools, assembly halls, which may also serve as gymnasias, are a feature and, in many instances, these facilities have been provided for existing schools.

10. *School Equipment.*—(i) *Text Books and Materials.* The State Education Departments supply government schools with essential equipment free of charge, including scientific apparatus and equipment, maps, blackboards, chalk and cleaning materials, and non-consumable equipment for commercial, home science and manual training. Garden tools and physical training equipment are supplied free in most States.

Primers and writing equipment for individual pupils are usually supplied free in primary schools, and Departments, with one exception, produce monthly school magazines which are supplied free or at a small cost. Textbooks, however, are supplied to primary pupils free of charge in one State only. In other primary schools and in all secondary schools, textbooks must be purchased by students, although in several States schools own stocks of textbooks which are hired to students, and in one State secondary textbooks are sold at reduced rates.

Other equipment is supplied free by the Departments on a limited basis only. Equipment such as radios, film and filmstrip projectors, pianos, duplicators and library books are ordinarily purchased for individual schools by the parent and citizen organizations associated with them, with the assistance of subsidies from the Departments.

(ii) *Furniture.* There has been considerable development in this field. Originally most schools were equipped with long desks and benches, seating six to eight pupils, but these were later replaced by the standard dual desk with tip-up seat, and in infant classes by individual chairs and small tables. After the war, considerable research was undertaken on posture and the physical measurement of children. The dual desk is now being replaced in some States by the individual table and chair, provided in a range of sizes suitable to each class. In some States, tubular steel furniture is used. The new type of furniture is more suitable for flexible arrangements of the class in line with modern educational practice.

(iii) *Visual Aids.* Visual aids are widely used in Australian education. Projection equipment in government schools is subsidized by Education Departments, the initial funds usually being raised by parent and citizen bodies.

Each of the State Education Departments has a visual education branch to handle the production and distribution of its visual aids. Film strips are the main item of production, but posters and films are also produced in some cases. Film strips and posters are distributed free or at low cost. Films are held in central libraries and are requisitioned by schools several months in advance of their being required for teaching purposes.

Non-government schools can usually obtain aids produced by education departments at a low cost and can borrow films from either State film centres or from Education Department libraries.

**11. Parent and Citizen Organizations.**—In Australia, where all government schools are administered by central departments, there is little opportunity for local administration of education. Public interest is expressed through parents' committees or organizations of parents and other citizens interested in supporting their local school. The Education Acts of all States provide for the formation of groups of this type, whose aims are to promote the interest of the school by bringing parents, pupils and teaching staff together, to help provide teaching aids and recreation materials not supplied by the departments, to assist in the regular attendance of children at school and to help find accommodation for teachers.

In several States, the general maintenance of school buildings, equipment and grounds is a statutory responsibility of the parent groups, costs being covered by government grants. Lunch canteen services at local schools are maintained by groups in some States.

A notable achievement of the parent groups has been the establishment of school children's insurance schemes, operated through State government insurance offices or private insurance companies. These schemes cover accidents to children which occur between the time of leaving home for school and returning home by the usual direct route.

State-wide councils of federations of parents' groups are associated in a federal body, the Australian Council of School Organizations.

**12. School Banking.**—Particulars of School Savings Banks are included in Chapter XX.—Private Finance.

## § 5. Pre-School Education.

**1. Types of Pre-School Centres.**—Free kindergartens were originally established in congested industrial areas and financed mainly by voluntary effort, but over the years the Commonwealth Government, the State Governments and some municipal councils have provided an increasing amount of financial assistance, and in addition themselves maintain pre-school centres in certain areas.

In 1938, the six Kindergarten Unions, the voluntary organizations which pioneered pre-school education in Australia, met to form a federal organization. Its title "Australian Association for Pre-school Child Development" was changed in 1954 to "Australian Pre-school Association". Its membership is now open to all organizations whose main objective is the care of the pre-school child, and includes bodies in the Australian Capital Territory, the Northern Territory, and the Territory of Papua and New Guinea.

The aim of the association is to promote the continuous advancement of pre-school movements throughout Australia. It sets out standards which act as a guide throughout Australia to those sponsoring pre-school centres, and is responsible for the administration of the six Lady Gowrie Child Centres. These centres are demonstration nursery schools which the Commonwealth Government established in each of the capital cities in 1940 and which are maintained by Commonwealth grants.

To-day, pre-school centres are found not only in inner city areas but also in suburban and country districts. Programmes are adapted to suit the areas in which the centres are situated. Types of pre-school centres include nursery kindergartens, crèches with full-day care for children of working mothers, play groups and play centres, occasional care centres and residential holiday homes.

There are only a limited number of State-subsidized pre-school centres and kindergartens conducted by public authorities and voluntary bodies such as the Kindergarten Unions. However, many children of pre-school age attend private non-subsidized nursery schools or kindergartens. No comprehensive statistics are available concerning the operations of pre-school centres and kindergartens.

**2. The Training of Teachers.**—Although the principle is that all types of pre-school work should be under the guidance of trained pre-school teachers, this cannot always be put into practice, owing to the shortage of teachers.

The Kindergarten Unions in all States except Tasmania have established teacher training colleges providing three-year courses. The minimum entrance age is 17 years, and the Leaving Certificate is usually required before admission. In addition, in New South Wales, the Sydney Day Nursery and Nursery Schools' Association maintains a training college, and a two-year course for nursery teachers is available at the Sydney Teachers' College.

In Tasmania, prospective teachers complete a two-year course of training at one of the Education Department's pre-school centres. Those wishing to gain a Kindergarten Training College diploma must attend a college on the mainland.

Many students-in-training receive government scholarships, and others are sponsored by government departments or voluntary organizations.

**3. Kindergarten of the Air and Kindergarten Playtime.**—The "Kindergarten of the Air", which has been run by the Australian Broadcasting Commission since 1942, consists of a programme of 25 minutes every weekday, based on the interests of children from three to five years of age.

"Kindergarten Playtime" was first telecast in December, 1956, only a month after the Australian Broadcasting Commission had commenced televising programmes. It consists of a programme of 15 minutes every weekday, and is now shown in all State capital cities.

## § 6. Technical Education.

**1. General.**—In this section, technical education refers to that branch of education which is concerned with the preparation for entry to skilled occupations, including trades and professions. In the main, this education is vocational and is chiefly part-time, being carried out by the student while he is engaged in his occupation. The work of technical high schools, junior technical schools and other schools of this nature, which provide courses with a bias towards technical handwork, has been excluded, as these schools provide a form of education which is more properly regarded as secondary education.

The chief institutions for higher education other than the universities are the technical colleges, which are administered in five States by a division of the Education Department. In New South Wales, there is a separate Department of Technical Education, and in Victoria a number of the foremost technical colleges are controlled by independent councils which, although responsible to the Minister of Education, have a large measure of autonomy.



The technical colleges offer training not only in all the major industrial skills, but also in a variety of commercial, artistic and domestic occupations. Their courses may be divided into three main types, as follows.

- (i) Diploma courses giving advanced training in the technical professions and other fields such as accountancy and art.
- (ii) Vocational courses, usually leading to the award of a certificate, for skilled technical and semi-professional workers. Many of these courses are in fields not covered by an apprenticeship award.
- (iii) Craftsman or artisan training in the apprenticeship trades.

A brief description of the expansion in technical training since the 1939-45 War appears in Official Year Book No. 43, page 449. The following table gives some indication of the growth of technical education in the years 1956 to 1960.

#### TECHNICAL EDUCATION: AUSTRALIA.

Year.	No. of Colleges.	No. of Students.	No. of Teachers.(a)	Total Expenditure.
				£'000.
1956 .. .. .	164	(b)	8,364	8,775
1957 .. .. .	169	205,225	8,967	9,592
1958 .. .. .	171	220,500	9,765	10,344
1959 .. .. .	181	(b)	10,601	11,238
1960 .. .. .	187	239,427	11,044	13,327

(a) Includes both full-time and part-time teachers.

(b) Not available.

Training in certain technical aspects of agriculture such as farm mechanics and wool classing, and in related fields such as food technology is also provided by the technical colleges, while the seven State agricultural colleges (*see also* Chapter XXII), located in all States except Tasmania, provide comprehensive agricultural courses of two to three years' duration which lead to diplomas in agriculture. At some colleges, other diploma courses are offered in addition, including horticulture, dairying and dairy manufactures, food technology and oenology. The Queensland Agricultural High School and College is administered by the Department of Education; in other States, the Departments of Agriculture are responsible for administration of the colleges.

**2. Correspondence Training.**—Technical correspondence courses were first offered in Australia about 1910. During the period 1940 to 1944, technical correspondence schools were founded in each State in conjunction with the Commonwealth and these have become an important part of the system of technical education in the Australian States.

These schools not only offer a wide variety of correspondence courses, including trade and apprenticeship, rural, commercial and art courses, but, in addition, provide secondary courses up to matriculation or diploma entrance standard. Students who, because of distance or working hours, cannot attend technical college classes may enrol for these courses. In New South Wales, mobile instructional units, consisting of rail cars equipped as self-contained workshops, are used to provide practical experience for correspondence students, as well as for the instruction of apprentices and tradesmen at smaller country centres.

In 1955, the Royal Melbourne Technical College established a shortwave broadcasting station to provide further tuition for its correspondence students.

An interesting recent development in technical correspondence education, in which the Australian technical colleges are co-operating with the Commonwealth Government, is the correspondence scholarship scheme operating under the Colombo Plan. Through this scheme, south and south-east Asian students may take correspondence courses conducted by the technical colleges and by the University of Queensland, which has a highly

organized system of external tuition. Courses include commercial, rural, teacher-training, engineering and other technical courses. Where practical training is required as part of the course, it is taken by the student in his own country.

3. **Teacher Training.**—Prior to the 1939–45 War, technical colleges were staffed chiefly by men drawn from two sources. They were either trained teachers in the employment of the Education Department or technicians drawn from industry. Although some of the latter were highly qualified, the great majority had not been trained as teachers. In order to remedy this, technical schemes have been developed to train college teachers without breaking the important link provided by recruiting specialist tradesmen to teach in the colleges. In Victoria, the Technical Teacher's College provides training for students with the appropriate diploma or trade qualifications and suitable industrial experience. In New South Wales, technical college lecturers and tradesmen-instructors receive an in-service course of teacher training in both general educational theory and teaching method, and correspondence courses and visiting lecturers care for the newly appointed teacher-instructor in country colleges. Modifications of this scheme are in operation in other States. Many technical teachers, principally of academic, commercial and domestic science subjects, hold trained teachers' certificates from teachers' colleges.

4. **Colleges, Teachers and Students.**—The number of colleges, teachers and enrolments of individual students during the years 1956 to 1960 is given in the following table.

#### TECHNICAL EDUCATION: COLLEGES, TEACHERS AND ENROLMENTS.

State.	Colleges.	Teachers.			Individual Students Enrolled.		
		Full-time.	Part-time.	Total.	Males.	Females.	Persons.
<b>New South Wales(a)(b)—</b>							
1956 .. .. .	45	1,197	1,265	2,462	(c)	(c)	(c)
1957 .. .. .	45	1,240	1,291	2,531	51,244	27,386	78,630
1958 .. .. .	48	1,259	1,337	2,596	54,104	28,361	82,465
1959 .. .. .	48	1,299	1,691	2,990	(c)	(c)	(c)
1960 .. .. .	51	1,286	1,682	2,968	62,523	34,195	96,718
<b>Victoria—</b>							
1956 .. .. .	47	2,026	1,484	3,510	39,796	14,784	54,580
1957 .. .. .	50	2,209	1,558	3,767	42,224	16,082	58,306
1958 .. .. .	54	2,382	1,488	3,870	45,653	17,215	62,868
1959 .. .. .	63	2,644	1,678	4,322	48,089	16,845	64,934
1960 .. .. .	70	3,905	657	4,562	51,328	16,388	67,716
<b>Queensland(a)—</b>							
1956 .. .. .	13	165	402	567	12,478	4,461	16,939
1957 .. .. .	13	167	410	577	12,728	4,469	17,197
1958 .. .. .	13	166	568	734	13,422	4,792	18,214
1959 .. .. .	13	176	517	693	13,500	4,970	18,470
1960 .. .. .	14	174	647	821	13,556	4,893	18,449
<b>South Australia(a)—</b>							
1956 .. .. .	28	267	583	850	13,478	7,841	21,319
1957 .. .. .	30	274	663	937	15,123	8,300	23,423
1958 .. .. .	25	280	770	1,050	16,991	8,570	25,561
1959 .. .. .	25	294	779	1,073	18,130	8,570	26,700
1960 .. .. .	25	323	737	1,060	15,728	7,722	23,450
<b>Western Australia(a)—</b>							
1956 .. .. .	24	237	339	576	12,100	6,703	18,803
1957 .. .. .	24	257	430	687	13,519	7,512	21,031
1958 .. .. .	23	(d) 278	(d) 735	(d) 1,013	15,977	8,436	24,413
1959 .. .. .	24	(d) 282	(d) 739	(d) 1,021	15,604	8,888	24,492
1960 .. .. .	19	307	802	1,109	17,017	8,739	25,756
<b>Tasmania—</b>							
1956 .. .. .	7	79	320	399	3,583	2,153	5,736
1957 .. .. .	7	85	383	468	4,423	2,215	6,638
1958 .. .. .	8	98	404	502	(e) 4,625	(e) 2,354	6,979
1959 .. .. .	8	104	398	502	4,837	2,463	7,300
1960 .. .. .	8	111	413	524	5,253	2,085	7,338
<b>Total—</b>							
1956 .. .. .	164	3,971	4,393	8,364	(c)	(c)	(c)
1957 .. .. .	169	4,232	4,735	8,967	139,261	65,964	205,225
1958 .. .. .	171	4,463	5,302	9,765	150,772	69,728	220,500
1959 .. .. .	181	4,799	5,802	10,601	(c)	(c)	(c)
1960 .. .. .	187	6,106	4,938	11,044	165,405	74,022	239,427

(a) Excludes correspondence students. (b) Includes A.C.T. (c) Not available.  
 (d) Number of teaching positions. (e) Estimated.

## § 7. Expenditure on Schools and Technical Colleges.

1. Government Schools Expenditure.—(i) *Total Net Expenditure.* The figures shown in this section for expenditure on Government schools are on a more uniform basis than those published in previous issues of the Official Year Book.

The following table shows particulars of the total net expenditure (i.e., gross expenditure less receipts for services rendered) from certain funds on government schools and education departments. The data have been compiled on the same basis as far as differences in organization and accounting methods between States and Territories will permit.

The table includes only expenditure from the consolidated revenue funds and certain trust or special funds. It excludes loan fund expenditure; expenditure on debt charges, payroll tax and superannuation payments, in so far as it is possible to identify these items; and some items for which information cannot be obtained from the public accounts of all States.

The figures relate throughout to years ended 30th June. Net expenditure per pupil relates the total net expenditure to the mean of the numbers of pupils enrolled at the beginning and end of the year. Net expenditure per head of population relates the total net expenditure to the mean population.

## GOVERNMENT SCHOOLS AND EDUCATION DEPARTMENTS.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
TOTAL NET EXPENDITURE. (£'000.)									
1955-56	28,736	17,645	8,762	5,649	6,027	2,799	149	322	70,089
1956-57	30,345	19,978	9,120	6,197	6,571	3,304	155	392	76,062
1957-58	33,132	22,222	9,953	6,853	7,274	3,380	197	408	83,419
1958-59	36,544	24,563	11,347	7,963	7,541	3,662	217	504	92,341
1959-60	40,445	27,323	12,130	9,232	8,246	4,327	278	587	102,568

TOTAL NET EXPENDITURE PER PUPIL.  
(£ s. d.)

1955-56	57	3	2	53	11	8	41	6	243	2	8	61	12	5	50	9	10	76	1	2	67	19	6	52	12	5	
1956-57	57	18	10	57	2	10	43	14	144	10	0	63	13	11	56	17	8	69	0	10	71	19	4	54	14	3	
1957-58	60	18	10	59	13	11	45	7	10	46	11	4	67	2	8	56	0	3	75	18	4	66	12	3	57	2	11
1958-59	64	18	4	62	7	0	49	12	5	51	6	3	66	8	11	58	13	3	74	1	3	73	7	2	60	9	10
1959-60	69	15	0	66	2	7	51	7	6	56	12	9	69	19	11	67	7	0	86	14	3	73	9	4	64	13	11

TOTAL NET EXPENDITURE PER HEAD OF POPULATION.  
(£ s. d.)

1955-56	8	3	1	6	18	1	5	19	11	6	15	6	9	0	9	8	16	1	8	5	7	9	9	5	7	9	3
1956-57	8	9	1	7	12	2	6	10	10	7	3	11	9	13	0	10	3	4	7	15	0	10	11	11	7	19	7
1957-58	9	10	0	8	5	5	7	0	0	7	14	8	10	9	8	10	3	8	9	7	7	10	9	3	8	11	3
1958-59	9	16	0	8	18	8	7	16	5	8	15	4	10	13	8	12	15	3	9	17	3	11	14	5	9	5	8
1959-60	10	13	1	9	13	9	8	4	2	9	17	8	11	10	0	12	11	7	11	2	5	11	14	10	10	1	10

(ii) *Classification of Expenditure.* The following table shows, for the six States, the net expenditure on government schools and education departments classified into the following headings:—(i) Primary Education, (ii) Secondary Education, (iii) Administration, (iv) Training of Teachers, and (v) Transportation of School Children and Students. Expenditure on technical and agricultural education is excluded from the tables.

It has been necessary to estimate some items of expenditure, largely because the meanings of "primary" and "secondary" differ between States, and because elementary and higher education are sometimes given in the same school by the same teachers.

The table showing total net expenditure includes expenditure on government schools in the Northern Territory and Australian Capital Territory, but in the following table this expenditure has been excluded, because the detail is not available.

**GOVERNMENT SCHOOLS AND EDUCATION DEPARTMENTS:  
CLASSIFICATION OF EXPENDITURE.  
(£'000.)**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	total.(a)
<b>PRIMARY EDUCATION.</b>							
1955-56 .. ..	16,947	11,195	6,000	3,808	3,345	1,289	42,584
1956-57 .. ..	18,043	11,553	6,603	4,065	3,557	1,517	45,338
1957-58 .. ..	19,037	12,659	7,065	4,409	4,044	1,625	48,839
1958-59 .. ..	20,562	13,953	7,980	4,905	4,095	1,751	53,246
1959-60 .. ..	22,272	14,892	8,325	5,527	4,464	1,858	57,338
<b>SECONDARY EDUCATION.</b>							
1955-56 .. ..	7,433	2,742	1,640	1,019	1,060	689	14,583
1956-57 .. ..	7,973	4,177	1,350	1,179	1,224	823	16,726
1957-58 .. ..	9,241	4,870	1,532	1,362	1,480	814	19,299
1958-59 .. ..	10,661	5,406	1,830	1,800	1,631	997	22,325
1959-60 .. ..	12,139	6,372	2,148	2,237	1,894	1,261	26,051
<b>ADMINISTRATION.</b>							
1955-56 .. ..	1,200	502	352	149	147	310	2,660
1956-57 .. ..	1,212	554	396	174	292	366	2,994
1957-58 .. ..	1,323	584	419	198	281	328	3,133
1958-59 .. ..	1,479	651	465	199	314	230	3,338
1959-60 .. ..	1,703	760	518	246	274	419	3,920
<b>TRANSPORTATION OF SCHOOL CHILDREN AND STUDENTS.</b>							
1955-56 .. ..	1,725	1,585	277	329	981	360	5,257
1956-57 .. ..	1,455	1,749	359	388	1,021	420	5,392
1957-58 .. ..	1,616	1,913	423	404	930	443	5,729
1958-59 .. ..	1,613	2,002	502	467	910	458	5,952
1959-60 .. ..	1,813	2,120	601	486	957	516	6,493
<b>TRAINING OF TEACHERS.</b>							
1955-56 .. ..	1,431	1,621	493	344	494	151	4,534
1956-57 .. ..	1,662	1,945	412	391	477	178	5,065
1957-58 .. ..	1,915	2,196	514	480	539	170	5,814
1958-59 .. ..	2,229	2,551	570	592	591	226	6,759
1959-60 .. ..	2,518	3,179	538	736	657	273	7,901

(a) Excludes Northern Territory and Australian Capital Territory.

2. **Non-Government Schools Finance.**—Most Roman Catholic parochial schools do not charge fees, but families make a contribution if they can afford to do so. At the majority of non-government secondary schools, privately endowed scholarships are available in varying numbers, and reductions in fees are normally made for children of clergy or for two or more members of one family attending the same school. With these exceptions, pupils of non-government schools must pay fees.

Certain State scholarships and bursaries are tenable at approved non-government secondary schools. Since the establishment of educational systems by the State Governments, official policy has been largely against the provision of direct financial assistance to non-government schools. The eight undenominational grammar schools in Queensland, however, receive a State subsidy under the Grammar Schools Acts 1860-1900. In 1956, the Commonwealth Government undertook to contribute to the interest payments on loans raised in order to build non-government secondary school accommodation in the Australian Capital Territory. This contribution is now available for both primary and secondary school buildings extensions and additions.

3. **Technical Colleges Expenditure.**—The following table shows the net expenditure on technical education from the State consolidated revenue funds, together with expenditure on technical education in the Australian Capital Territory.

**TECHNICAL EDUCATION: NET EXPENDITURE.**  
(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
1955-56 ..	2,671	3,350	864	928	575	344	43	8,775
1956-57 ..	2,788	3,797	911	1,044	607	401	44	9,592
1957-58 ..	2,981	4,110	964	1,144	691	407	47	10,344
1958-59 ..	3,163	4,287	1,120	1,429	735	450	54	11,238
1959-60 ..	3,763	5,435	1,237	1,645	789	397	61	13,327

### § 8. Commonwealth Activities.

Although the primary responsibility for education rests with the States, the Commonwealth Government is committed to a number of educational activities related to its other functions. For example, it maintains officer training colleges and education services for each of its defence services, a School of Pacific Administration for the training of administrative and other officers for service in Commonwealth Territories, and a School of Forestry. In each of the Australian Territories, the educational programme provides for both the native and European children who live there. References to these programmes appear in Chapter V.—The Territories of Australia.

The Australian Broadcasting Commission features school broadcasts and other educational broadcasts as part of its daily programmes. The Commonwealth Scientific and Industrial Research Organization undertakes research, the results of which are made available to educational institutions. Under the Commonwealth Reconstruction Training Scheme, many ex-servicemen and women have received training which has enabled them to enter a variety of trades and professions.

The Commonwealth Office of Education, established under the Education Act 1945, acts as the Commonwealth's educational adviser, undertakes research work as Commonwealth activities require, and is the channel for liaison between Commonwealth and State educational authorities. Some of its major commitments are those related to international relations in education, including the association of Australia with the aims and activities of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the teaching of English as a second language and the provision of scholarships and fellowships for selected students under the Technical Co-operation Scheme (Colombo Plan) and under the scheme known as Australian International Awards. The office also acts as a co-ordinating body in the administration of the British Commonwealth Scholarship and Fellowship Plan.

The activities of the Commonwealth Scholarships Board, which was formerly known as the Universities Commission, are described on page 602 of this chapter.

The Commonwealth assists a number of other bodies concerned with education. Besides grants to organizations such as the Australian Council for Educational Research, grants are made to the States, on the recommendation of the Australian Universities Commission, for payment to universities.

Further details of Commonwealth assistance to students (including the Commonwealth Scholarship Scheme) and of grants for universities are given on page 602 of this chapter.

### § 9. Australia and International Relations in Education.

Australia has always been responsive to educational developments in oversea countries, particularly those in the United Kingdom, but it is only recently that it has begun to make any considerable impact on educational thought overseas.

In this connexion, there have been important developments since the 1939-45 War. For instance, there has been a remarkable increase in the volume of information on educational matters exchanged between Australia and south-east Asia, and Australia participates in the Technical Co-operation Scheme (Colombo Plan), the Korean Training Scheme, the United Nations Technical Assistance programme, the cultural programme of SEATO, and the scheme of Australian International Awards, under which a limited number of scholarships are given annually. Australia also participates in the British Commonwealth Scholarship and Fellowship Plan. In 1960, there were 5,441 oversea students, most of them Asian, attending institutions of higher learning in Australia; of these, 2,871 were in universities and 1,710 in technical colleges.

Perhaps the most important single factor behind the quickening of Australian interest in international cultural affairs has been membership of UNESCO. Australia has been a member since 1946. Twelve expert committees in Australia are responsible for a wide and varied programme of activities on behalf of UNESCO. Their advice has helped to make Australia's contribution to international conferences and seminars highly effective. Other work undertaken by these committees has included the provision of technical material and advice to the countries of south and south-east Asia, the conducting of seminars in Australia, arranging for exhibitions and displays in Australia and overseas, and the publication of handbooks and brochures to assist teachers and other persons in meeting the problems involved in educating for international understanding.

The Australian National Advisory Committee for UNESCO, on which all the other committees are represented, advises the Commonwealth Government and co-ordinates the work of the specialist committees.

### § 10. Universities.

1. **General.**—There are ten universities in Australia. The following list shows the date of foundation and the faculties existing at each.

- University of Sydney, established in 1850, located in Sydney, New South Wales. Agriculture, Architecture, Arts, Dentistry, Economics, Engineering, Law, Medicine, Science, Veterinary Science.
- University of Melbourne, established in 1853, located in Melbourne, Victoria. Agriculture, Architecture, Arts, Dental Science, Economics and Commerce, Education, Engineering, Law, Medicine, Music, Science, Veterinary Science.
- University of Adelaide, established in 1874, located in Adelaide, South Australia. Agricultural Science, Architecture and Town Planning, Arts, Dentistry, Economics, Engineering, Law, Medicine, Music, Science, Technology.
- University of Tasmania, established in 1890, located in Hobart, Tasmania. Arts, Commerce, Education, Engineering, Law, Science.
- University of Queensland, established in 1909, located in Brisbane, Queensland. Agriculture, Architecture, Arts, Commerce and Economics, Dentistry, Education, Engineering, Law, Medicine, Science, Veterinary Science.
- University of Western Australia, established in 1912, located in Perth, Western Australia. Agriculture, Arts, Dental Science, Economics, Education, Engineering, Law, Medicine, Science.
- Australian National University, established in 1946, located in Canberra, A.C.T. *Institute of Advanced Studies*: John Curtin School of Medical Research, the Research School of Physical Sciences, the Research School of Social Sciences, the Research School of Pacific Studies. *School of General Studies* (consisting substantially of the former Canberra University College): Arts, Economics, Law, Science.
- University of New England, established in 1954 (established in 1938 as New England University College), located in Armidale, New South Wales. Agricultural Economics, Arts, Rural Science, Science.
- University of New South Wales, established in 1958 (established in 1948 as New South Wales University of Technology), located in Sydney, New South Wales. Architecture, Arts, Commerce, Engineering, Medicine, Science, Applied Science. The University also provides part-time instruction in science and engineering at technical colleges in country towns in New South Wales.
- Monash University, established in 1958, located in Melbourne, Victoria. Arts, Economics and Politics, Engineering, Medicine, Science.

There are also three university colleges in Australia. Newcastle University College, founded in 1951, located in Newcastle, New South Wales, is affiliated with the University of New South Wales and has degree courses in the faculties of Applied Science, Architecture, Arts, Commerce, Engineering and Science. Townsville University College, founded in 1961, located in Townsville, Queensland, is a constituent part of the University of Queensland. It offers first-year degree, diploma and certificate courses in the faculties of Arts, Science, Engineering, Commerce and Economics, Agriculture, Law, Veterinary Science, Dentistry, Medicine and Education, and second-year courses in Arts, Science and Engineering. Commencing in 1962, Wollongong University College, affiliated with the University of New South Wales, will offer some courses in the faculties of Engineering and Applied Science.

2. *Expansion within the Universities.*—Within the past 20 years, the appearance of some of the universities has altered to a striking extent. Many new permanent buildings and some temporary ones have been erected and new wings have been added. The universities are expanding their accommodation greatly to meet the increasing enrolments.

There was a continuing increase in university enrolments from 1929 (approximately 9,000) to 1940, followed by a slight recession. In the closing year of the 1939–45 War, however, the number of students had risen beyond any previous figure, and rapid post-war expansion was responsible for a peak enrolment of 32,453 students in 1948. After 1948, the numbers decreased each year until 1953 as ex-service personnel completed their training under the Commonwealth Reconstruction Training Scheme. Thereafter, enrolments increased again and it is expected that they will continue to increase rapidly. Enrolments in 1960 were 53,633.

3. *Courses.*—A brief survey of developments in university courses since the war and up to 1954 was given in Official Year Book No. 42 (p. 476). Outlines of some developments from 1954 to 1960 have appeared in successive Year Books. Developments since 1960 have included the establishment of a number of courses offered for the first time in Australia, as follows.

At the University of New South Wales, Ceramic Engineering was offered as a course for the Bachelor of Applied Science degree in 1961. At the University of Melbourne, a post-graduate Diploma in Criminology was offered in 1961, and at The University of New England a post-graduate Bachelor of Letters degree was introduced for external students in 1961.

Other developments in 1961 included the establishment of a Faculty of Applied Science and a School of Oriental Studies at the University of Melbourne, and the establishment of a Faculty of Medicine at the University of New South Wales.

A major development in 1962 was the establishment of a Faculty of Oriental Studies in the School of General Studies at the Australian National University. At the University of Queensland, a Department of Anthropology began in 1962.

For the majority of university courses, full-time attendance is required. At most universities, however, certain courses, such as arts, commerce and economics, may also be undertaken by part-time or evening study. At the University of New South Wales, a variety of degree courses are available to evening students.

Several universities have limited systems of external tuition whereby students in country areas may take a restricted number of courses by correspondence. The University of Queensland has developed a system of correspondence tuition which now caters not only for students within the State but for those in the Northern Territory, Papua and New Guinea and adjacent Pacific islands. External students within Queensland receive tutorial assistance at university centres in the principal country towns. In addition, the university co-operates in the Colombo Plan Correspondence Scholarship Scheme (*see p. 595*).

The University of New England's Department of External Studies offers a wide range of subjects for external study, leading to the degree of Bachelor of Arts and the Diploma in Education. External students must attend short annual residential schools of instruction in their subjects, usually held at the university.

4. *Research.*—A wide range of research work is carried out by the universities as part of their normal functions. The research activities of the universities have been greatly stimulated over recent years by the interest and assistance of the Commonwealth and State Governments, government instrumentalities such as the Commonwealth Bank, the Rural Bank of New South Wales, and the C.S.I.R.O., private foundations, both oversea and Australian, such as the Nuffield Foundation, the Carnegie Corporation and the Water Research Foundation of Australia, and industrial undertakings. Details of research work carried out at each university can be obtained from its calendar or research report.

Grants are made by the Commonwealth Government to bodies such as the Post-Graduate Committee in Medicine at the University of Sydney to facilitate arrangements for medical specialists from overseas to lecture and demonstrate advanced techniques in Australia.

Grants have been made by the Commonwealth Government, through the Australian Atomic Energy Commission, to a number of Australian universities for nuclear research.

The further expansion of teaching and research in various agricultural and veterinary fields was assisted by the annual and special grants of the Commonwealth Bank's Rural Credits Development Fund to several Australian universities. The C.S.I.R.O. also contributed to research in these and other fields.

5. *The Commonwealth and the Universities*—(i) *General*. The Commonwealth has given support to the Australian universities for many years. Prior to 1939, Commonwealth assistance was almost entirely concerned with research projects carried out by or in collaboration with the universities. During and since the 1939–45 War, the Commonwealth extended assistance to university students, at first to increase the number of highly trained people required for the war effort, then with the object of rehabilitating ex-servicemen, and finally as a social service benefit to the community. For the purpose of reconstruction training, the Commonwealth Government made available to the universities approximately £1 million for buildings and £500,000 for equipment. Since 1951, the Commonwealth has made special grants to the States for their universities and during the same time has continued to support the university institutions for which it is responsible.

(ii) *Assistance to Students*. Up to 1945, the Universities Commission, now the Commonwealth Scholarships Board, functioned under National Security Regulations, but in that year it was established on a permanent basis under the Commonwealth Education Act 1945. After the 1939–45 War, the Commission continued to provide financial assistance to students under an interim scheme until 1951, when the interim scheme was superseded by the Commonwealth Scholarships Scheme.

From January, 1961, the number of Commonwealth scholarships granted annually increased from a maximum of 3,000 to a maximum of 4,000. These are allocated to the States on a population basis and are tenable at universities and other approved institutions. Awards are made on merit and all successful applicants have their fees paid. In addition, scholarship holders may be paid a living allowance subject to a means test. As from 1st January, 1961, the maximum rates of allowance have been £364 per annum for a scholar living away from home and £234 per annum in the case where he lives at home.

At 30th September, 1961, 16,555 scholars had completed courses of training under the Scheme. At the same date, there were 12,688 scholars in training, of whom 11,936 were at universities and 752 at other institutions.

As from 1st January, 1959, post-graduate awards for training at Australian Universities were made available under the Scheme. One hundred awards were granted in each of the years 1959, 1960 and 1961. From 1962, an additional 25 awards will be available each year if the quality of candidates is sufficiently high. The benefits comprise a living allowance without a means test and payment to universities for tuition and facilities.

The Commonwealth Scholarships Board also provides for the training, at universities and similar institutions, of ex-service personnel and war widows under the Reconstruction Training Scheme, the Korea and Malaya Training Scheme and the Disabled Members' and Widows' Training Scheme. A detailed description of the Reconstruction Training Scheme was given on page 240 of Official Year Book No. 39. At 30th September, 1961, 21,503 students had completed courses under these schemes and at the same date there were 66 in training.

(iii) *Commonwealth Grants to the States for University Purposes*. Following a report submitted by a committee of inquiry appointed to report on university finances and requirements, the Commonwealth, since 1951, has made grants to the States for recurrent expenditure on university purposes. The payments have been made under the various States Grants (Universities) Acts.\*

In 1957, the Prime Minister appointed a committee to investigate the problems of Australian universities. The Committee was given wide terms of reference. Among other things, it was asked to consider the role of the university in the Australian community, the extension and co-ordination of university facilities, technological education at university level, the financial needs of universities and appropriate means of providing for those needs, and the Commonwealth Scholarship Scheme.

In accepting the principal recommendations of the Committee (Murray Report)†, the Commonwealth agreed to continue grants for recurrent expenditure in 1958, 1959 and 1960, to make additional unmatched recurrent grants, and to assist with the capital needs of the universities for building projects and for equipment. The Commonwealth was also to provide grants between 1958 and 1960 for the building programmes of residential colleges affiliated with universities.

\* No. 81 of 1951; No. 75 of 1953; No. 28 of 1955; No. 37 of 1956; No. 7 of 1957; No. 27 of 1958; and No. 106 of 1960. † Report of the Committee on Australian Universities (Canberra, Commonwealth Government Printer, 1957).



The States Grants (Universities) Act No. 27 of 1958 operated from 1st January, 1958, and gave effect to these recommendations. This Act amended those parts of the States Grants (Universities) Act No. 7 of 1957 which referred to 1958 and provided for payments for 1957 to the South Australian School of Mines and Industries (now the South Australian Institute of Technology).

In 1959, following the Report of the Committee on Australian Universities, the Commonwealth Government established the Australian Universities Commission under the Australian Universities Commission Act No. 30 of 1959. The Commission's principal functions are to advise the Prime Minister on financial assistance to Commonwealth Universities and to States in relation to their Universities and also on the balanced development of Australian Universities. The Commission commenced its work in July, 1959. The first report of the Commission, covering the period 1961-63, was presented in October, 1960. The Commission recommended that Commonwealth grants in the period should be £93,300,000, approximately twice as great as grants available in the period 1958-60. The States Grants (Universities) Act No. 106 of 1960 which operated from 1st January, 1961, gave effect to these recommendations. This Act (No. 106 of 1960) amended those parts of the States Grants (Universities) Act 1958, which referred to recurrent grants to all universities for 1960.

The general grant for recurrent expenditure is a continuation of matched grants provided since 1951, and the maximum amount available in 1961 is shown in the following table.

RECURRENT COMMONWEALTH GRANTS TO UNIVERSITIES, 1961.

University.	General Grant for Recurrent Expenditure.
	£
New South Wales—	
The University of Sydney .. .. .	1,562,000
The University of New South Wales .. .. .	1,350,000
The University of New England .. .. .	458,000
Victoria—	
The University of Melbourne .. .. .	1,374,000
Monash University .. .. .	233,000
Queensland—	
The University of Queensland .. .. .	929,000
South Australia—	
The University of Adelaide .. .. .	832,000
The South Australian Institute of Technology .. .. .	63,000
Western Australia—	
The University of Western Australia .. .. .	577,000
Tasmania—	
The University of Tasmania .. .. .	273,000
<b>Total .. .. .</b>	<b>7,651,000</b>

From 1961, the matched grants have been made on a basis of £1 of Commonwealth money for every £1.85 of income received by a university from fees and State grants. From 1951 to 1960, the matching ratio was, in general, £1 to £3.

From 1961, there has been a change in the method of calculating the unmatched Commonwealth grants for the teaching and administrative costs of residential colleges administered by or affiliated with a university. The grant consists of payments each year of £2,000 to each college, plus £15 for each resident student, and, a further £5 for each non-resident student receiving tutorial assistance. The Commonwealth total grant paid in 1961 was £154,190.

Commonwealth grants for selected building projects, for the period 1961-63, are shown in detail in the Second Schedule to the 1960 Act. Payments are made up to a given maximum for each project, on the basis of £1 from the Commonwealth for every £1 of State grants. The total Commonwealth grant for each University is shown in the following table.

**COMMONWEALTH GRANTS FOR UNIVERSITY BUILDING PROJECTS, ETC.  
1961-63.**

University.							Commonwealth Contribution.
							£
New South Wales—							
							1,450,000
							2,880,000
							670,000
Victoria—							
							1,056,000
							3,890,000
Queensland—							
							1,100,000
South Australia—							
							1,060,000
							10,000
Western Australia—							
							1,200,000
Tasmania—							
							900,000
							<b>14,216,000</b>

The States Grants (Universities) Act No. 106 of 1960 amended those parts of the States Grants (Universities) Act No. 27 of 1958, which referred to grants for University building projects at Monash University. In addition, a grant of 5 per cent. of the cost of each project is made for equipping and furnishing buildings. This grant is also matched £1 for £1 by the States. In the period 1958-60, the Universities received an unmatched Commonwealth grant for equipment equal to 16 per cent. of the cost to the Commonwealth of each project.

The Commonwealth also makes available, at the request of the State, grants for buildings for residential colleges affiliated with a university. Commonwealth grants are up to one half of the cost for the purchase, erection or alteration of a building at an affiliated residential college. The maximum amount available for distribution in each State in the period 1961-63 is shown in the following table.

**MAXIMUM COMMONWEALTH GRANTS FOR RESIDENTIAL COLLEGE  
BUILDINGS, 1961-63.**

University.							Maximum Grant.
							£
New South Wales—							
							142,000
							150,000
Victoria—							
							223,000
Queensland—							
							195,000
South Australia—							
							101,000
Western Australia—							
							120,000
Tasmania—							
							69,000
							<b>1,000,000</b>

For the first time, for the three years covered by the 1960 Act, a grant is made for the purchase of items of equipment specially approved by the Australian Universities Commission on the basis of £1 from the Commonwealth for every £1 of State grants. This grant is made available in two parts.

The allocation to Universities of one-half of this grant is shown in the Third Schedule to the 1960 Act. The maximum amount available to each University is shown in the following table.

**COMMONWEALTH GRANTS FOR EQUIPMENT, 1961-63.**

University.						Commonwealth Contribution.
						£
New South Wales—						
The University of Sydney .. .. .	..	..	..	..	..	45,000
The University of New South Wales .. .. .	..	..	..	..	..	40,000
The University of New England .. .. .	..	..	..	..	..	15,000
Victoria—						
The University of Melbourne .. .. .	..	..	..	..	..	45,000
Monash University .. .. .	..	..	..	..	..	15,000
Queensland—						
The University of Queensland .. .. .	..	..	..	..	..	25,000
South Australia—						
The University of Adelaide .. .. .	..	..	..	..	..	25,000
Western Australia—						
The University of Western Australia .. .. .	..	..	..	..	..	25,000
Tasmania—						
The University of Tasmania .. .. .	..	..	..	..	..	15,000
<b>Total .. .. .</b>	..	..	..	..	..	<b>250,000</b>

The remaining half of the grant (totalling £250,000 from the Commonwealth) is to be distributed among the Universities listed in the table above on the basis of grants for individual items specially approved by the Commission.

The grants for capital building projects at universities and residential colleges and capital equipment grants for universities are payable at any time within the period 1961-63.

6. Teaching and Research Staff.—The following table shows particulars of the teaching and research staff of Australian universities during 1960.

**UNIVERSITIES: TEACHING AND RESEARCH STAFF, 1960.**

University or College.	Pro-fessors.	Readers. (a)	Lecturers.(b)		Demonstrators, Tutors and Research Assistants.		Honor-ary Lec-turers and Demon-strators.	Total.
			Full-time.	Part-time.	Full-time.	Part-time.(c)		
Australian National University .. .. .	24	20	(d) 106	..	26	8	..	184
Sydney .. .. .	68	47	486	246	157	104	51	1,159
New South Wales .. .. .	38	26	435	239	(e) 129	20	(f) 2	889
New England .. .. .	19	13	111	34	48	16	4	245
Melbourne .. .. .	51	68	305	107	151	190	..	872
Monash .. .. .	6	..	2	..	1	..	..	9
Queensland .. .. .	37	37	221	121	107	5	(f) 80	608
Adelaide .. .. .	40	42	206	65	40	112	..	505
Western Australia .. .. .	33	24	130	53	23	36	38	337
Tasmania .. .. .	20	7	65	25	16	8	..	141
Canberra University College .. .. .	19	8	54	35	11	17	..	144
<b>Total .. .. .</b>	<b>355</b>	<b>292</b>	<b>2,121</b>	<b>925</b>	<b>709</b>	<b>516</b>	<b>175</b>	<b>5,093</b>

(a) Includes associate professors, assistant professors and lecturers-in-charge. (b) Includes senior lecturers and assistant lecturers. (c) Excludes part-time demonstrators. (d) Senior fellows, fellows and research fellows. (e) Includes technical officers. (f) Department of External Studies.

The following table gives details of the teaching and research staff of Australian universities for each year from 1956 to 1960.

**UNIVERSITIES: TEACHING AND RESEARCH STAFF, SUMMARY, AUSTRALIA.**

Year.	Pro-fessors.	Readers. (a)	Lecturers.(b)		Demonstrators, Tutors and Research Assistants.		Honor- ary Lec- turers and Demon- strators.	External Studies Staff.	Total
			Full- time.	Part- time.	Full- time. (c)	Part- time.(d)			
1956 .. ..	265	196	1,383	1,052	400	409	50	29	3,784
1957 .. ..	274	229	1,494	958	410	406	51	30	3,852
1958 .. ..	292	256	1,733	982	490	462	51	37	4,303
1959 .. ..	320	286	1,947	955	604	503	123	64	4,802
1960 .. ..	355	292	2,121	925	709	516	89	86	5,093

(a) Includes associate professors, assistant professors and lecturers-in-charge. (b) Includes senior lecturers, assistant lecturers, senior fellows, fellows and research fellows. (c) Includes technical officers of the University of New South Wales. (d) Excludes part-time demonstrators.

7. Students.—(i) *Total.* The number of students enrolled for courses at the universities for the year 1960 is shown in the following table.

**UNIVERSITIES: STUDENTS ENROLLED, 1960.**

University or College.	Degree Courses.	Diploma Courses.		Certificate Courses.	Miscel- laneous Subjects.	Adjusted Total.(a)
		Post- graduate.	Sub- graduate.			
Australian National University ..	141	..	..	..	6	147
Sydney .. ..	10,437	291	966	..	256	11,869
New South Wales .. ..	3,809	63	3,713	9	291	7,881
New England .. ..	1,993	194	..	..	52	2,234
Melbourne .. ..	9,842	374	439	177	587	11,157
Queensland .. ..	6,185	76	674	1,403	411	8,700
Adelaide .. ..	4,270	131	1,022	12	753	6,110
Western Australia .. ..	3,276	108	..	..	124	3,501
Tasmania .. ..	970	72	76	183	94	1,332
Canberra University College ..	728	..	8	2	114	849
<b>Total .. ..</b>	<b>41,651</b>	<b>1,309</b>	<b>6,898</b>	<b>1,786</b>	<b>2,688</b>	<b>53,780</b>

(a) Adjustment made for students enrolled for more than one course.

Of the students enrolled in 1960, 41,385 were males and 12,395 females. Included in those enrolled for degrees were 141 enrolled for higher degree courses at the Australian National University, 725 in Sydney, 495 at the University of New South Wales, 111 at the University of New England, 440 in Melbourne, 251 in Queensland, 256 in Adelaide, 241 in Western Australia, 64 in Tasmania, and 47 at the Canberra University College.

The following table shows the number of students enrolled at Australian universities for each of the years from 1956 to 1960.

## UNIVERSITIES: STUDENTS ENROLLED, SUMMARY, AUSTRALIA.

Year.	Degree Courses.		Diploma Courses.		Certificate Courses.	Miscellaneous Subjects.	Adjusted Total.(a)
	Higher Degrees.	Bachelor Degrees.	Post-graduate.	Sub-graduate.			
1956 .. ..	1,188	23,686	550	5,977	1,025	2,206	34,480
1957 .. ..	1,357	26,153	735	5,834	1,135	2,006	36,903
1958 .. ..	1,672	29,920	846	6,168	1,427	2,431	41,865
1959 .. ..	2,226	34,061	1,007	6,405	1,575	2,781	47,565
1960 .. ..	2,771	38,880	1,309	6,898	1,786	2,688	53,780

(a) Adjustment made for students enrolled for more than one course.

(ii) *New Students Enrolled.* The number of new students enrolled for courses at the universities during the year 1960 is shown in the following table.

## UNIVERSITIES: NEW STUDENTS ENROLLED, 1960.

University or College.	Degree Courses.	Diploma Courses.		Certificate Courses.	Miscellaneous Subjects.	Adjusted Total.(a)
		Post-graduate.	Sub-graduate.			
Australian National University ..	45	..	..	..	4	49
Sydney .. ..	3,023	54	353	..	106	3,536
New South Wales .. ..	1,194	35	881	..	175	2,285
New England .. ..	866	99	..	..	36	1,000
Melbourne .. ..	2,422	38	157	5	298	2,883
Queensland .. ..	1,735	8	188	442	215	2,586
Adelaide .. ..	1,058	3	389	4	242	1,682
Western Australia .. ..	937	3	..	..	51	991
Tasmania .. ..	273	2	17	75	36	392
Canberra University College ..	351	..	..	..	78	429
<b>Total .. ..</b>	<b>11,904</b>	<b>242</b>	<b>1,985</b>	<b>526</b>	<b>1,241</b>	<b>15,833</b>

(a) Adjustment made for students enrolled for more than one course.

Of the new students enrolled in 1960, 11,364 were males and 4,469 females. Included in those enrolled for degrees were 279 enrolled for higher degree courses—Australian National University 45, Sydney 26, University of New South Wales 82, New England 21, Melbourne 25, Queensland 20, Adelaide 18, Western Australia 14, Tasmania 4 and Canberra University College 24.

The following table shows the number of new students enrolled at Australian universities during each of the years from 1956 to 1960.

## UNIVERSITIES: NEW STUDENTS ENROLLED, SUMMARY, AUSTRALIA.

Year.	Degree Courses.		Diploma Courses.		Certificate Courses.	Miscellaneous Subjects.	Adjusted Total.(a)
	Higher Degrees.	Bachelor Degrees.	Post-graduate.	Sub-graduate.			
1956 .. ..	134	6,881	112	2,184	317	976	10,590
1957 .. ..	119	7,401	121	1,601	333	874	10,418
1958 .. ..	211	8,936	92	1,657	457	1,194	12,387
1959 .. ..	252	10,087	198	1,712	483	1,321	13,985
1960 .. ..	279	11,625	242	1,985	526	1,241	15,833

(a) Adjustment made for students enrolled for more than one course.

8. **Principal University Benefactions.**—Issues of the Official Year Book up to No. 40 included details of the principal private benefactions to universities. (See Year Book No. 40, pp. 467–8.)

9. **University Income for General Activities.**—The income of the universities is derived principally from State and Commonwealth Government grants, students' fees, and income from private foundations. From all sources other than new bequests, the income during 1960 for general university functions was as shown in the table below. In South Australia, Government grants and income from private foundations include amounts in respect of the Waite Agricultural Research Institute.

**UNIVERSITIES: INCOME FOR GENERAL ACTIVITIES, 1960.**

(£.)

University or College.	Government Grants.	Students' Fees.	Interest, Rent, Dividends and Donations.	Other.	Total.
Australian National University	2,366,616	1,352	66,708	93,964	2,528,640
Sydney .. .. .	2,537,247	893,140	81,786	54,230	3,566,403
New South Wales .. .. .	4,185,897	339,154	..	55,434	4,580,485
New England .. .. .	981,384	70,148	2,121	130,740	1,184,393
Melbourne .. .. .	2,352,338	901,219	63,357	59,652	3,376,566
Monash .. .. .	1,445,250	..	..	342	1,445,592
Queensland .. .. .	1,572,600	462,346	91,171	39,786	2,165,903
Adelaide .. .. .	1,978,751	203,712	55,773	23,023	2,261,259
Western Australia .. .. .	1,214,337	66,827	54,674	61,753	1,397,591
Tasmania .. .. .	652,523	62,462	2,053	30,376	747,414
Canberra University College..	441,830	31,603	..	2,059	475,492
<b>Total .. .. .</b>	<b>19,728,773</b>	<b>3,031,963</b>	<b>417,643</b>	<b>551,359</b>	<b>23,729,738</b>

10. **University Expenditure for General Activities.**—The principal item of disbursements on general university activities is the maintenance of the teaching and research staff, accounting for 59.0 per cent. of the total in 1960 compared with 62.0 per cent. in 1959.

The following table shows the expenditure including capital expenditure during the year 1960.

**UNIVERSITIES: EXPENDITURE FOR GENERAL ACTIVITIES, 1960.**

(£.)

University or College.	Adminis- tration.	Maintenance of—			Other (including Buildings).	Total.
		Teaching and Research Depart- ments.	Premises and Grounds.	Libraries.		
Australian National University	179,479	1,390,058	168,896	68,920	531,231	2,338,584
Sydney .. .. .	449,667	2,358,154	371,938	196,082	507,253	3,883,094
New South Wales .. .. .	315,586	2,297,825	301,829	151,054	1,422,899	4,489,193
New England .. .. .	172,394	601,316	102,187	58,835	261,679	1,196,411
Melbourne .. .. .	267,344	2,342,299	343,859	136,535	297,141	3,387,178
Monash .. .. .	43,955	53,548	20,243	26,720	872,292	1,016,758
Queensland .. .. .	167,872	1,676,462	120,343	101,788	76,631	2,143,096
Adelaide .. .. .	167,566	1,410,078	178,840	96,140	584,357	2,436,981
Western Australia .. .. .	113,298	961,489	111,235	70,002	159,660	1,415,684
Tasmania .. .. .	74,893	499,897	46,542	49,676	76,648	747,656
Canberra University College..	60,477	332,353	15,850	39,670	27,803	476,153
<b>Total .. .. .</b>	<b>2,012,531</b>	<b>13,923,479</b>	<b>1,781,762</b>	<b>995,422</b>	<b>4,817,594</b>	<b>23,530,788</b>

11. *Funds for Special Purposes.*—(i) *General.* The tables shown in paras. 9 and 10 above relate to general university activities, while the two which follow show the financial position of the special purpose funds which are, in the main, for special research purposes.

(ii) *Income for Special Purposes.* The following table shows the main items of income for the year 1960.

## UNIVERSITIES: INCOME FOR SPECIAL PURPOSES, 1960.

(£.)

University or College.	Government Grants.	Interest, Rent, Dividends and Donations.	Public Examination Fees.	Special Research Grants.	Other.	Total.
Australian National University	..	18,011	..	47,888	..	65,899
Sydney .. ..	1,381,000	96,254	..	924,866	28,459	2,430,579
New South Wales .. ..	..	443,606	..	109,042	26,831	579,479
New England .. ..	406,000	46,195	..	42,436	13,821	508,452
Melbourne .. ..	1,258,856	355,940	155,973	389,010	198,742	2,358,521
Monash .. ..	..	..	..	..	..	..
Queensland .. ..	4,550	193,469	37,905	89,777	57,347	383,048
Adelaide .. ..	18,200	65,897	51,755	156,135	42,309	334,296
Western Australia .. ..	646,812	86,129	50,611	96,463	31,397	911,412
Tasmania .. ..	15,099	2,656	6,990	33,086	344	58,175
Canberra University College ..	13,400	694	..	2,473	625	17,192
<b>Total</b> .. ..	<b>3,743,917</b>	<b>1,308,851</b>	<b>303,234</b>	<b>1,891,176</b>	<b>399,875</b>	<b>7,647,053</b>

(iii) *Expenditure for Special Purposes.* The following table shows the main items of expenditure for the year 1960.

## UNIVERSITIES: EXPENDITURE FOR SPECIAL PURPOSES, 1960.

(£.)

University or College.	Special Purpose Funds (Research)	Other Special Purposes.	Public Examination Expenses.	Scholarships, Bursaries, etc.	Other (including Buildings).	Total.
Australian National University	1,949	..	..	17,671	38,309	57,929
Sydney .. ..	551,871	648,584	..	29,229	612,350	1,842,034
New South Wales .. ..	103,541	306,447	..	22,946	..	432,934
New England .. ..	49,497	5,231	..	6,522	718,440	779,690
Melbourne .. ..	347,353	227,286	125,649	8,348	1,062,859	1,771,495
Monash .. ..	..	..	..	..	..	..
Queensland .. ..	86,051	106,205	49,284	20,275	19,500	281,315
Adelaide .. ..	192,259	72,356	49,719	6,313	..	320,647
Western Australia .. ..	84,398	14,406	47,333	50,031	423,581	619,749
Tasmania .. ..	23,813	..	6,149	4,401	..	34,363
Canberra University College ..	1,628	..	..	13,546	..	15,174
<b>Total</b> .. ..	<b>1,442,360</b>	<b>1,380,515</b>	<b>278,134</b>	<b>179,282</b>	<b>2,875,039</b>	<b>6,155,330</b>

12. *Degrees Conferred, etc.*—The following table shows the number of degrees conferred and diplomas and certificates granted for males and females separately at each university during the year 1960.

**UNIVERSITIES: DEGREES CONFERRED, AND DIPLOMAS AND CERTIFICATES GRANTED, 1960.**

Course.	Aust. National Univ.		Sydney.		New South Wales.		New England.		Melbourne. (a)		Queensland.		Adelaide.		Western Australia.		Tasmania.		Australia.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
<b>Degrees—</b>																				
Agriculture ..	..	..	47	5	..	..	9	1	40	6	16	2	22	1	12	1	..	..	146	16
Architecture ..	..	..	17	3	14	1	..	..	27	5	7	..	..	..	..	..	..	..	65	9
Arts ..	11	..	201	208	13	16	81	40	193	167	84	55	37	37	85	45	36	29	741	597
Dentistry ..	..	..	48	5	..	..	..	..	22	1	36	4	1	..	..	..	..	..	118	10
Divinity ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Economics ..	..	..	55	2	16	..	..	..	126	23	46	2	28	..	3	..	14	1	288	28
Education ..	..	..	8	3	..	..	..	..	49	10	8	1	..	..	5	..	..	..	87	19
Engineering ..	..	..	91	..	122	..	..	..	105	..	78	..	64	..	33	..	9	..	502	..
Law ..	..	..	78	5	..	..	..	..	100	13	9	2	9	4	12	..	10	..	218	24
Medicine(b) ..	3	..	165	29	..	..	..	..	122	14	58	20	43	9	3	..	..	..	394	72
Music ..	..	..	..	2	..	..	..	..	7	23	..	..	2	1	..	..	..	..	9	26
Science ..	6	..	174	62	159	4	20	8	182	49	122	32	128	28	68	6	40	5	899	194
Technology ..	..	..	..	..	..	..	..	..	..	..	..	..	57	..	..	..	..	..	57	..
Veterinary Science ..	..	..	33	2	..	..	..	..	..	..	23	..	..	..	..	..	..	..	..	2
<b>Total ..</b>	<b>20</b>	<b>..</b>	<b>917</b>	<b>326</b>	<b>324</b>	<b>21</b>	<b>110</b>	<b>49</b>	<b>973</b>	<b>311</b>	<b>487</b>	<b>118</b>	<b>391</b>	<b>80</b>	<b>249</b>	<b>57</b>	<b>109</b>	<b>35</b>	<b>3,580</b>	<b>997</b>
<b>Post-graduate Diplomas—</b>																				
Education ..	..	..	56	90	9	5	28	46	43	20	32	21	21	10	31	11	22	9	242	212
Medicine ..	..	..	30	..	..	..	..	..	15	2	..	..	..	..	..	..	..	..	45	2
Other ..	..	..	1	..	..	..	..	..	6	..	5	..	..	..	..	..	..	..	12	..
<b>Total ..</b>	<b>..</b>	<b>..</b>	<b>87</b>	<b>90</b>	<b>9</b>	<b>5</b>	<b>28</b>	<b>46</b>	<b>64</b>	<b>22</b>	<b>37</b>	<b>21</b>	<b>21</b>	<b>10</b>	<b>31</b>	<b>11</b>	<b>22</b>	<b>9</b>	<b>299</b>	<b>214</b>
<b>Sub-graduate Diplomas</b>	<b>..</b>	<b>..</b>	<b>16</b>	<b>12</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>13</b>	<b>27</b>	<b>47</b>	<b>66</b>	<b>76</b>	<b>7</b>	<b>..</b>	<b>..</b>	<b>11</b>	<b>1</b>	<b>163</b>	<b>183</b>
<b>Certificates ..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>118</b>	<b>19</b>	<b>..</b>	<b>..</b>	<b>73</b>	<b>..</b>	<b>11</b>	<b>25</b>	<b>129</b>	<b>47</b>

(a) Includes degrees conferred on students of the Canberra University College.

(b) Excludes the number of B.S. degrees conferred.

### § 11. Other Aspects of Education.

1. **General.**—Beyond the schools, colleges and universities, there are agencies engaged in less direct educational work which cannot be readily assessed and described. Among these are such things as press, film, radio and television, which are powerful educational forces—whether they are used specifically to disseminate information such as new agricultural techniques or preventive health measures, or, on the other hand, in a much more general way to exert an influence on the cultural level of the population. There are also bodies and institutions such as the adult education authorities, libraries, art galleries and museums which aim at catering for the educational and cultural needs of the general public.

2. **Adult Education.**—(i) *General.* The term “adult education” is used in Australia to refer in the main to non-vocational educational and cultural activities for adults provided by some of the universities and by various adult education authorities, which vary in form from State to State. In 1960, an Australian Association for Adult Education was formed, and its first Annual Conference was held in Adelaide in 1961. It handles matters pertaining to adult education at a national level and arranges liaison with similar bodies in other countries.

The Workers' Educational Association movement, which has for its object the bringing of the universities into closer relationship with the community in general and providing for higher education in civic and cultural subjects, has been active in Australia. In 1913, associations were formed in all the Australian States. In four States, the associations have been superseded by Adult Education Boards or Councils set up by the State Governments in Victoria, Queensland and Tasmania and by the university in Western Australia. In the other two States, New South Wales and South Australia, the associations continue to co-operate with the universities in their extension work and are given direct grants by the governments concerned.



While the choice of courses offered by these bodies is naturally more limited in the smaller States, a variety of topics, including social studies and current affairs, language and literature, drama, music, arts and crafts, are available in all States.

(ii) *New South Wales.* (a) *Adult Education Advisory Board.* State Government grants for adult education are allocated by the Adult Education Advisory Board. Grants are made to the University of Sydney (Department of Tutorial Classes), the Workers' Educational Association, the University of New England (Department of Adult Education), the Public Library of N.S.W. (Adult Education Section), and the Arts Council of Australia (N.S.W. Division).

(b) *University of Sydney.* The Extension Board of the University of Sydney provides lectures and short courses in city and country.

In 1914, the Department of Tutorial Classes was established to provide classes and study groups along the lines of similar work in England. Its activities include the provision of tutorial classes in a wide variety of subjects, discussion groups and "kits" to serve the needs of country districts and people who cannot be catered for by tutorial classes, and publication of the fortnightly *Current Affairs Bulletin*. This publication, begun in 1942 and produced for four years by the Australian Army Education Service, was recommenced in 1947 as a civilian and service publication by the Commonwealth Office of Education. At the beginning of 1952, the Department of Tutorial Classes took over full responsibility for the Bulletin. It receives an annual grant from the Commonwealth Government for this purpose.

In 1960, there were 167 tutorial classes with a total enrolment of 4,845 and 145 discussion groups with a total enrolment of 2,217.

The Department works in conjunction with the Workers' Educational Association through the Joint Committee of Tutorial Classes, appointed by the university senate.

(c) *Workers Educational Association.* In addition to co-operating with the Department of Tutorial Classes in organizing certain classes and groups, the Association itself provides classes in a wide variety of fields. It publishes *Highway*, a bi-monthly journal of adult education, and maintains a property near Sydney where short residential schools are held throughout the year.

In 1960, the Association ran 82 classes, for which there were 4,454 enrolments.

(d) *University of New England.* When the New England University College became an autonomous university in 1954, its Department of Adult Education took over full responsibility for the activities formerly undertaken by it on behalf of the Department of Tutorial Classes of the University of Sydney. It brings university extension activities to the people of northern New South Wales and conducts classes in arts and social sciences in towns throughout this region. Short residential courses are held on topics of interest to primary producers in the area.

(e) *Public Library of New South Wales.* The Public Library's adult education section provides an adult education library service for all classes and groups conducted by the Department of Tutorial Classes of the University of Sydney, the Workers' Educational Association, and the Department of Adult Education of the University of New England.

(f) *Arts Council.* The New South Wales Division of the Arts Council of Australia provides a mobile theatre unit and organizes touring companies in ballet, opera and drama to country towns. Musicians provide some short lecture courses in the city.

(g) *Education Department.* The New South Wales Education Department provides evening colleges, housed in its schools and staffed by trained teachers, which provide non-vocational courses in a wide variety of crafts and dramatic and musical activities. Adults may prepare for the Intermediate and Matriculation examinations at certain of these colleges.

(iii) *Victoria.* The Council of Adult Education is a government instrumentality established by the Adult Education Act 1946. Its aims are to stimulate adult education in Victoria and to encourage voluntary organizations and associations by giving them advice and assistance. Its activities include a variety of classes on topics ranging from social studies, psychology, language and literature, to crafts, music, drama, etc., and usually lasting from 10 to 20 weeks. An annual 10-day summer school is another important activity. The Council publishes a bi-monthly bulletin, *C.A.E. Newsletter* and a quarterly journal, *Adult Education*. Its group service assists and provides programme material for the discussion groups formed by organizations and individuals throughout the State. In 1959-60, there were 6,365 enrolments for classes and 2,880 individual enrolments in 261 discussion groups.

A recent development of importance is the extension of the council's activities, including classes and discussion groups, to the prisons, as part of a general plan for penal reform in Victoria.

Through its community arts service, the Council organizes tours, by musicians and by theatrical and other companies, in country towns which otherwise would have no opportunity of seeing such performances. It provides an advisory service to musical societies and co-operates with the National Gallery of Victoria in the organization of travelling art exhibitions.

The council's income is derived mainly from a government grant, but also from student fees and Community Arts Service performances.

(iv) *Queensland.* The Queensland Board of Adult Education was constituted in 1944 and is responsible under the Minister for Education for the provision of adult education facilities throughout the State. Under the executive officer of the Board, the Supervisor, are six district officers, one based in Brisbane and five in large country towns, who are responsible for organizing activities in country areas.

The cost of the programme is borne by the State Government and admission to all courses is free. Activities include lectures, group meetings on a variety of topics, generally short-term but some of which extend over a full year, and film screenings. Library and film services are provided.

In 1960, enrolments for lectures totalled 3,176. Some form of adult education activity was available in almost 300 centres.

(v) *South Australia.* Since 1917, the University of Adelaide, through the Joint Committee for Tutorial Classes, has provided year by year in the metropolitan area a series of tutorial classes, lecture classes and study circles on a wide range of subjects of cultural and current interest, in co-operation with the Workers' Educational Association of South Australia.

In 1957, a Department of Adult Education was established and a full-time Director of Adult Education appointed. A wide range of University extension courses and educational conferences, summer schools and seminars, including a number dealing with subjects at post-graduate level, are organized directly by the University. In 1960, enrolments for tutorial and extension classes totalled 2,974.

The Workers' Educational Association of South Australia, in addition, carries on an independent educational programme of classes, schools, and exhibitions or film festivals.

The State Education Department also arranges an extensive programme of educational activities.

(vi) *Western Australia.* Adult education in Western Australia is organized by the Adult Education Board, established in 1928 under the terms of the statutes of the University of Western Australia. The board has a considerable degree of autonomy. Its executive officer is the Director of Adult Education.

The Board conducts, in the metropolitan areas, classes, refresher courses and short schools, conferences, seminars and public lectures, and maintains a library. Classes were held in 1960 with a total enrolment of 1,785. The Board's country work is mainly operated through a box library scheme for discussion groups, of which there were 72 in 1960. Lecture tours and week-end schools are held, and local adult education is encouraged through semi-autonomous local committees. Metropolitan work and country work are drawn together in an annual summer school.

The Board also operates a community arts service in city and country and arranges screenings of foreign films. Regional drama festivals and music festivals are arranged culminating in the annual Festival of Perth, inaugurated and administered by the Board.

(vii) *Tasmania.* Some form of adult education has existed since the formation in 1913 of a Workers' Educational Association, which worked in conjunction with the University of Tasmania for a number of years, receiving a grant through the university, which had a Director of Tutorial Classes. Later the grant was paid direct to the Association by the Government and the university's tutorial department ceased to exist. In 1948, the Adult Education Act was passed, providing for the formation of an Adult Education Board whose functions are to plan and develop adult education in Tasmania and to assist other bodies actively engaged in adult education.

The executive officer of the board, located at Hobart, is the Director of Adult Education. Activities are organized on a regional basis by organizers based in Hobart, Launceston and three large country centres.

The board organizes classes of ten weeks' duration on a wide range of subjects. In 1960, 452 courses were held with a total enrolment of 4,500. It sponsors special lectures, film screenings and art exhibitions, recitals of music and dramatic performances, in both city and country areas. Its income is derived from a State government grant and from students' fees.

3. **The New Education Fellowship.**—The New Education Fellowship is a world organization of parents, educators, and other citizens interested in the development of new educational practices. It was founded in London in 1915 and spread to Australia at the time of a regional conference held here in 1937. There are now sections in each State. Its Australia-wide journal *New Horizons in Education* is published quarterly. A major conference of the New Education Fellowship is to be held in Australia in 1962, during which prominent educationists from Australia and overseas will visit all States.

4. **Australian College of Education.**—An Australian College of Education was formed in 1959. Its aim is to bring together leading members of every field of education for their mutual benefit and the furtherance of education in the Commonwealth.

5. **Migrant Education.**—The Commonwealth government's post-war immigration policy has brought to Australia over 750,000 immigrants with little or no knowledge of English. To assist their assimilation into the Australian community, a system of migrant education has been developed to teach them English and to give them information about Australia.

Before arriving in Australia, migrants who do not speak English are given some instruction in English by shipboard education officers.

In Australia, free evening classes are arranged by State Education Departments wherever a group of nine or more migrants in country areas, or twelve or more migrants in city areas, wish to learn English. Should migrants find it impossible to attend classes, they may apply, through State Education Departments, for a free correspondence course in English. In addition, English lessons are broadcast regularly by the Australian Broadcasting Commission. The Commonwealth Office of Education provides technical advice on all aspects of migrant education and is responsible for the preparation of teaching materials.

In October, 1961, 19,395 migrants were enrolled in classes and 10,770 were taking correspondence lessons. At the same time, 15,776 were receiving the monthly booklet accompanying the radio lessons.

## B. CULTURAL ACTIVITIES.

### § 1. Libraries.

1. **General.**—The Munn-Pitt report of 1935 greatly stimulated interest in libraries and librarianship throughout Australia. This is seen in the rapid development of libraries, the passing of legislation in all States to increase library services, and in the establishment in 1937 of the Australian Institute of Librarians to improve the standard of librarianship. This body was reconstituted in 1949 as the Library Association of Australia, and its functions now include the promotion and improvement of libraries and library services. The Association conducts annual examinations for which students are prepared by courses of instruction in all States. Formal library schools exist in the Commonwealth National Library, Canberra, and the Public Libraries at Sydney and Melbourne. In 1960, the first library school to be attached to an Australian University was opened. This is in the University of New South Wales.

2. **Commonwealth.**—(i) *National Library of Australia.* This Library grew directly from the Library of the Commonwealth Parliament established in Melbourne in 1901, the Committee of which soon afterwards announced its intention to develop a library patterned on the Library of Congress at Washington, U.S.A., capable of serving purposes beyond those essential to the Parliament itself, appropriate to a national library and on

a national scale. This policy was steadily pursued, so that, in addition to its primary function of serving Parliament, it gradually became a central source of information for the government and its departments and other agencies, and assumed increasing reference and bibliographical responsibilities in relation to scholarship and research in Australia and abroad. It was also influenced by the basic elements of the national library concept of the older countries of Europe: namely, that a national library is the proper place to collect the national literature systematically and to make it known and available for use, and that it is a place to which scholars may turn for what is most significant in the literature of other countries. For these growing extra-Parliamentary activities, the Parliamentary Library Committee, in 1923, adopted the title of Commonwealth National Library.

A committee appointed to examine the future control and functions of the Commonwealth National Library recommended, in 1957\*, its establishment as the National Library of Australia, separate from the Parliamentary Library, with wide functions and controlled by a board subject to a Minister; the transfer, as a separate agency to an appropriate department, of its Archives Division, which constituted the Commonwealth's agency for the custody and organization of departmental records of permanent value which need no longer be held within departmental offices; and that the Parliamentary Library be a separate library under separate Parliamentary control. Continuing co-operation, where possible, between the two libraries was also proposed.

Effect was given to these recommendations by the National Library Act, No. 69 of 1960, which created the National Library of Australia as a body corporate under the control of a Council of nine members, of whom one is a Senator elected by the Senate, one a member of the House of Representatives elected by that House, and seven appointed by the Governor-General, and with the following functions:—

on behalf of the Commonwealth—

- (a) to maintain and develop a national collection of library material, including a comprehensive collection relating to Australia and the Australian people;
- (b) to make the national collection available to such persons and institutions in such manner and subject to such conditions as the Council determines with a view to its most advantageous use in the national interest;
- (c) to make available such other services in relation to library matters and material, including bibliographical services, as the Council thinks fit, and in particular for the purposes of—
  - (i) the library of the Parliament;
  - (ii) the Departments and authorities of the Commonwealth; and
  - (iii) the Territories of the Commonwealth; and
- (d) to co-operate in library matters (including the advancement of library science) with authorities or persons, whether in Australia or elsewhere.

The National Library comprehensively collects and preserves Australian books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, moving picture films and sound recordings. In this, it has been assisted by the deposit provisions of the Copyright Act 1912–1950, and has also been enriched by the acquisition of such notable collections as the Petherick collection of 16,500 items in 1911, the Cook manuscripts in 1923, the Cumpston collection on Public Health in Australia in 1936, the Mathews Ornithological collection in 1940, the Nan Kivell collection of 16,000 items of Australian and Pacific interest including original paintings, prints, manuscripts and printed material in 1959, and the Ferguson Sociological collection which is still under transfer. A feature of the Library's Australian work is the copying on microfilm, in association with the Public Library of New South Wales, of all important unique material overseas relating to Australia, including over three million pages in the Public Record Office in London.

The Library publicizes Australian publications, both at home and abroad, through select lists which include *Australian Books* (annual), and *Australian Public Affairs Information Services* (a monthly subject index with an annual cumulation), and by collections of Australian books maintained by it at all posts at which Australia is officially represented abroad. In London and New York, the National Library maintains and staffs Australian Reference Libraries supervised by its own Liaison Officers in those centres.

\* National Library Inquiry Committee. Report . . . with appendices. (Canberra, Commonwealth Government Printer, 1957.)

In the discharge of its wider bibliographical responsibilities, the Library publishes the *Australian National Bibliography* (monthly with an annual cumulation), which lists books, pamphlets, maps, prints, sheet music, government publications, the first issue of each new periodical or newspaper, and moving picture films produced in or relating to Australia. Commonwealth and State official documents, both monographic and serial, are listed in *Australian Government Publications* (annual). The Library has also compiled a union catalogue of serials in the social sciences and humanities in Australian libraries, and in 1961 began publication of the *National Union Catalogue of Current Monographic Accessions*. Preliminary steps have also been taken for a retrospective union catalogue of monographic holdings of Australian libraries.

In 1956, the Australian Bibliographical Centre was established within the National Library to serve as the secretariat of the Australian Advisory Council on Bibliographical Services. The Council, made up of representatives of the National Library, State libraries and library boards, the Commonwealth Scientific and Industrial Research Organization, each of the universities, and the Library Association of Australia, plans the further development and co-ordination of bibliographical services and co-operates with UNESCO and the International Advisory Committee of Bibliography. The Centre organizes bibliographical projects recommended by the Council, and operates as a centre for bibliographical information in Australia and overseas. It has published a *Union List of Newspapers in Australian Libraries*; Part 1: *Newspapers published outside Australia* (1959); and Part 2: *Newspapers published in Australia* (1960).

The Library acts as a central library of documentary and educational films, its film collection containing over 6,000 titles, together with Australian historical films and a great number of film strips. It published *Australian Films: a Catalogue of Scientific, Educational and Cultural Films, 1940-58* in 1959 and a first supplement in 1960. A revised edition of the *Catalogue of 16-mm. Films*, which lists all films available for loan, was also published in 1960. Special efforts are being made to discover and preserve samples of early Australian film production.

Through its Extension Division, the Library conducts the Canberra Public Library Service for residents of the Australian Capital Territory, to whom 435,000 books were loaned during 1960-61. It also assists in the provision of similar services in the Northern Territory, the Territory of Papua-New Guinea, and Norfolk Island.

The National Library's collections contain approximately 675,000 volumes, 32,000 pictures, prints, drawings and other graphic materials, one million feet of microfilm, 65,000 maps, and nine million feet of moving picture films. Special features of the book collection are its strong holdings of Australianiana, of materials relating to the Pacific area and to east and south-east Asia, the publications of foreign governments and international organizations, and works in the social sciences, particularly in political theory and economics.

(ii) *Patent Office Library.* The Library of the Commonwealth Patent Office, Canberra, contains approximately 9,000 books and a wide variety of periodicals and other literature relating to pure and applied science, industrial technology and the industrial property (patent, trade mark, design and copyright) laws and practice of most countries. Patent specifications of inventions are received from the principal countries of the world; present holdings are more than 7,000,000. Indexes include a microfilm of a classified index to 3,000,000 U.S.A. patents and translations of abstracts of U.S.S.R. patents.

(iii) *Commonwealth Scientific and Industrial Research Organization.* The library holdings of the Organization cover the pure and applied sciences. In addition to the Head Office Library in East Melbourne, each of the Divisions and Sections has a specialized collection covering such subjects as food preservation, forest products, chemistry, physics, animal health and fisheries. The collections are particularly strong in the publications of oversea scientific and technical research institutions, with many of which extensive exchange arrangements have been made.

The Head Office library maintains a union catalogue of the holdings of all C.S.I.R.O. libraries, and is responsible for the following publications.

(a) *Scientific Serials in Australian Libraries.*

(b) *Australian Science Index.* Index of articles published in Australian scientific and technical periodicals.

(c) *C.S.I.R.O. Abstracts*, which includes abstracts of papers published by C.S.I.R.O. officers, C.S.I.R.O. translations, translations available from other Australian organizations and additions to the British Commonwealth Index of Scientific Translations.

The larger libraries in the Organization have photocopying facilities which, while normally for internal use, will provide a service for the public when a publication is not held elsewhere in Australia.

(iv) *The Australian War Memorial Library*. In the War Memorial library are housed the documentary and pictorial records of Australia's fighting services in the 1914-18 and 1939-45 Wars, together with collections covering the war in Korea, 1950-53, and earlier wars in which Australian troops participated—Sudan, 1885, South Africa, 1899-1902 and the Boxer Rebellion in China, 1900-01. Books, periodicals and other records covering contemporary trends and events in the fields of military history and military science are constantly being added.

The printed records section contains approximately 65,000 volumes, a large collection of military maps, newscuttings and newspapers, sound recordings of war leaders, personalities and events, war posters and postage stamps. Many personal collections by distinguished soldiers and historical documents relating to the wars have also been placed in the Memorial's custody for preservation.

Written records comprise correspondence files of headquarters and units of both World Wars, and the original war diaries compiled from day to day by each unit during its service.

The collection of official war photographs covering the 1914-18, 1939-45 and Korean Wars numbers over 250,000, and a collection of official motion picture film depicts Australia at war.

Facilities for public research are not yet fully developed, but all requests for information are met where practicable.

(v) *Other Commonwealth Government Libraries*. Most Commonwealth authorities have specialized collections in their own fields, and in addition draw largely on the National Library.

3. *States*. (Other than University Libraries, for which see p. 620).—(i) *State Public Libraries*. In each of the capital cities there is a well-equipped public library, the libraries in Melbourne and Sydney, especially, comparing very favourably with similar institutions elsewhere in the world. The following statement gives the number of volumes in the public library of each capital city at 30th June, 1960.

STATE PUBLIC LIBRARIES, 30th JUNE, 1960.

City.	Number of Volumes in—			Total.
	Reference Branch.	Ordinary Lending Branch.	Country Lending Branch.	
Canberra(a) .. .. .	675,000	..	(b)	675,000
Sydney .. .. .	(c) 582,752	..	(d) 152,381	735,133
Melbourne .. .. .	668,267	117,433	46,013	831,713
Brisbane .. .. .	139,530	..	63,746	203,276
Adelaide .. .. .	194,933	(e) 72,086	99,742	366,761
Perth .. .. .	187,057	(f) 174,146	..	361,203
Hobart .. .. .	78,110	(g) 148,418	122,712	349,240
Darwin(h) .. .. .	..	37,854	..	37,854

(a) National Library of Australia, including Parliamentary Section. (b) Books are lent to libraries or students throughout Australia wherever necessary for research work. (c) Includes 168,791 volumes in the Mitchell Library and 12,322 volumes in the Dixon Library. (d) Includes 1,943 volumes in the Model School Library. (e) Includes 24,693 volumes in the Children's Branch and 8,691 volumes in the Youth Lending Branch. (f) Public libraries and circulation stock. (g) Includes 120,986 volumes in the Children's Branch. (h) Northern Territory Library Service. Includes the Country Lending Branch and the Children's Branch.

(ii) *New South Wales.* The Free Library movement in New South Wales, founded for the establishment of a system of public libraries on the basis suggested in the Munn-Pitt Report of 1935, helped to pave the way for the Library Act 1939, which was fully proclaimed as from 1st January, 1944. Of the 167 councils which have adopted the Library Act, 150 have put their adoption into effect. During 1960-61, they spent on their libraries £1,303,669, including £399,465 received in subsidy. There are 190 libraries, of which 49 are in the metropolitan area and 141 in the country. There are also 15 bookmobiles, of which two are in Sydney, six in the suburbs of Sydney and seven in country municipalities and shires. These libraries contain 2,205,385 volumes.

New South Wales departmental libraries are staffed by officers attached for duty from the State Library, which also provides a central cataloguing service for municipal and shire libraries constituted under the 1939-1959 Act. The State Library maintains an adult education section servicing adult education activities for the universities of Sydney and New England and the Workers' Educational Association.

The Country Circulation Department forwards books on loan to State schools, to municipal and shire libraries and to individual students. During 1960-61, 97,782 books were lent to small State schools, and 1,843 to country libraries, while 44,007 reference works were lent to individual country students and to libraries to satisfy special requests.

The State Library, known as the Public Library of New South Wales, includes a general reference department of 412,150 volumes, together with the Shakespeare Tercentenary Memorial Library, and the Mitchell and Dixson Libraries and Galleries which are mainly devoted to Australian and Pacific material. The Mitchell Library, of more than 60,000 volumes and pamphlets and 300 paintings, was bequeathed to the trustees of the Public Library in 1907 by Mr. D. S. Mitchell, together with an endowment of £70,000. There are now 172,820 volumes in the library, in addition to valuable manuscripts, maps and other material. In 1929, Sir William Dixson gave a collection of historical pictures then valued at £25,000. These were subsequently added to, and at his death in 1952 Sir William bequeathed the whole of his collection of books, manuscripts, pictures and other material, together with an endowment of more than £113,000, mainly for the printing or reprinting of historical documents relating to Australia and the Pacific.

The total number of volumes in the State Library now exceeds 730,000, apart from manuscripts, historical pictures, and other material.

The maintenance and control of the ordinary lending branch of the Public Library were transferred in 1908 to the Sydney Municipal Council to become the City of Sydney Public Library.

The State Library, which had previously been the repository for State archives, transferred this responsibility to an Archives Authority in June, 1961. The Authority consists of nine members, one of whom the Trustees of the Public Library have a right to nominate.

Other important libraries in New South Wales are the Sydney Public Library, 201,717 volumes; Teachers' Colleges, 197,177; Railways Institute, 163,500; Technical Education Branch, 87,146; Government Transport Institute, 35,905; Australian Museum, 33,081; New South Wales Public School Teachers' Federation Library, 20,500; Workers' Educational Association, 14,500; and the Library at the National Herbarium, 10,120 volumes. At 30th June, 1961, the Parliamentary Library contained 137,602 volumes.

(iii) *Victoria.* Until the establishment of the Free Library Service Board in 1947, the only public library facilities available in Victoria (apart from those of the State Public Library and one or two Metropolitan Municipal Libraries) were those offered by about 200 Mechanics' Institute Libraries situated in country areas all over the State. The Board's policy has been to replace these services with modern public libraries controlled by local Municipal Councils and subsidized by the Board. Since the Board's inception, 91 municipalities have established libraries. Of these, 20 are in the city and 71 in the country. An amount of £309,000 was paid to the Councils in library subsidy for the year 1960-61 and £615,000 was expended in municipal library service for the same year. More than 1,500,000 books are available to the communities in which libraries are established.

A feature of the services provided in the country is the number of co-operative or regional library groups now being developed. These services, of which there are seventeen, comprising a total of 57 Councils, consist of groups of Councils which pool their financial resources, book-stocks and trained staff, in order to provide more comprehensive, efficient library facilities.

Approximately 140 Mechanics' Institute Libraries are still in existence in country areas. In 1960-61, 52 of them shared a grant of £2,000.

(iv) *Queensland.* The Library Board of Queensland was established in 1945 under the provisions of the Libraries Act of 1943. Its duty is to attain the fullest co-operation and improvement of the library facilities of the State, with the object of placing such facilities on a sound basis for the benefit and educational improvement of the citizens generally. The Board consists of nine members with the State Librarian as *ex officio* member and secretary. A general function of the Board is to ensure that the fullest co-operation exists with the Department of Education, the University of Queensland, local bodies, and other bodies having for their object the encouragement of education, literature and the arts and sciences. A specific function of the board is the control and management of the Public Library of Queensland. Its policy is to build up the main collection of the Library, being as it is the State's reference centre.

The Country Extension Service, which is administered as a department of the Public Library, lends books of non-fiction free to adults and children residing outside the metropolitan area and to municipal libraries in areas of low population.

The Oxley Memorial Library, established in 1923, has been administered as a department of the Public Library since 1946, and the collection has been kept separate. Its object is to collect books, manuscripts, pamphlets and other graphic material relating to the history and literature of Australia, and of Queensland in particular, and to provide facilities for research students in Queensland literature and history.

In 1958, the section of the Libraries Act dealing with the preservation of public records was proclaimed, and in 1959 an Archives Section of the Public Library was instituted and an archivist was appointed.

Since 1948, a course in librarianship has been held annually at the Public Library for the purpose of preparing trainees for the Preliminary Examination of the Library Association of Australia. In 1959, a course covering the compulsory subjects of the Association's Registration Examination was inaugurated at the Central Technical College, Brisbane.

The holdings of the Public Library of Queensland and its extension services in 1960-61 were:—Main Reference Collection, 124,061 volumes and 6,598 maps and pamphlets; Country Extension Service, 68,971 volumes; Oxley Memorial Library, 20,381 volumes and 8,901 maps, pamphlets and miscellaneous items.

Local authorities are empowered by the Libraries Act to establish and conduct library services as a function of local government. The Board encourages local authorities to use these powers. In 1960-61, 67 local authorities were conducting 93 library services and 10 others indicated that they would do so in the near future. The Brisbane City Council has established 12 of these libraries. There were 73 libraries in Queensland free to adults.

To help overcome the problems of large area and sparse population, various local authorities provide library services on a regional basis. By 30th June, 1961, four regional library services had been established:—the South Western (six shires), the Central Western (seven shires), the North Western (six shires), and the Central Highlands (five shires), with head-quarters at Charleville, Barcaldine, Mt. Isa and Emerald respectively. Other regional services are being planned.

During 1960-61, the Board received a grant of £182,829 from consolidated revenue to finance the activities of the Public Library and to pay subsidies to local bodies of fifty per cent. on the purchase of books and the acquisition or improvement of library buildings and equipment. Subsidies were paid to four regional library service boards, 47 local authorities, 44 schools of arts and seven other bodies.

The library of the Parliament of Queensland was established in 1860. At 30th June, 1961, the library held 89,121 books and pamphlets, consisting of official publications and books devoted largely to history, the social sciences, biography and literature.

The Libraries Act Amendment Act, 1949 provides for the Public Library and the Parliamentary Library each to receive a copy of all books, pamphlets, maps and other printed material published in Queensland.

(v) *South Australia.* In the reference department of the Public Library of South Australia, there are about 199,000 volumes, most of which may be borrowed. Over 3,000 periodicals are filed, and the collection of newspapers includes every newspaper printed in South Australia. There are 39,000 volumes in the lending department available to persons living in the metropolitan area, and the country lending service has 125,000 volumes, of which more than half are suitable for children.



The Research Service specializes in scientific and technical inquiries, and supplements the resources of the Public Library by borrowing from other libraries and by obtaining microfilm copies of material not available locally. It has an extensive collection of trade catalogues.

The library of the Parliament of South Australia held approximately 65,000 volumes at 31st December, 1960.

There are eleven local public libraries in South Australia provided by eight local government authorities. The libraries are subsidized on a £1 for £1 basis by the State Government. The Library Board of South Australia, through the Public Library of South Australia, provides various central services. Book-stocks are pooled in the Public Library of South Australia and are interchanged between the libraries.

At the end of June, 1961, these local public libraries contained 43,000 books. There were 25,000 registered borrowers. In the year 1960-61, 351,000 books were lent.

(vi) *Western Australia.* In 1955, the Library Board of Western Australia was made responsible for all public library services throughout the State to which the State Government contributes funds.

The Board has the following major functions:—

- (a) To encourage local authorities throughout the State to establish public libraries, and to provide as a State subsidy all books and bibliographical services necessary for such libraries when established;
- (b) to administer the State Library;
- (c) to advise the Government on all matters relating to libraries;
- (d) to provide for the training of librarians.

Local public libraries are subsidized on a £1 for £1 basis, the local authority providing accommodation and staffing, and the Board all books and related services. The Board provides at least one volume per head of the population. All non-fiction books may be made available at any public library throughout the State on request to the Board. All cataloguing is done by the Board. The first library under this scheme was opened in August, 1954. By 30th June, 1961, 47 libraries had been established.

The State Library, established in 1887, is the reference division of the Library Service of Western Australia. In addition to providing the normal facilities of a reference library for the metropolitan area, it extends its service throughout the State through local public libraries. It is divided into four subject departments as follows:—

- J. S. Battye Library of West Australian History;
- Library of Business, Science and Technology;
- Library of Social Sciences, Philosophy and Religion;
- Library of Literature and the Arts.

The State bibliographical centre is housed at the State Library and there is also a commercial information centre. The State archives are maintained by the State Library and managed by the staff of the Battye Library. The State Library is fully equipped with microfilm and photocopy apparatus.

The book-stock of the Board at 30th June, 1961, was approximately:—

- Lending library services (including books in public libraries), 222,000 volumes;
- State Library, 191,000 bound volumes.

The University of Western Australia, through its Adult Education Board, manages the Adult Education Library of some 18,000 volumes of general reading and fiction. Books are sent to country readers each month.

There are some 100 special libraries in government departments and industrial firms.

Union catalogues of periodicals and books received in the libraries of all types in the State are maintained by the Library Board of Western Australia in the bibliographical centre of the State Library.

(vii) *Tasmania.* The Tasmanian Library Board, constituted in 1944, is responsible for administering the State library head-quarters in Hobart, for the extension of library services throughout the State and for the control of State aid for libraries. State aid to municipalities is provided in the form of books of a value equal to the amount of library rates collected. The total cost of library services to the State during 1960-61 amounted to £128,644.

The Tasmanian Library Board provides lending and reference services for the people of Hobart, and operates a reference service for people throughout the State. In addition, it conducts screenings of documentary films, recitals of recorded music, lectures, library weeks in country centres, puppetry demonstrations, etc.

The Parliamentary Library works in close collaboration with the State Library, which provides a reference officer to serve members during session. It catalogues all new books added to the library and supplies recreational reading.

4. *University Libraries.*—(i) *General.* These libraries provide material not only for the education of graduates and undergraduates, but also for research workers and practical investigators all over the continent. Much of the material they contain is not available elsewhere, for although in most cases smaller, they are in many directions more highly specialized than the public libraries. They lend to one another and to State and private institutions as well as to individual investigators. Each of them is governed by a librarian, who is responsible as a rule to an executive sub-committee and a committee which is practically co-extensive with the professional staff. In size, the library of the University of Sydney is the fourth library in Australia, and the libraries of the Universities of Melbourne and Adelaide are respectively eighth and ninth. The following table shows the sizes, accessions during the year, and expenditure of the Australian university libraries; borrowing statistics are not shown, as they differ too widely to be comparable without considerable explanation.

UNIVERSITY LIBRARIES, 1960.

University or College.	Volumes.	Accessions during year.	Expenditure.
			£
Australian National University .. ..	157,864	10,989	68,920
Canberra University College(a) .. ..	71,184	8,814	39,670
Sydney(a) .. ..	647,130	79,729	196,082
New South Wales .. ..	151,970	30,756	151,054
New England(a) .. ..	107,823	15,150	58,835
Melbourne(a) .. ..	292,243	22,972	136,535
Monash(a) .. ..	10,000	10,000	26,720
Queensland .. ..	221,998	24,823	101,788
Adelaide .. ..	255,829	12,217	96,140
Western Australia .. ..	184,790	12,591	70,002
Tasmania(a) .. ..	125,000	8,173	49,676
<b>Total .. ..</b>	<b>2,225,831</b>	<b>236,214</b>	<b>995,422</b>

(a) Includes pamphlets.

(ii) *Australian National University.* This library consists of two main collections; the former Australian National University Library, founded in 1948, serves primarily the Institute of Advanced Studies, and the former Canberra University College library, founded in 1938, serves primarily the School of General Studies. At the end of 1961, the stock comprised about 255,000 volumes including some 50,000 volumes in oriental languages. The collection serving the Institute of Advanced Studies specializes in the fields of the physical and medical sciences, excluding clinical works, and in the social sciences it aims to provide a good working collection while giving consideration to the holdings of the Commonwealth National Library. It possesses significant collections in anthropology, linguistics, mathematics and mathematical statistics. The collection serving the School of General Studies has been built up to meet the needs primarily of undergraduates in the Faculties of Arts, Economics, Law and Science, and will develop strength as a research collection in the humanities.

(iii) *University of Sydney.* This library consists of the central collection which is known as the Fisher Library, the Law Library, the Medical Branch Library, the Burkitt Library for preclinical medicine, and some fifty-two departmental libraries. The University Library, together with departmental libraries, held 718,707 volumes in December, 1961. Associated libraries in the University grounds bring the grand total to 963,872 volumes.

The first books were acquired in 1851, and shortly afterwards the library of Sydney College was added. The notable collection of Nichol D. Stenhouse was acquired in 1878 as the gift of Thomas Walker. In 1885, Thomas Fisher bequeathed the sum of £30,000, the income from which is used as a book fund. The Fisher Fund was matched in 1961 by establishment of the *W. H. and Elizabeth M. Deane Library Fund*. Perhaps the finest collection in extent and importance which has been given to the University is that of Sir Charles Nicholson. There have been numerous other benefactions, among which may be mentioned the library of Sir Francis Anderson, the W. H. Deane collection of books and manuscripts and the Dalley-Scarlett music library. In 1961, the University acquired the notable English literature collection of the late Hugh Macdonald. Sydney University Library has an extensive collection of mediaeval manuscripts and early printed books.

(iv) *University of New South Wales*. The libraries of this University consist of the Central Library at Kensington, a Medical Library at present at Prince Henry Hospital, and the Newcastle University College Library. The Broadway campus is serviced by the Sydney Technical College Library, where 37,167 books from the University's library are placed. Service to University divisions at other centres is also provided by the Technical Education Department. In December, 1961, the university had 193,841 volumes in its libraries or located in Technical Education Department libraries.

(v) *University of New England*. The Dixson Library was founded in 1938, when the New England University College was established. Sir William Dixson was its first benefactor. The library is now housed in a three-storied building, air-conditioned and containing all facilities. The library has approximately 100,000 volumes and receives 2,150 current periodical titles annually. The library is able to accommodate 200 readers and 278,000 volumes. A fourth floor is to be built later to house a further 120,000 volumes. The building also houses a bindery, photographic and archives division. The library has its own training officer and conducts formal courses in librarianship.

(vi) *University of Melbourne*. Early in 1854, the first allocation for books was made, but the library was housed in temporary quarters until 1959. The W. L. Baillieu Trust made available the first instalments of a £100,000 gift for building purposes, which have been followed by subsequent gifts and substantial grants from the Commonwealth and State governments, and a new building costing £700,000 was occupied at the beginning of 1959, the first in the University to be designed specifically for library purposes. It provides space for 1,300 readers and 300,000 books. During the academic year, admissions of readers to the building average nearly 8,000 a day and the library's services to the University have practically quadrupled since the occupation of the new building. Most of the books are accessible on open shelves, and though the library is intended primarily for reference purposes, borrowing, except of textbooks and certain valuable volumes, is made as easy as possible. The resources of the library are also used extensively on inter-library loan by industries and other organizations throughout Australia. The University Library, including 13 branch libraries in various departments, is administered from the centrally situated Baillieu Library, and at the end of 1961 it contained approximately 311,000 books and pamphlets. The large medical branch library is specially rich in periodicals.

(vii) *University of Queensland*. This library was founded in 1911. The main library is in its own building in the University at St. Lucia, and there are a considerable number of departmental libraries. All books are in open access and most are available for borrowing. At 30th November, 1961, the library contained more than 251,000 volumes. The main library includes a special collection of material relating to the history, development and culture of the countries surrounding the Pacific Ocean.

(viii) *Adelaide University*. This library bears the title of its original benefactor, Robert Barr Smith, who, with members of his family in and after 1892, gave the university over £50,000 for the library. Although readers have access to all parts of the library, the book collection is in two divisions, a collection of some 25,000 of the most frequently used books being kept in the main reading room, and the remainder, consisting of older or more specialized books, being shelved on the four levels of the extensions. Bound periodicals are shelved in steel stacks under the main reading room. Borrowing facilities are available to all matriculated students, to country students and to graduates. There are branch libraries for medicine, law and music. The British Medical Association (S.A. Branch) and the Australian Physiotherapy Association (S.A. Branch) make annual contributions towards the maintenance of the medical library in return for borrowing privileges for their members. The Waite Agricultural Research Institute has a separately administered library of publications in agriculture.

(ix) *University of Western Australia.* The first permanent library staff was not appointed until 1927. Provision for a permanent library was not possible when the university moved to its present site, and space and facilities have consequently been inadequate. In 1960, a temporary annexe capable of holding some 200 readers and 30,000 volumes was provided. The first stage of the new library building is included in the buildings approved by the Australian Universities Commission for completion in the 1961-63 triennium. The University Library developed very slowly in the early years, but recently has been adding about 12,000 volumes a year to its stock and making good earlier deficiencies. In addition to the Central Library, there are a number of departmental libraries of which the more important are engineering, agriculture, pre-clinical and law. There is also a medical library, in accommodation provided by the Royal Perth Hospital, for the use of the medical school.

(x) *University of Tasmania.* Although this library was founded in 1893, a full-time librarian was appointed for the first time at the end of 1945. Since 1954, a Hobart Union List of Serials has been housed in and kept up to date by the University Library, thus providing a major reference tool for all bibliographic inquiries in the State. At the end of 1961, the library contained approximately 132,000 volumes, and receives 2,500 periodicals currently. The University Library also collects private and business archives and it has some important classical manuscripts as well as a collection of early printed books.

5. *Children's Libraries and School Libraries.*—(i) *New South Wales.* Children's libraries are being developed as departments of municipal and shire libraries. The Education Department maintains a school library service for the fostering of State school libraries, which are maintained partly by parents' and citizens' associations and partly by departmental subsidy. Secondary and central schools have trained teacher librarians.

(ii) *Victoria.* Under the auspices of the Free Library Service Board, 91 municipal children's libraries have been, or are being, established as part of the library services provided by the councils concerned. All these libraries provide comprehensive modern children's book collections which are constantly being augmented. An annual grant of £5,000, which is additional to the ordinary annual municipal library grant, is provided to assist these libraries. In addition, seven independently controlled children's libraries shared in this grant in 1960.

The Education Department is making provision for the building of library rooms in new schools. Where accommodation is available in existing schools, library furniture is provided free of cost to the schools and the government subsidises the purchase of books. In June, 1960, 350 schools had central libraries.

A scheme of circulating libraries for small schools, particularly in remote areas, has been operating for some years. Two hundred and ninety schools benefited from this scheme in 1960.

The Department has a Library Service Officer with a small staff to advise and assist schools in the establishment and organization of libraries. A one-year course for the training of teacher-librarians was established at Melbourne Teachers' College in 1955. Approximately 20 teachers are trained each year.

(iii) *Queensland.* The Library Board of Queensland stresses to local bodies the importance of providing adequate library services for children. There are in Queensland 90 libraries free to children, of which 10 are conducted by the Brisbane City Council. The children's libraries at Rockhampton, Toowoomba, and Townsville are particularly active. Country children who are not catered for locally may borrow from the Country Extension Service which possesses a separate children's collection. The purchase of books in State school libraries in Queensland is financed by school committees and parents' associations, with a subsidy from the Department of Education on a £1 for £1 basis. Trainees at the Teachers' College are instructed in school library organization and management.

(iv) *South Australia.* A children's library of 27,000 volumes is used by school classes and individual children living in the metropolitan area. Except for works of reference, all books are available for loan. In August, 1957, a youth lending service was opened for young people from 13 to 18 years of age. It has a stock of 10,000 volumes.

(v) *Western Australia.* The State Education Department makes library subsidies and grants to schools.

All high schools are provided with a library room and furniture, and trained teacher-librarians are appointed to them. Building plans do not provide for primary school libraries, but a number of the schools have set up central libraries when rooms have become available.

One-teacher and two-teacher schools are served by the Charles Hadley travelling library and the small schools fixed library services. Under the fixed library scheme, permanent libraries of reference books and encyclopaedias were placed in each such school. Books to the value of £15 were added to each of these libraries annually from 1948 to 1954. Since then, the grant for these books is made at three-year intervals. The Hadley library provides recreational reading and operates 348 boxes which are exchanged every three months. The government grants £500 per annum for this service, and the participating schools contribute the commission received from the Commonwealth Savings Bank—about £140.

Children in isolated areas who are unable to attend school are catered for by books sent out by the State Correspondence School's library. The children are kept in touch with the library by means of radio talks and leaflets issued periodically.

(vi) *Tasmania*. The Lady Clark Memorial Children's Libraries, at the State Library, Hobart, aim to serve all children in Tasmania with books. At 30th June, 1961, 202 children's libraries and depots had been established.

Practically all State secondary schools in Tasmania have libraries, with full-time librarians in six of them. A school's library service gives a book service to schools and assists schools wishing to set up their own libraries. In 1961, the number of schools receiving service was 96 and the number of books issued was 12,734.

6. *Special Libraries*.—Before the 1939–45 War, the number of special libraries, apart from those maintained by government departments, was small, but during recent years many manufacturing, commercial, research and other firms, as well as statutory bodies, have found it necessary to establish special libraries to serve their staff. These libraries, which are most numerous in Sydney and Melbourne, are being administered increasingly by trained librarians.

7. *Microfilms*.—The following libraries supply microfilm or photostat copies of material usually at a small charge (the letter "P" signifies photostat supplied and "M" microfilm supplied):—*Australian Capital Territory*—Australian War Memorial (P), National Library of Australia (PM), C.S.I.R.O. (M), Australian National University (M), Patent Office (P); *New South Wales*—Metropolitan Water, Sewerage and Drainage Board (P), Public Library of New South Wales (M), Standards Association of Australia (P), School of Public Health and Tropical Medicine (M), Fisher Library, University of Sydney (PM); *Victoria*—Commonwealth Serum Laboratories (P), Technical Information Section, Munitions Supply Laboratories (PM), Public Library of Victoria (M), Standards Association of Australia (Melbourne Branch) (P), University of Melbourne (PM), C.S.I.R.O. (M); *Queensland*—Public Library (P); *South Australia*—Public Library of South Australia (PM), University of Adelaide (PM), Waite Agricultural Research Institute (P); *Western Australia*—State Library (PM); *Tasmania*—University of Tasmania (PM).

## § 2. Public Museums.

1. *New South Wales*.—The Australian Museum in Sydney, founded in 1836, is the oldest in Australia. In addition to possessing fine collections of Australian fauna, the museum contains valuable anthropological and mineral collections. The number of visitors to the institution during 1959–60 was 318,400 and the average attendance 826 on week-days and 1,217 on Sundays. The expenditure for 1959–60 amounted to £189,415. A valuable library containing 33,000 volumes is attached to the museum. Courses of evening popular lectures are delivered and lecturers also visit distant suburbs and country districts, and afternoon lectures for school children are provided; 10,540 children attended during 1959–60. Representative collections illustrative of the natural wealth of the country are to be found in the Agricultural and Forestry Museum and the Mining and Geological Museum. The latter institution prepares collections of specimens to be used as teaching aids to country schools. The "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History and the Museum of Normal and Morbid Anatomy attached to the University of Sydney, and the National Herbarium and Botanical Museum at the Sydney Botanic Gardens, are all accessible to the public.

There is a Museum of Applied Arts and Sciences in Sydney with branches in three country centres. Valuable research work is being performed by the scientific staff in connexion with oil and other products of the eucalyptus and the gums, kinos, tanning materials, and other economic products of native vegetation generally. Expenditure during the year 1959-60 was £70,931.

2. **Victoria.**—The National Museum at Melbourne, devoted to natural history, geology and ethnology, is in the eastern section of the public library building. The Institute of Applied Science, also housed under the same roof, contained at 30th June, 1960, 24,000 exhibits which covered applied and economic aspects of all branches of science. There is a fine Museum of Botany and Plant Products in the Melbourne botanic gardens. In addition to the large collection in the geological museum attached to the Mines Department in Melbourne, well-equipped museums of mining and geological specimens are established in connexion with the School of Mines in the chief mining districts.

3. **Queensland.**—The Queensland Museum, founded in 1855, is the State museum of natural science. It is a Government sub-department and is maintained by the State. The collections comprise extensive exhibited and reference series, mainly in the fields of zoology, geology, and ethnology, and some mechanical and historical material is held with a view to future museum development. Lessons supported by film displays are arranged for the public, and an annual refresher course in natural science is conducted for teachers. The museum is now the recognized State depository for valuable material in natural science, and the collections in general are constantly being increased. In addition, the Museum contains the outstanding library of the State in the fields of zoology, geology and anthropology.

4. **South Australia.**—The South Australian Museum has considerable collections of most branches of natural history. In 1960-61, there were at least 277,000 visitors and expenditure was £73,422.

5. **Western Australia.**—The Western Australian Museum was established in 1895. It is under the statutory management of a board of five members, appointed by the State Government, but operates under its own director and staff. It is primarily a museum of natural history, with active departments of vertebrate and invertebrate zoology, palaeontology, entomology, archaeology and anthropology. Principal research interests are in the fauna of Western Australia and the ethnology of the Western Australian aboriginal.

The Education Department of Western Australia provides a teacher to the Museum who instructs visiting classes and who is in charge of a Children's Centre during school holidays. Members of the Museum staff also take part in the teaching of undergraduates at the University of Western Australia.

6. **Tasmania.**—There are two museums in Tasmania—the Tasmanian Museum at Hobart, and the Queen Victoria Museum and Art Gallery at Launceston—both of which contain valuable collections of botanical, mineral and miscellaneous products. The museum received aid from the Government during 1960-61 to the extent of £32,500.

### § 3. Public Art Galleries.

1. **New South Wales.**—The Art Gallery of New South Wales originated in the Academy of Art founded in 1871. At the end of 1960, its contents comprised 1,498 oil paintings, 963 water colours, 2,579 prints and drawings, 141 sculptures and casts, and 1,332 ceramics, works in metal and miscellaneous. Since 1895, loan collections of pictures have been exhibited regularly in important country towns. The expenditure for 1960-61 was £73,662.

2. **Victoria.**—The National Gallery at Melbourne at 30th June, 1960, contained 1,266 oil paintings, 7,897 objects of statuary, bronzes, ceramics, etc., and 9,147 water colour drawings, engravings and other prints. The gallery is situated in the same building as the museum and public library. Expenditure by the National Gallery in 1959-60 was £90,868, including £17,559 from both government grants and legacies for purchases of works of art. Several bequests were made to the institution by private citizens. There are provincial art galleries at Ballarat, Bendigo, Castlemaine, Geelong, Hamilton, Mildura, Shepparton, St. Arnaud and Warrnambool, to which, periodically, pictures are sent on loan from the National Gallery.

3. **Queensland.**—The Queensland Art Gallery, maintained by the State Government, was established in 1895.

During 1959, the Government passed a new Queensland Art Gallery Act re-organizing the gallery, appointing a new Board of Trustees and granting a site for the building of a new art gallery.

The collection has been enriched by numerous bequests. In 1959, an anonymous gift of £126,000 was devoted to the purchase of an important collection of modern French paintings. The collection comprises 503 oils, 649 watercolours and drawings, 74 sculptures and 195 art objects.

4. South Australia.—The National Gallery at Adelaide originated in an exhibition of pictures in the public library building in 1881. Many bequests made by private citizens have materially assisted its growth. At 30th June, 1961, there were in the gallery 1,919 paintings in oil, water colours and pastels, 108 items of statuary and large collections of drawings, prints, furniture, ceramics and coins. The expenditure during 1960–61 was £46,042.

5. Western Australia.—The Western Australian Art Gallery was established in 1895. Although under the statutory management of a board of five members, appointed by the State Government, it functions under its own director and staff. At 30th June, 1961, the collection included 378 oil paintings, 209 water colours, 10 pastels, 795 drawings, 578 prints, 1,067 reproductions, 9 miniatures and 29 pieces of sculpture. International and interstate exhibitions are frequently held, and travelling exhibitions are sent to country centres.

6. Tasmania.—In Tasmania, the Art Gallery at Hobart was opened in 1887. In June, 1961, it contained 220 oil paintings, 186 water colours, 127 black and white, 3 statuary and 159 etchings, engravings, etc. Expenditure in 1960–61 was £27,517.

The Art Gallery at Launceston was opened in 1891. In June, 1961, there were on view 241 oil paintings, 360 water colours, 143 black and white, and 251 miscellaneous exhibits. Expenditure in 1960–61 was £18,128.

#### § 4. The Commonwealth Literary Fund.

In 1908, the Commonwealth Government, under Alfred Deakin, first established the Commonwealth Literary Fund. The Fund was entirely a compassionate one devoted to literary pensions for aged or infirm authors, for the families of literary men who died in poverty and for writers who were unable for financial reasons to continue their activities.

In 1939, in an endeavour to encourage the development of Australian literature and to foster appreciation of it, the Commonwealth Government greatly enlarged the scope of the Fund. The Fund now awards a limited number of Fellowships each year, assists in the publication of manuscripts of high literary merit, makes annual grants for lectures in Australian literature, and awards pensions to writers who have achieved a nation-wide reputation for their work in the field of creative literature.

The Fellowships are awarded each year to writers who have proved their capacity to do creative work in the field of literature, but who are prevented from exercising their abilities because of financial circumstances. The Fellowship gives a writer the opportunity to devote all his time to creative writing for a period of up to one year. Since 1956, the Fellowships have had a maximum value of £1,000 per annum. The Fund does not seek out people on whom to bestow Fellowships, but considers only those who submit applications.

The Fund also assists in the publication of manuscripts which have outstanding literary merit, but which would not be commercially attractive propositions. This assistance takes the form of a guarantee of assistance to the publisher. The Fund does not itself enter the field of the publisher.

Since 1940, annual grants for lectures in Australian literature have been made to universities. In 1956, the Fund decided to initiate a scheme of lectures to the general public and to schools in both city and country areas, with the co-operation of State Adult Education authorities. Annual grants are now made to the State Adult Education authorities for this purpose.

The Fund also assists certain literary magazines of long standing and recognized literary value.

The Fund is administered at present by a Committee consisting of the Prime Minister (Chairman), the Leader of the Country Party and the Leader of the Opposition in the House of Representatives, assisted by an Advisory Board of five persons with special literary qualifications.

### § 5. Film Censorship Board.

1. **Legislation.**—The Commonwealth Government's powers over censorship of films extend only to imported films and imported advertising matter and stem from the Customs Act. Under that Act, the Customs (Cinematograph Films) Regulations provide for the appointment of a Film Censorship Board whose function is to ensure that films and related advertising material coming within certain defined categories are not admitted into Australia. Under those regulations, the Film Censorship Board may pass films in their original form, reject them, or pass them after eliminations have been made. The Commonwealth Regulations give the Board no power to classify films.

Legislation passed by the State Governments of Victoria, Queensland, Western Australia and Tasmania names the Commonwealth Film Censorship Board as the censorship authority and vests in it the power to classify films as suitable for general exhibition or otherwise.

The State Acts give the Commonwealth Board the authority to censor films made in Australia for commercial exhibition and advertising matter made in Australia.

The Censorship organization comprises a Censorship Board of seven persons and an Appeal Censor, the headquarters being in Sydney. Importers have a right of appeal to the Minister against decisions of the Board and the Appeal Censor.

2. **Import of Films.**—(i) *35 mm. Films for Exhibition in Motion Picture Theatres.* In 1961, 1,161 films comprising approximately 4½ million feet were censored. This represents approximately 832 hours' screening time. Four hundred of these films originated in the United States of America, 416 in the United Kingdom and 345 in other countries. Of the last-mentioned, U.S.S.R. 68, Italy 37, France 33, Greece 28, Germany 17 and Czechoslovakia 13, were the principal suppliers.

Included above were 450 full-length feature films which constitute the main theatrical attractions. This was an increase of 49 compared with the imports for 1960. Feature films came from:—the United States of America 172, the United Kingdom 135, Italy 29, Russia and Greece 27 each, France 15 and Germany 6.

Nine feature films were rejected and cuts were made from 152. There were eight appeals, five against rejection and three against cuts. Four were allowed and four disallowed.

Feature films classified as suitable for general exhibition numbered 260 and 190 were not suitable for children. Of the latter, 43 carry the special condition that all advertising shall indicate that they are suitable only for adults. These classifications are advisory only and are designed to enable picture-goers and particularly parents to obtain a general idea of the nature of any particular film.

In addition to these imported films, 411 35mm. films of 281,514 feet produced in Australia were cleared. These were mainly newsreels and documentaries and concerned the Board only when intended for commercial exhibition or export. This figure does not represent the total production in Australia.

(ii) *16mm. Films.* Apart from television films, these are largely confined to those commercially produced for use in certain country picture theatres, in theatres used by business undertakings for advertising and instructional purposes, in churches, schools and universities, and on home movies. These are of all types—dramatic, scenic, topical, medical, advertising, educational, religious, etc.

Excluding those imported for television use, 5,619 16mm. films of approximately four million feet were examined. There were three rejections but no eliminations. 16mm. films imported for television are dealt with below (*see* (iv)).

(iii) *8mm. and 9.5mm. Films.* The Board's responsibilities in regard to these have been removed to a large extent, following the decision to discontinue the censorship of films brought in by travellers depicting incidents during their travels. Periodical checks are made and only commercially produced films are examined. Of these, approximately 15,000 feet were censored. Eight films, totalling 700 feet, were rejected.

(iv) *Television Films.* 9,037 films, predominantly 16mm., of approximately 11 million feet, for use on television, were censored.

The number of films is not a true indication of volume because many of these were of very short duration. The screening time of films censored for television amounted to approximately 4,962 hours.

On a footage basis, the United States of America supplied approximately 83 per cent. of the total imports and the United Kingdom 13 per cent.



Twenty-three television films were rejected outright and an additional nine were classified as unsuitable for televising. Eliminations were made from 1,446. There were five appeals against rejection, of which two were upheld and three disallowed.

(v) *Foreign Language Films.* Countries other than the United Kingdom and the United States of America supplied 345 of the 35mm. films imported for theatrical exhibition. Of these, 143 were feature films.

Generally, the dialogue is in a foreign language with explanatory English captions. A few have an English commentary, and in isolated cases, English "dubbed" dialogue. The main countries of origin are shown above (*see (i)*).

Of 5,619 16mm. commercial films censored, 854 originated from non-English-speaking countries. The chief supplying countries were Germany 156, France 134, Malaya 74, Czechoslovakia 65, Holland 63, Japan 58, Switzerland 50, Italy 40 and Sweden 36.

An interpreter attends all censor screenings of films in a foreign language.

3. **Export of Films.**—The quantity of films exported for the year was approximately 2,000,000 feet. This footage includes, in many cases, several prints of the one film.

## § 6. Australian National Film Board and the Film Division.

1. **The Australian National Film Board.**—The Australian National Film Board was inaugurated in April, 1945, on the recommendation of a Commonwealth Government inter-departmental committee which considered the suggestions of a conference of interested individuals and Commonwealth and State officials, including Directors of Education, called in November, 1944, by the Ministers for Information and Post-war Reconstruction. It was attached, for administrative purposes, to the Department of Information.

With the abolition of the Department of Information in March, 1950, administration of the Board was transferred to the News and Information Bureau, Department of the Interior.

In November, 1950, the Board was reconstituted as an advisory body to the Minister for the Interior on matters concerned with the production, acquisition and distribution of films required by Commonwealth departments for the following purposes:—

- (a) for use within Australia on important matters of national interest and welfare, such as school and adult education, rehabilitation, social development, international understanding, trade and tourist expansion, and immigration;
- (b) for dissemination abroad to expand trade and commerce with other countries, to encourage tourist traffic with Australia, to improve Australia's relations with other countries and, where necessary, to explain Australia's national policies and encourage immigration.

The constitution provides for a membership of eleven with the Secretary of the Department of the Interior, Chairman, the Director of the News and Information Bureau, Deputy Chairman, and the remainder representative of Commonwealth departments, State Government instrumentalities, and organizations interested in the production, distribution or utilization of films for national publicity.

2. **The Film Division of the News and Information Bureau.**—The first Australian Government organization for the production of motion pictures for national publicity purposes was the Cinema and Photographic Branch of the Department of Commerce, set up in Melbourne in 1920. Early in the 1939–45 War, the newly-established Department of Information was made responsible for the operation of the Cinema Branch and for an Official War Photography Unit. Production and distribution of all films required by Commonwealth Departments are now undertaken by the staff of the Film Division, News and Information Bureau, Department of the Interior, or by commercial enterprises under the supervision of officers of the Film Division. Theatrical and television distribution in Australia, and both theatrical and non-theatrical distribution overseas, of all Film Division productions are organized by the News and Information Bureau's home office or its oversea representatives. Non-theatrical distribution in Australia is organized through the National Library, Canberra, in co-operation with State film distribution agencies.

Since 1946, the Film Division has produced 409 films for general exhibition, as well as training and special purpose films. Prints are dispatched to 50 oversea centres, where distribution is arranged by News and Information Bureau officers or other Australian

representatives. In Britain, there is regular distribution through more than a thousand theatres, and a large non-theatrical and educational series of circuits. By arrangement with the British Broadcasting Corporation, items of topical interest photographed by the Film Division are flown to London for television. In the United States of America, there is wide non-theatrical distribution and considerable use of the films by television networks. An exchange arrangement with the National Film Board of Canada secures extensive distribution in Canada. Selected films have been recorded in French, Dutch, German, Italian, Japanese, Malay, Thai, Hindustani, Tamil and other Indian dialects.

In addition to films made on the initiative of the News and Information Bureau, the Film Division produces films under the sponsorship of, or with the co-operation of, Commonwealth Departments and many other bodies such as the Commonwealth Bank of Australia, the Road Safety Council, Overseas Telecommunications Commission, Snowy Mountains Hydro-electric Authority, Australian Wine Board, the Australian National University and the Australian Broadcasting Commission.

The co-operation of the Australian motion picture industry with the Commonwealth, spontaneously offered at the outset of the 1939-45 War, continues. Special films for urgent national appeals are planned, produced and distributed, with the assistance of the National Films Council of the motion picture industry and its Film Production Advisory Committee.

### C. SCIENTIFIC RESEARCH.

A number of organizations for scientific research have been set up by the Commonwealth Government. These are the Commonwealth Scientific and Industrial Research Organization, the Commonwealth Observatory (now incorporated in the Australian National University), and the Atomic Energy Commission. Particulars concerning these organizations are contained in the sections which follow, together with details of the various scientific societies in Australia.

Particulars regarding Commonwealth medical research institutions are to be found in Chapter XVII.—Public Health.

#### § 1. Commonwealth Scientific and Industrial Research Organization.

1. **General.**—By the Science and Industry Research Act 1949, the previously existing Commonwealth Council for Scientific and Industrial Research was re-organized under the title of the Commonwealth Scientific and Industrial Research Organization. An account of the organization and work of the former Council, and of the earlier Commonwealth Institute of Science and Industry from which the Council was formed, was given in earlier issues of the Official Year Book. (See No. 14, p. 1061 and No. 37, p. 1183.)

2. **Science and Industry Research Act 1949-1959.**—This Act provides for—

- (a) an Executive of the Organization consisting of nine members, to be appointed by the Governor-General, at least five of whom shall be persons possessing scientific qualifications; and
- (b) an Advisory Council of the Organization, consisting of the members of the Executive, the Chairman of each State Committee constituted under the Act, and such other members as the Advisory Council, with the consent of the Minister, co-opts by reason of their scientific knowledge.

The powers and functions of the Organization are as follows:—(a) To initiate and carry out scientific research in connexion with primary or secondary industries in Australia; (b) to train research workers and to establish industrial research studentships and fellowships; (c) to make grants in aid of pure scientific research; (d) to establish and make grants to industrial research associations in any industry; (e) to test and standardize scientific apparatus and instruments; (f) to collect and disseminate scientific and technical information; (g) to publish scientific and technical reports and periodicals; and (h) to act as a means of liaison between Australia and other countries in matters of scientific research.

3. **Science and Industry Endowment Act 1926-1949.**—Under this Act, the Government established a fund of £100,000, the income from which is used to provide assistance (a) to persons engaged in scientific research; and (b) in the training of students in scientific research. Provision is made for gifts or bequests to the fund which is controlled by a trust consisting of the Executive of the Organization. In accordance with the Act, arrangements have been made to send a number of qualified graduates abroad for training in special fields of work.

4. *Work of the Organization.*—The activities of the Commonwealth Scientific and Industrial Research Organization have necessitated a widespread and adaptable arrangement of its research laboratories. Centralization has been avoided, in the first place by establishing laboratories in different places in the Commonwealth wherever the necessary facilities, contracts and other suitable conditions could best be found, and secondly by the establishment of a State Committee in each of the six States. These Committees are widely representative of scientific and industrial interests, and advise the Executive or the Advisory Council on general matters and on particular questions of investigation and research.

For about twelve years after its establishment, the work of the previous Council was devoted mainly to the solution of problems affecting the agricultural and pastoral industries. Unlike manufacturing concerns, which often employ their own scientific staffs, the farmers and the pastoralists are dependent on outside help for the solution of their problems which require research. It was a recognition of the greater need of the primary producer which directed the Council's early policy. In 1937, however, the Commonwealth Government decided to extend the activities of the C.S.I.R. so as to provide assistance to secondary industries, and several laboratories were established for work in that field; it was thus able to render to these industries assistance almost immediately after the outbreak of war.

For the purpose of carrying out its research work, there are established within the Organization a number of Divisions and Sections. The Divisions, of which there are now twenty-six, comprise the major establishments for which special laboratory buildings have been erected and equipped; the Sections generally include establishments which have not reached a stage of development, so far as the scope and magnitude of their operations are concerned, to justify their designation as Divisions. As the Organization's investigations extend on a Commonwealth-wide basis, and as many of the investigations which are being conducted—particularly those concerned with problems affecting the agricultural and pastoral industries—necessitate experimental work in the field, a number of field stations are established in various parts of Australia.

The Divisions which have been established are as follows.

- Plant Industry, with main laboratories at Canberra and Brisbane and field stations.
- Entomology, with main laboratories at Canberra and field stations.
- Animal Health (main laboratory in Melbourne), Animal Genetics (main laboratory in Sydney) and Animal Physiology (main laboratory in Sydney) which together comprise the Animal Research Laboratories.
- Biochemistry and General Nutrition, with main laboratories at Adelaide and field stations.
- Soils, with main laboratories at Adelaide and extensive operations in the field.
- Forest Products, with main laboratories in Melbourne and field experiments.
- Food preservation, with main laboratories at North Ryde (New South Wales), and a subsidiary laboratory in Brisbane.
- Fisheries and Oceanography, with main laboratories at Cronulla (New South Wales), and experimental work in coastal waters of Australia.
- Physics and Applied Physics, comprising the National Standards Laboratory at Sydney.
- Radiophysics, with main laboratory at Sydney and Observatory at Parkes, New South Wales.
- Physical Chemistry, Chemical Physics, Mineral Chemistry and Organic Chemistry, which together with the Sections of Cement and Refractories, and Chemical Engineering, comprise the Chemical Research Laboratories in Melbourne.
- Tribophysics, with laboratories in Melbourne.
- Building Research, with laboratories in Melbourne.
- Mathematical Statistics, with main laboratory in Adelaide.
- Meteorological Physics, with main laboratory and field station in Melbourne.
- Land Research and Regional Survey, with headquarters in Canberra, and field stations at Alice Springs and Katherine (Northern Territory) and Ivanhoe (Kimberley, Western Australia).
- Protein Chemistry (Melbourne), Textile Industry (Geelong, Victoria) and Textile Physics (Sydney), which together comprise the Wool Research Laboratories.
- Coal Research, Sydney.

The following are the Sections.

- Commonwealth Research Station, Murray Irrigation Area, Merbein (Victoria).
- Irrigation Research Station, Griffith (New South Wales).

Upper Atmosphere, with laboratory at Camden (New South Wales).  
 Dairy Research, Melbourne.  
 Mineragraphic Investigations, Melbourne.  
 Ore-dressing Investigations, Melbourne and Kalgoorlie.  
 Fodder Conservation, Melbourne.  
 Physical Metallurgy, Melbourne.  
 Wildlife Survey, with main laboratory in Canberra, subsidiary laboratory at Albury and field experiments.  
 Soil Mechanics, Melbourne.  
 Engineering, Melbourne.  
 Agricultural Research Liaison, Melbourne.  
 Industrial Research Liaison, Melbourne.  
 Editorial and Publications, Melbourne.

In addition to its investigational work, the Organization deals with inquiries covering a wide range of scientific and technical subjects and maintains Scientific Liaison Offices in London and Washington.

An Agricultural Research Liaison Section established at the Organization's Head Office assists in making results in agricultural research speedily available to State Departments of Agriculture for use in their extension work.

An Industrial Research Liaison Section has also been established at Head Office to foster liaison in the secondary and manufacturing fields.

The Organization's Head Office, with administrative and executive staff, is in Melbourne, and associated with it are the Organization's Central Library, Agricultural Research Liaison Section, Industrial Research Liaison Section and Editorial and Publications Section. The funds for the Organization are provided from two main sources, namely, from Commonwealth revenue by parliamentary appropriation, and from industry directly or indirectly by way of contributions and special grants.

For details of the investigations in progress throughout the comprehensive and widely distributed activities of C.S.I.R.O., reference should be made to the publications of the Organization.

## § 2. Mount Stromlo Observatory.

Mount Stromlo Observatory—since 1957 incorporated into the Australian National University—is the largest observatory in the southern hemisphere. It is in effect the Department of Astronomy of the Australian National University, and its staff members assist in the training of the future astronomers of Australia. In its instrumental resources, it is second only to some of the great observatories of America. Since it is located south of the Equator, it is placed especially advantageously for the conduct of research into the structure of the Milky Way System and of the Star Clouds of Magellan. The telescopes and auxiliary equipment at the Observatory provide access to parts of the sky that are forever hidden from the view of northern hemisphere astronomers. Mount Stromlo astronomers have therefore a special responsibility to do research on stars and other celestial objects at far southern declinations.

Mount Stromlo itself is a ridge of hills, approximately one mile long, situated at 35° 19' 16" South Latitude and 149° 0' 20" East Longitude, seven miles west of the city of Canberra. Its highest point is about 2,560 feet above sea level, and telescopes can be situated so as to be well screened from the lights of the city.

The first permanent installation on the site was established in 1911, but, because of the war and other circumstances, the development of the Observatory was delayed. It was not until 1925 that regular astronomical work could be undertaken. Since then, the Observatory has developed steadily, and now, under its third Director, the scientific staff consists of thirteen astronomers. This does not include eight scholars and a number of oversea astronomers visiting Mount Stromlo for periods of a year or so. With technical, clerical and maintenance personnel, the total staff amounts to about 60 persons.

Mount Stromlo Observatory possesses eight mounted telescopes with apertures ranging from five inches to 74 inches. The 74-inch reflector is the largest telescope in the southern hemisphere. There are also special telescopes for the Time Service and two oversea groups have major telescopes on the Observatory grounds. These telescopes are a 26-inch refractor from the Universities of Yale and Columbia, U.S.A., and a 26-inch Schmidt Telescope from the University of Uppsala, Sweden.

The principal fields of research at Mount Stromlo are as follows.

- (i) Studies of the structure and dynamics of the Milky Way system.
- (ii) Investigation of the Large and Small Magellanic Clouds.
- (iii) Studies of the physical properties of the interstellar medium of gas and dust, and its relation to the spiral structure of our galaxy.
- (iv) Studies of the physics of the stars of the southern hemisphere by spectrographic means and by photoelectric techniques.
- (v) Maintenance of the National Time Service leading to studies of the variable rotation of the earth and polar motion.

Published accounts of the researches have a world-wide distribution.

The Observatory is at present engaged in a major expansion of equipment and staff. A search is being made for an area, more cloud-free than Mount Stromlo, where a permanent Field Station may be established. A preliminary installation of a 26-inch reflector has been made at Mount Bingar near Griffith, New South Wales. Other sites are being examined for the future development of astronomy in Australia.

At certain times, Mount Stromlo is open for inspection by members of the public when arrangements can be made so that the scientific work of the Observatory is not interrupted. A more detailed description of the Observatory's work is given in Official Year Book No. 46, pages 1142-1144.

### § 3. Australian Atomic Energy Commission.

1. **Establishment and Functions of the Commission.**—In November, 1952, a Commission of three members was appointed to control the Commonwealth's activities in relation to uranium and atomic energy, and in April, 1953, upon the enactment of the Atomic Energy Act 1953, the Commission was established as a statutory authority, with powers and functions as defined in the Act. Under amending legislation, the number of Commissioners was increased to five in April, 1958. The Commission is a corporate and autonomous body, controlling its own service. It functions under the direction of the Minister for National Development.

The functions of the Commission fall under two main headings. Firstly, it is responsible for undertaking and encouraging the search for and mining of uranium, and is empowered to co-operate with the appropriate authorities of the States in connexion with these and related matters. Secondly, it is authorized to develop the practical uses of atomic energy by constructing and operating plant for this purpose, carrying out research and generally fostering the advancement of atomic energy technology. These powers and functions are set out in detail in Part II. of the 1953 Act. In general, and subject to the Commonwealth's defence powers and particular provisions of the Act, they are exercisable only in or in relation to the Territories of the Commonwealth.

2. **Uranium Prospecting and Mining.**—Uranium prospecting and mining in the Territories of the Commonwealth are freely open to private enterprise, subject to the Atomic Energy Act 1953 and the Ordinances of the Territories. In the past, the Bureau of Mineral Resources, Geology and Geophysics of the Department of National Development has carried out, on behalf of the Commission, widespread aerial and ground surveys aimed at ascertaining the uranium resources of the Territories and delineating areas in which further search for uranium by private prospectors was considered worthwhile. Although rewards are no longer paid for discoveries of uranium, tax concessions are still allowed in respect of income earned from uranium mining. The Bureau of Mineral Resources provides prospectors and mining companies in the Territories with a wide range of technical and advisory services.

The development of the uranium resources of the States is governed by the legislation and policies of the States. Commonwealth assistance, in the form of aerial, geological and geophysical services, is available to the States, and State Mines Departments inspect uranium prospects and test samples submitted by prospectors.

Interest in the search for deposits of uranium has, however, declined in recent years because of world-wide over supply.

Uranium oxide is being produced in Australia from ore deposits at Rum Jungle and South Alligator River, in the Northern Territory, and Mary Kathleen in Queensland. The Rum Jungle deposits have been worked under arrangements between the Commonwealth and the Combined Development Agency, a joint procurement organization of the United States and United Kingdom Governments. The mining and treatment operations are conducted for the Commonwealth by an Australian mining company. The treatment plant began operations on the field in September, 1954, and the total production since that date has been sold to the Agency for defence purposes. No mining was carried out between November, 1958, and April, 1961, but mining was recommenced with the discovery of a new ore body. Treatment operations are continuing with ore stockpiled from the previous mining. These stockpiles are more than sufficient to complete the contract with the Combined Development Agency which expires in January, 1963. Exploration is continuing to determine whether or not further ore bodies exist in the area.

Uranium deposits at Radium Hill in South Australia were worked by the State government, which built an ore concentration plant on the field and a plant for the treatment of the concentrates at Port Pirie. Production of uranium oxide began in 1955, the output being sold to the Combined Development Agency. Operations ceased at the end of 1961, when the contract expired.

The Mary Kathleen ore body in the Mt. Isa-Cloncurry district in Queensland has proved to contain Australia's largest reserve of uranium ore. A mine and treatment plant which cost over £10 million has been established in the area by a large mining company. Production from the plant is being sold to the United Kingdom Atomic Energy Authority for the British nuclear power programme under arrangements approved by the Commonwealth Government. Two other companies in the South Alligator region in the Northern Territory also had contracts with the Authority for the British nuclear power programme. These contracts were for relatively small tonnages, and one has now been completed. Both companies began production in 1959.

**3. Research.**—The Commission's Lucas Heights Establishment is the major Australian centre for atomic energy research and information. It has a programme of research in the development of nuclear power, the utilization of radio-isotopes, and in other associated fields, directed towards the long-term development of the resources of the country.

The main feature of the research programme is the investigation of a high temperature gas cooled (H.T.G.C.) reactor of a type which could suit Australian conditions. By comparison with the nuclear power stations in existence or being planned at the present day, this is an advanced system. It is expected to be capable of competing on a cost basis with new coal-burning power stations in many parts of Australia.

For the time being, research is being concentrated on an extremely precise and careful study of the basic physics and engineering of the system, and of the materials involved in its construction. It is necessary to develop nuclear materials which can be fabricated to the required shape and form and can withstand the severe chemical and nuclear conditions within the proposed reactor. The Research Establishment is now doing considerable research into the properties of beryllium and its oxide, which have valuable nuclear qualities. It is already making significant contributions to the world's knowledge of the chemistry, physics and metallurgy of beryllium.

As the research programme goes forward, the way is being prepared for the introduction of nuclear power in Australia, through the H.T.G.C. reactor and other suitable reactor systems, and for other applications of atomic energy. These activities are building up a body of knowledge and local skill which will be needed when it is decided that nuclear power stations should be built in this country. On present indications, the Commission expects that the first such station may be in operation by about 1970.

The Commission is also seeking to extend the use of radio-isotopes in Australia in scientific research and development, in the treatment of disease, in raising production and lowering costs in agriculture and in manufacturing industry. There is a vast field of fruitful applications, and new ones are being continually devised. In Australia, these new processes

are being used only in a small fraction of the possible fields. The use of isotopes is fostered by providing an advisory service which is a ready source of information on established uses, and by investigation of other projected applications. Isotopes, including short-lived isotopes which cannot be economically imported, are being produced in the high flux research reactor HIFAR, and some are being exported.

Research and development work on technical and scientific applications of radiation is also being carried out. The possibilities of radiation for such purposes as industrial sterilization, food preservation, and the control of insect pests are being investigated. Scientists at Lucas Heights are also studying the biological effects and questions of health and safety involved in the use of radio-active materials.

Lucas Heights is a centre of specialised equipment and information. In addition to the research reactor HIFAR, used for testing materials and producing radio isotopes, there is much other equipment unique in Australia. All these facilities are available to Universities and other institutions under suitable conditions. In these endeavours, the Atomic Energy Commission is working in close co-operation with the United Kingdom Atomic Energy Authority, under arrangements which give Australia access to results of United Kingdom research on peaceful atomic energy uses. Results of research in Australia are in like manner available to the United Kingdom. Work in Australia, though constituting a self-contained programme, is co-ordinated with the United Kingdom programme, to avoid overlapping of research objectives and duplication of investigations. Australia also has bilateral arrangements with the United States and Canada, and is taking part in the promotion of the peaceful uses of atomic energy through the International Atomic Energy Agency.

#### § 4. Scientific Societies.

1. Royal Societies.—The following table contains the latest available statistical information regarding the Royal Society in each State, the headquarters of which are in the capital cities.

##### ROYAL SOCIETIES.

(December, 1961.)

Particulars.	Sydney.	Mel- bourne.	Bris- bane.	Ade- laide.(a)	Perth (b)	Hobart.	Can- berra.
Year of charter .. ..	1866	1859	1884	1880	1913	1844	1930
Number of members .. ..	357	394	270	195	197	592	192
Volumes of transactions issued ..	95	99	71	85	43	95	..
Number of books in library ..	41,000	24,500	58,500	20,500	6,220	33,400	..
Societies on exchange list ..	390	350	288	279	220	316	..

(a) November, 1961.

(b) December, 1960.

2. Australian Academy of Science.—The Australian Academy of Science was founded in 1954 to promote scientific knowledge, to maintain standards of scientific endeavour and achievement in the natural sciences in Australia, and to represent Australian science at national and international level. These objectives it shares with the Royal Society of London and with the national academies of science of most other countries.

Her Majesty Queen Elizabeth II presented her Charter to the provisional Council of the Academy on 16th February, 1954, thus following the precedent of King Charles II who presented his Charter to the Royal Society of London in 1662.

Six Fellows, distinguished for their achievements in the natural sciences, are elected annually. The total Fellowship in 1962 was 101.

The affairs of the Academy are managed by an elected Council consisting of the President, the Treasurer, two Secretaries (one representing the Physical and the other the Biological Sciences) and eight other members. The Assistant Secretary (who must not be a Fellow) is the Academy's salaried administrative officer.

The headquarters of the Academy is situated in Canberra. This building houses the offices of the Academy and provides a conference centre of international standard for scientific and other meetings.

3. **The Australian and New Zealand Association for the Advancement of Science.**—This association was founded in 1887. Its headquarters are at Science House, Gloucester Street, Sydney, and congresses are held at intervals of approximately eighteen months in the various States and in the Dominion of New Zealand. The latest congress was held in Brisbane in May, 1961.

4. **Other Scientific Societies.**—The Linnean Society of New South Wales, with headquarters in Sydney, was founded in 1874. Sir William Macleay, who died in 1891, during his lifetime and by his will endowed the Society to the amount of £67,000, which has been increased by investment to approximately £100,000. The Society offers annually to graduates of the University of Sydney who are members of the Society and resident in New South Wales research fellowships (Linnean Macleay Fellowships) in various branches of natural history. One fellowship was awarded for 1962. The library comprises some 19,000 volumes. Eighty-six volumes of Proceedings have been issued, and the Society exchanges with about 300 kindred institutions and universities throughout the world. The membership at the end of 1961 was 267.

The British Astronomical Society has a branch in Sydney, and in each of the States there is a branch of the British Medical Association.

In addition to the societies enumerated above, there are various others in each State devoted to branches of scientific investigation.

#### D. STATE GOVERNMENT EXPENDITURE ON EDUCATION, SCIENCE AND ART.

The expenditure by each State Government on education, science and art during the year 1959–60 is shown in the following table. Since details are not available in all States, the figures exclude officers' pensions and superannuation, pay-roll tax, and interest and sinking fund on capital expended on buildings. The cost of the medical and dental inspection of school children is also excluded, as this service is more appropriately classified under public health.

#### STATE EXPENDITURE ON EDUCATION, SCIENCE AND ART, 1959-60. (£'000.)

State.	Expenditure from—				Receipts.	Net Expenditure.
	Revenue.	Loan.	Other Funds.	Total.		
New South Wales .. ..	51,432	14,953	..	66,385	1,107	65,278
Victoria .. ..	36,234	1,678	..	37,912	473	37,439
Queensland .. ..	15,500	3,610	1,126	20,236	659	19,577
South Australia .. ..	13,499	4,019	..	17,518	1,433	16,085
Western Australia .. ..	10,276	2,115	19	12,410	215	12,195
Tasmania .. ..	5,433	1,775	28	7,236	462	6,774
<b>Total .. ..</b>	<b>132,374</b>	<b>28,150</b>	<b>1,173</b>	<b>161,697</b>	<b>4,349</b>	<b>157,348</b>



## CHAPTER XVI.

## PUBLIC JUSTICE.

NOTE.—In interpreting statistics of public justice, it should be realized that a number of factors affect comparability from State to State and from year to year, e.g.:

- (a) Differences in the jurisdiction of courts;
- (b) Changes in the law in particular States and differences in the laws between States;
- (c) The methods of compilation of the figures (e.g. *see* footnotes to the tables dealing with convictions);
- (d) The attitude to laws such as those connected with liquor, vagrancy, gaming, and traffic offences;
- (e) The strength and distribution of the police force;
- (f) The proportion of various types of crimes reported and solved.

## § 1. The Australian Legal System.

1. **Development of the System.**—The two major factors in the development of the Australian legal system have been its British origin and the Federal Constitution of 1900. When the various parts of Australia were first settled by British colonists, the common law and statutes of England were brought with them by the settlers. When local law-making bodies were established, the law so brought in was gradually modified and augmented by local legislation, but the Imperial Parliament in London also continued to legislate (to a lesser and lesser extent) in respect of Australia. The Federal Constitution of 1900, which is itself an Imperial Act, limited the legislative power of State Parliaments in some respects and created a federal legislature. Since the Statute of Westminster Adoption Act 1942, the Imperial Parliament can legislate for Australia only at Australia's request. The sources of Australian law of today are, therefore, found in Commonwealth and State legislation, in some Imperial legislation and in the common law. No significant attempt has been made at codification of the law, but three of the States (Queensland, Western Australia, and Tasmania) have Criminal Codes. However, separate consolidations of the statutes of the Commonwealth and of all States except Western Australia (which has adopted a system of reprinting of individual statutes from time to time) have been brought out from time to time.

There are few constitutional or other legislative guarantees of individual rights and liberties in Australia. These rights are nevertheless protected, because a basic feature of the Australian system is the "rule of law": no act, official or unofficial, however *bona fide* and apparently reasonable, which infringes the liberty or rights of an individual, is justifiable unless it is authorized by law, and for any such unlawful act, by whatever authority commanded, the official or other person is personally liable in an action in the ordinary courts. In the case of subordinate legislation and even in the case of Federal or State Acts, the validity of the law itself may be challenged in the courts. The remedy for the protection of the personal liberty of the individual is the writ of habeas corpus, which requires the person named therein to be produced in the court.

Australian law adheres to the principle that Federal control must in general be exercised by ordinary courts. There is no integrated system of administrative tribunals, but there is a great variety of administrative tribunals of various descriptions. The ordinary courts exercise supervision over administrative tribunals either by way of statutory appeal or by the use of prerogative writs of mandamus, prohibition, or *certiorari*, by which the administrative tribunals can be enjoined to perform a duty or to abstain from excess of jurisdiction, or can have their decisions set aside.

Independence of the judiciary is an essential part of the Australian legal system. Security of tenure of superior court judges is guaranteed, mostly by the Constitutions of the Commonwealth and the States, and they can be removed from office only by resolution of both Houses of Parliament of the Commonwealth or the States, as the case may be, for proven misbehaviour or incapacity. Their independence is further secured by relatively high salaries which, in the case of High Court judges, cannot be reduced during their tenure of office, and liberal (mostly non-contributory) pensions for the judges or their widows.

*Judgments given in the courts of any part of Australia can be enforced in any other part of Australia under the Service and Execution of Process Act 1901–1958 of the Commonwealth.*

2. *State Courts.*—(i) *Civil jurisdiction.* Lower courts (which term includes, for the purposes of this chapter, Magistrates' Courts, Courts of Petty Sessions, Local Courts when not constituted by a judge, and Small Debts Courts) are presided over by a stipendiary or police magistrate. In some limited instances, justices of the peace may exercise the jurisdiction of the court. The powers of the magistrates in the various States and Territories are set out in § 2 below. In most cases, unless the amount involved is very small, appeal may be made to a higher court against a magistrate's decision. In any case, the Supreme Court has a supervisory power, by means of prerogative writs, to examine whether a lower court has properly exercised its jurisdiction.

In the higher courts (which term includes, for the purposes of this chapter, Local Courts when constituted by a judge, District Courts, County Courts, and the Supreme Courts), actions are usually tried by a single judge, sitting with or without a jury, from whose judgment appeal lies to the bench of the Supreme Court. In certain cases, the appeal can be carried to the High Court of Australia. Appeals to the Privy Council are discussed below.

(ii) *Criminal jurisdiction.* Criminal courts are of two kinds, namely, courts of summary jurisdiction, usually called Courts of Petty Sessions, which may deal summarily with minor offences, and higher courts, known as Courts of Sessions, Quarter Sessions or General Sessions, and the Supreme Court, which hear indictable offences. A court of summary jurisdiction consists of a stipendiary or police magistrate, or two or more justices of the peace: a higher court consists of a judge or chairman, sitting with a jury. The jury finds as to the facts of the case and the judge determines the applicable law.

In the case of other than minor offences, a preliminary hearing is held before a stipendiary magistrate or justice of the peace for the purpose of determining whether a *prima facie* case has been made out. If the magistrate or justice of the peace finds that there is a case to answer, the person charged is committed for trial at a higher court. A magistrate or justice of the peace has power to release on bail.

There is an appeal to a higher court from the decision of a court of summary jurisdiction hearing a minor offence, and an appeal from a higher court to the full bench of the Supreme Court, or Court of Criminal Appeal. A further appeal may, with leave, be brought to the High Court of Australia.

3. *Federal Courts.*—The judicial power of the Commonwealth is vested in the High Court of Australia (the Federal Supreme Court), in the Federal courts created by Parliament (the Federal Court of Bankruptcy and the Commonwealth Industrial Court), and in the State courts invested by Parliament with Federal jurisdiction, both civil and criminal. Further particulars regarding the judicial power of the Commonwealth will be found in Chapter III. (§§ 71–73) of the Commonwealth Constitution (*see p. 16 of this Year Book*).

Particulars concerning the Federal Court of Bankruptcy and the High Court of Australia will be found in §§ 4c and 5, respectively, of this chapter. Information regarding the Commonwealth Industrial Court, which was established under the Conciliation and Arbitration Act 1904–1961, will be found in Chapter XII.—Labour, Wages and Prices (p. 399).

4. *Appeal to the Privy Council.*—There is an appeal, by special leave of the Privy Council, from the High Court to the Privy Council. In certain important types of constitutional disputes, involving questions of the powers of the Commonwealth *vis-à-vis* the States, a certificate of the High Court in effect granting leave to appeal is necessary. There is also an appeal from the State Supreme Courts direct to the Privy Council.

## § 2. Lower (Magistrates') Courts.

## A. POWERS OF THE MAGISTRATES.

1. *New South Wales.*—There is no general limit to the powers of the magistrates with regard to offences punishable summarily, their authority depending in each case on the statute which creates the offence and gives them jurisdiction. Except in the case of a very few statutes, and excluding cumulative sentences, the power of sentence is limited to twelve months. Imprisonment in default of fine is regulated by a scale limiting the maximum period according to the sum ordered to be paid, but in no case exceeding twelve months. Actions for debt and damage within certain limits also come within magisterial jurisdiction. In cases of liquidated debts, and damages whether liquidated or unliquidated, the amount is limited to £150 before a court constituted by a stipendiary magistrate. Where the amount claimed exceeds £50, the Court must transfer the action to the District Court when the defendant gives notice that he objects to the action being heard and determined by a Court of Petty Sessions. Magistrates have power to entertain claims of up to £500 under the Money Lenders and Infants Loans Act, 1941, as amended. The amount in actions of debt before two or more justices of the peace is limited to £30 and in actions of damage it is limited to £10, but may extend to £30 with the consent of the defendant. Outside the Metropolitan Area of Sydney and certain other prescribed districts, one justice of the peace may hear cases of debt, liquidated or unliquidated, or damage up to £5 or to £30 by consent of parties.

2. *Victoria.*—The civil jurisdiction of magistrates is restricted to what may be designated ordinary debts, damages for assault, restitution of goods, etc., where the amount in dispute does not exceed £100, and to actions arising out of torts or contracts to the extent of £250. No definite limit is fixed to the powers of the magistrates on the criminal side, and for some offences, sentences of up to two years' imprisonment may be imposed. The proportion of long sentences is, however, comparatively small.

3. *Queensland.*—Generally speaking, the maximum term of imprisonment which justices can impose is six months, but in certain exceptional cases, such as offences against sections 233, 344 and 445 of the Criminal Code (betting houses, aggravated assaults, and unlawfully using animals), sentences of twelve months may be imposed.

There is provision for applying cumulative sentences, but in practice not more than one sentence is generally made cumulative on a previous sentence.

4. *South Australia.*—The power of special magistrates to impose fines and imprisonment is defined by the special Act creating the offence and conferring jurisdiction. In the case of minor indictable offences which are tried summarily, a maximum penalty of £100 fine or two years' imprisonment is fixed by the Justices Act 1921–1960. Magistrates also have power to hear certain civil actions in which the amount claimed is less than £1,250.

5. *Western Australia.*—The powers of magistrates and justices with regard to offences which are tried summarily are governed by the Act creating the offence and giving them jurisdiction. Imprisonment in default of payment of a fine is regulated by a scale limiting the period according to the amount of the fine but not to exceed six months.

The civil jurisdiction of Local Courts is restricted in general to £500. By consent of the parties, any action that might be brought in the Supreme Court may be dealt with in a Local Court. Justices may act in the case of illness or absence of the magistrate.

Magistrates are coroners and justices may be appointed as acting coroners.

Magistrates have appellate jurisdiction under some statutes and in country districts act as Chairmen of the Courts of Session. They may be appointed as Commissioners of the Supreme Court. On the goldfields, the magistrate is also the warden.

6. *Tasmania.*—Magistrates are empowered to hear and determine in Courts of Petty Sessions all offences when an enactment expressly or by implication provides that the matter is to be determined summarily, or by or before justices, or that any offence is to be punishable upon summary conviction. In addition, stealing and analogous crimes may be heard and determined summarily on the election of the person charged, when the amount involved does not exceed £100.

No general limit is fixed in respect of sentences, the statute creating the offence almost invariably laying down the penalty. Where this is not the case, the Contravention of Statutes Act 1889 provides that a fine of £50 may be imposed. Sentences of imprisonment which justices may impose vary with the nature of the offence, with a maximum of two years. The aggregate of terms of cumulative sentences may not exceed two years.

The civil jurisdiction of magistrates is divided into two categories. A Commissioner of the Court of Requests, provided he is a legal practitioner, may hear actions for the recovery of debts and damages not exceeding £250. As Commissioners are invariably police magistrates, this jurisdiction is State-wide. Courts of General Sessions, constituted by at least two justices, exercise similar powers, but the jurisdiction cannot exceed £50. Only one court, that at Currie, King Island, has the maximum jurisdiction, the others being limited to £30.

**7. Northern Territory.**—Magistrates constituting courts of summary jurisdiction try offences punishable summarily. The punishment that may be imposed depends on the law creating the offence. Where there is no magistrate available, the offence may be tried by two or more justices of the peace or, if all parties consent, by one justice. Proceedings for committal on indictable offences may be heard by either a magistrate or a justice of the peace. Certain minor indictable offences may be tried summarily by a magistrate or two justices of the peace, who may impose a fine up to £100 or imprisonment for up to two years.

A stipendiary magistrate constituting a local court has a civil jurisdiction to hear and determine claims for not more than £1,000. A local court constituted by two justices of the peace has a civil jurisdiction to hear claims up to £50.

**8. Australian Capital Territory.**—Magistrates have jurisdiction to try an offence which is punishable summarily and also where a person is made liable to a penalty or punishment and no other provision is made for trial. The punishment depends upon the statute which creates the offence. Certain indictable offences of a less serious nature may be tried summarily by a magistrate, who may impose a fine not exceeding £50 or imprisonment for up to one year. Magistrates also hear proceedings for committal on indictable offences. The stipendiary magistrate is also the coroner. In civil proceedings, magistrates try actions for amounts up to £200. Justices of the peace have no judicial functions.

## B. CRIMINAL PROCEEDINGS.

**1. Cases Tried.**—The total numbers of cases tried at magistrates' courts in each State and Territory for the years 1956 to 1960 are shown in the following table.

### CASES TRIED AT MAGISTRATES' COURTS.

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales(a) ..	271,172	307,824	323,097	331,195	332,728
Victoria .. ..	175,899	224,015	270,017	287,622	(a) 268,104
Queensland(b) ..	47,072	53,611	(a) 62,468	(a) 65,773	(a) 73,804
South Australia(b) ..	31,799	34,399	36,305	38,003	47,427
Western Australia(a) ..	62,753	59,205	49,945	50,696	50,107
Tasmania(a) .. ..	19,274	19,120	20,009	21,355	24,047
Northern Territory ..	(b) 2,779	(b) 2,615	3,103	3,617	2,958
Australian Capital Territory .. ..	1,564	1,875	2,197	2,539	3,168
<b>Australia .. ..</b>	<b>612,312</b>	<b>702,664</b>	<b>767,141</b>	<b>800,800</b>	<b>802,343</b>

(a) Excludes minor traffic offences settled by payment of fines without court appearance.  
 (b) Twelve months ended 30th June of year shown.

In addition, in most States, provision exist for settlement of minor traffic offences by payment of fines without court appearance. The following table shows the number of such offences for the years 1956 to 1960.

MINOR TRAFFIC OFFENCES SETTLED BY PAYMENT OF FINES.(a)

State.	1956.	1957.	1958.	1959.	1960.
New South Wales ..	163,921	237,811	315,058	321,157	351,685
Victoria .. ..	(b)	(b)	(b)	(b)	69,895
Queensland .. ..	(b)	(b)	18,803	22,701	22,680
South Australia ..	(b)	(b)	(b)	(b)	(b)
Western Australia ..	32,130	31,405	36,999	44,973	50,879
Tasmania .. ..	7,706	9,960	15,022	18,554	25,801
<b>Total .. ..</b>	<b>203,757</b>	<b>279,176</b>	<b>385,882</b>	<b>407,385</b>	<b>520,940</b>

(a) Without court appearance. (b) Not applicable.

2. Convictions at Magistrates' Courts.—Of the cases tried in Magistrates' Courts in 1960, the following table shows the number in which convictions were made.

CONVICTIONS AT MAGISTRATES' COURTS, 1960.

Class of Offence.	N.S.W.	Vic.	Qld. (a)(b)	S.A. (a)	W.A.	Tas.	N.T.	A.C.T.	Aust.
Against the Person ..	3,776	1,766	557	358	382	329	60	58	7,286
Against Property ..	26,745	13,837	4,119	2,242	5,379	1,458	164	241	54,185
Forgery and Offences against the Currency ..	1,008	43	2	4	3	1	19	32	1,112
Against Good Order ..	103,701	36,907	31,475	6,731	6,918	1,134	1,635	447	188,948
Other .. ..	171,206	193,254	31,355	33,196	34,780	17,274	786	1,502	483,353
<b>Total .. ..</b>	<b>306,436</b>	<b>245,807</b>	<b>67,508</b>	<b>42,531</b>	<b>47,462</b>	<b>20,196</b>	<b>2,664</b>	<b>2,280</b>	<b>734,884</b>

(a) Year ended 30th June. (b) A person convicted on several counts at the one hearing is included only once, but if a person has been convicted at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately.

The following table shows the number of convictions in each year from 1956 to 1960.

CONVICTIONS AT MAGISTRATES' COURTS.

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales(a) ..	249,131	282,489	294,540	303,504	306,436
Victoria .. ..	158,869	208,125	251,065	265,214	(a)245,807
Queensland(b)(c) ..	45,711	52,113	(a) 60,592	(a) 60,212	(a) 67,508
South Australia(b) ..	28,221	30,658	32,621	34,203	42,531
Western Australia(a) ..	59,883	56,297	47,037	47,579	47,462
Tasmania(a) .. ..	17,029	17,040	17,216	19,094	20,196
Northern Territory ..	(b) 2,444	(b) 2,340	2,715	3,212	2,664
Australian Capital Territory	1,209	1,597	1,910	1,787	2,280
<b>Australia .. ..</b>	<b>562,497</b>	<b>650,659</b>	<b>707,696</b>	<b>734,805</b>	<b>734,884</b>

(a) See footnote (a) to table on previous page. (b) Twelve months ended 30th June of year shown. (c) A person convicted on several counts at the one hearing is included only once, but if a person has been convicted at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately.

3. Convictions for Serious Crime at Magistrates' Courts.—(i) *General.* The figures given in the preceding tables refer to all convictions, and include offences of a technical nature, drunkenness, and minor breaches of good order, which come under the heading of crime in a very different sense from the more serious offences. The following table has therefore been prepared to show convictions at Magistrates' Courts for what may be regarded as the more serious offences, i.e. offences against the person, offences against property, forgery and offences against the currency.

(ii) *Number and Rates.* The following table shows the number of convictions for serious crime at Magistrates' Courts for the years 1956 to 1960.

**CONVICTIONS FOR SERIOUS CRIME<sup>(a)</sup> AT MAGISTRATES' COURTS.**

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	21,399	23,510	27,960	30,769	31,529
Victoria .. ..	8,504	8,926	11,132	12,260	15,646
Queensland <sup>(b)(c)</sup> .. ..	3,942	4,079	4,301	4,422	4,678
South Australia <sup>(b)</sup> .. ..	1,889	2,298	2,338	2,554	2,604
Western Australia .. ..	5,289	5,205	6,016	5,423	5,764
Tasmania .. ..	1,176	1,738	1,666	1,634	1,788
Northern Territory .. ..	(b) 115	(b) 247	209	297	243
Australian Capital Territory	102	295	357	384	331
<b>Australia .. ..</b>	<b>42,416</b>	<b>46,298</b>	<b>53,979</b>	<b>57,743</b>	<b>62,583</b>

(a) Offences against the person, offences against property, forgery and offences against the currency.  
 (b) Twelve months ended 30th June of year shown. (c) A person convicted on several counts at the one hearing is included only once, but if a person has been convicted at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately.

The number of convictions for serious crime at Magistrates' Courts per 10,000 of population for the same series of years is shown in the following table.

**CONVICTIONS FOR SERIOUS CRIME AT MAGISTRATES' COURTS.  
 (PER 10,000 OF POPULATION.)**

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	60.2	64.9	75.6	81.8	82.2
Victoria .. ..	32.8	33.6	41.0	44.0	54.8
Queensland <sup>(a)</sup> .. ..	29.0	29.3	30.2	30.5	31.6
South Australia <sup>(a)</sup> .. ..	22.6	26.7	26.4	28.1	27.9
Western Australia .. ..	78.4	75.7	86.0	76.2	79.7
Tasmania .. ..	36.6	52.9	49.7	47.9	51.5
Northern Territory .. ..	(a) 62.4	(a) 124.0	96.1	125.7	96.8
Australian Capital Territory ..	28.9	77.6	86.8	82.4	63.0
<b>Australia .. ..</b>	<b>45.2</b>	<b>48.2</b>	<b>55.0</b>	<b>57.6</b>	<b>61.1</b>

(a) Twelve months ended 30th June of year shown.

(iii) *Rate of Convictions 1881 to 1951.* The rate of convictions at ten-year intervals over a period of 70 years is shown below.

**RATE OF CONVICTIONS FOR SERIOUS CRIME AT MAGISTRATES' COURTS:  
 AUSTRALIA.**

Year .. ..	1881.	1891.	1901.	1911.	1921.	1931.	1941.	1951.
Convictions per 10,000 persons..	69.3	44.8	29.1	24.6	29.2	37.1	33.6	37.1

4. **Committals to Higher Courts.**—(i) *Number of Committals.* The following table shows the number of offences, classified according to the nature of the offence, for which persons appearing in the lower courts were committed to higher courts for each State and Territory for the year 1960.

**COMMITTALS TO HIGHER COURTS, 1960.**

Class of Offence.	N.S.W.	Vic.	Q'land. (a)(b)	S. Aust. (a)	W.Aust.	Tas.	N.T.	A.C.T.	Aus- tralia.
Against the Person ..	1,728	945	302	195	63	41	16	16	3,306
Against Property ..	5,992	3,473	894	284	271	417	6	77	11,414
Forgery and Offences ..									
against the Currency ..	307	377	9	40	19	12	1	1	766
Against Good Order ..	87	59	1	1	1	1	3	3	156
Other ..	98	420	5	22	8	4	..	..	557
<b>Total ..</b>	<b>8,212</b>	<b>5,274</b>	<b>1,211</b>	<b>542</b>	<b>362</b>	<b>475</b>	<b>26</b>	<b>97</b>	<b>16,199</b>

(a) Year ended 30th June. (b) A person committed on several counts at the one hearing is included only once, but if a person has been committed at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately.

The following table shows the number of committals to higher courts for each of the years 1956 to 1960.

**COMMITTALS TO HIGHER COURTS.**

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	6,056	7,221	7,327	7,522	8,212
Victoria .. ..	2,624	2,707	4,227	4,523	5,274
Queensland(a) .. ..	572	712	911	954	1,211
South Australia(a) .. ..	432	552	505	558	542
Western Australia .. ..	386	356	463	447	362
Tasmania .. ..	321	604	600	529	475
Northern Territory .. ..	(a) 87	(a) 62	66	93	26
Australian Capital Territory ..	40	37	74	65	97
<b>Australia .. ..</b>	<b>10,518</b>	<b>12,251</b>	<b>14,173</b>	<b>14,691</b>	<b>16,199</b>

(a) Twelve months ended 30th June of year shown.

(ii) *Rate of Committals, 1881 to 1951.* The rate of committals to higher courts for serious crime at ten-year intervals since 1881 is shown below.

**RATE OF COMMITTALS TO HIGHER COURTS: AUSTRALIA.**

Year .. ..	1881.	1891.	1901.	1911.	1921.	1931.	1941.	1951.
Committals per 10,000 persons ..	12	11	8	6	7	8	5	8

5. **Drunkenness.**—(i) *Cases and Convictions.* The numbers of arrests for drunkenness and the convictions recorded during each of the years 1956 to 1960 are given in the following table.

**DRUNKENNESS: CASES AND CONVICTIONS.**

State or Territory.	1956.	1957.	1958.	1959.	1960.
<b>CASES.</b>					
New South Wales .. ..	77,867	76,700	69,085	69,516	69,259
Victoria .. ..	20,457	25,657	29,752	29,973	29,717
Queensland(a) .. ..	22,748	23,550	28,242	26,993	28,634
South Australia(a) .. ..	4,739	5,030	4,312	4,452	5,279
Western Australia .. ..	5,959	5,484	4,870	5,632	5,199
Tasmania .. ..	705	786	746	732	632
Northern Territory .. ..	(a) 507	(a) 1,059	969	1,024	950
Australian Capital Territory ..	279	358	385	255	302
<b>Australia .. ..</b>	<b>133,261</b>	<b>138,624</b>	<b>138,361</b>	<b>138,577</b>	<b>139,972</b>

(a) Twelve months ended 30th June of year shown.

DRUNKENNESS: CASES AND CONVICTIONS—*continued.*

State or Territory.	1956.	1957.	1958.	1959.	1960.
CONVICTIONS.					
New South Wales .. ..	77,195	75,953	68,354	69,201	68,591
Victoria .. .. .	20,184	25,284	29,434	29,334	29,116
Queensland(a) .. ..	22,687	23,521	28,196	26,918	28,538
South Australia(a) .. ..	4,732	5,019	4,299	4,439	5,273
Western Australia .. ..	5,912	5,428	4,821	5,587	5,144
Tasmania .. .. .	674	760	718	660	512
Northern Territory .. ..	(a) 502	(a) 1,029	926	1,010	822
Australian Capital Territory	271	322	380	255	298
<b>Australia .. .. .</b>	<b>132,157</b>	<b>137,316</b>	<b>137,128</b>	<b>137,404</b>	<b>138,294</b>

(a) Twelve months ended 30th June of year shown.

The term "drunkenness" includes "drunkenness and disorderliness", and "habitual drunkenness".

(ii) *Convictions per 10,000 of Population.* In the twenties, the convictions for drunkenness averaged approximately 100 per 10,000 of population, but the rate fell away considerably during 1930 and 1931, being only 57.1 in the latter year. The average then rose steadily, the annual average for the period 1936 to 1939 being 82.7 and that for the years 1940 to 1945, 90.8. In 1946, the convictions per 10,000 rose very steeply to 132.1, increasing further to 174.5 by 1951, since when they have declined again to 134.9 in 1960.

The rates of convictions for drunkenness for the years 1956 to 1960 are shown in the following table.

## CONVICTIONS FOR DRUNKENNESS.

(PER 10,000 OF POPULATION.)

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	217.0	209.6	184.9	183.9	178.9
Victoria .. .. .	77.9	95.2	108.3	105.4	101.9
Queensland(a) .. ..	166.7	168.7	198.2	185.6	193.0
South Australia(a) .. ..	56.7	58.3	48.5	48.9	56.5
Western Australia .. ..	87.7	79.0	68.9	78.5	71.2
Tasmania .. .. .	21.0	23.1	21.4	19.3	14.8
Northern Territory .. ..	(a) 272.5	(a) 516.7	425.8	427.5	327.4
Australian Capital Territory	76.7	84.7	92.4	54.7	56.7
<b>Australia .. .. .</b>	<b>140.7</b>	<b>142.9</b>	<b>139.6</b>	<b>137.0</b>	<b>134.9</b>

(a) Twelve months ended 30th June of year shown.

(iii) *Remedial Treatment of Drunkenness.* For particulars of relevant legislation and some details of the various institutions established for the treatment of inebriates, see Official Year Book, No. 46, p. 632.

6. *First Offenders.*—In all States and Territories, statutes are in force for dealing with first offenders. For particulars of the relevant legislation, see Official Year Book, No. 46, page 632. Provisions are incorporated in the various Acts whereby courts may extend leniency to the offender by means such as: (i) dismissal of the charge without proceeding to a conviction; (ii) freeing the offender or suspending sentence with the requirement of a recognizance for good behaviour for a specified period; and (iii) by placing the offender under the supervision of a probation officer for a specified period. The provisions existing in the individual States and Territories are set out in Year Book No. 46.



## C. CIVIL PROCEEDINGS.

The total numbers of complaints entered and the amounts awarded to plaintiffs during 1960 are shown in the following table. The figures are compiled from returns from the Small Debts Courts in New South Wales, Courts of Petty Sessions in Victoria, Magistrates' Courts in Queensland, Local Courts in South Australia and Western Australia, Courts of Requests in Tasmania, Courts of Summary Jurisdiction in the Northern Territory and the Court of Petty Sessions in the Australian Capital Territory.

## CIVIL CASES AT LOWER COURTS, 1960.

Particulars.	N.S.W.	Vic.	Q'land. (a)	S.Aust.	W.Aust.	Tas.	N.T. (a)	A.C.T.	Aus- tralia.
Plaints Entered No.	109,110	164,792	39,348	85,287	43,810	17,362	1,878	3,346	464,933
Amount Awarded to Plaintiffs £	920,419	3,018,614	910,941	1,527,678	589,977	492,031	46,072	51,260	7,556,992

(a) Year ended 30th June.

## § 3. Children's Courts.

1. **New South Wales.**—Children's Courts, first established in 1905, now exercise jurisdiction under the Child Welfare Act, 1939-60. Each court consists of a special magistrate with jurisdiction within a proclaimed area. Elsewhere, the jurisdiction of a court may be exercised by a special magistrate or two justices of the peace. Where practicable, children's courts are not held in ordinary court rooms, and persons not directly interested are excluded from any hearing in order that children may be protected against the adverse influences which they would encounter in ordinary courts.

The magistrates exercise all the powers of a Court of Petty Sessions in respect of offences committed by or against children under 18 years of age. They also exercise jurisdiction in respect of neglected and uncontrollable children. Their functions are reformatory, not punitive; they may commit children to institutions, to the care of persons other than the parents, or to the care of the Minister.

2. **Victoria.**—Under the Children's Court Act 1958, the jurisdiction of Children's Courts is restricted, with certain exceptions, to children up to 17 years of age. Two stipendiary special magistrates with jurisdiction throughout the State and, in addition, honorary special magistrates, operate in some metropolitan courts and provincial cities. At country courts to which no special magistrates are appointed, the local stipendiary magistrate usually constitutes the bench. The Children's Court may deal with all offences except homicide. However, consent to the jurisdiction of the Children's Court must be indicated by the child (or by a parent if the child is under 14 years of age) before an indictable case may proceed.

The primary aim of the Children's Court is reformation and rehabilitation of the offender and the court is bound under Section 27(3) of the Children's Court Act 1958 to "firstly have regard to the welfare of the child".

The probation system has been in use by the Children's Court since 1907, and there are now in Victoria a large number of honorary probation officers as well as six stipendiary probation officers. Problem cases are referred by the Court for investigation to a Children's Court Clinic, which is staffed by psychiatrists, psychologists and social workers.

3. **Queensland.**—Children under the age of 17 years before the Court on summary charges are dealt with under the Children's Court Acts, 1907-1930, and the State Children Acts, 1911-1955. The Children's Court in the metropolitan area is presided over by a magistrate, and the services of the psychiatric clinic are available to him if he considers they are needed. Proceedings are held *in camera*. A non-commissioned police officer is present to offer any observations he considers necessary and to assist the magistrate. In country areas, the court is presided over by the local stipendiary magistrate or, in his absence, by two justices. If found guilty, a child may be either admonished, released on probation, or committed to the care of the State Children Department or an institution. A conviction will not necessarily be recorded against him. His parent or guardian may be ordered to pay damages to the wronged party, and in default is liable to the same consequences as a defendant in an ordinary Court of Petty Sessions.

4. **South Australia.**—Provision for the treatment of juvenile offenders under the age of 18 years is contained in various Acts, the main ones being the Maintenance Act, 1926–1958, the Juvenile Courts Act, 1941, the Justices Act, 1921–1960, and the Offenders Probation Act, 1913–1953. A Juvenile Court to hear cases of offences by children is constituted by a special magistrate or two justices of a Juvenile Court, and it has power to determine all charges other than homicide. A child convicted of an offence punishable by imprisonment can be committed by a court only to a reformatory. For indictable offences, the penalty is committal to a reformatory or a fine of up to £50.

5. **Western Australia.**—Children's Courts deal with offenders under the age of 18 years and hear cases of certain offences against children. Special magistrates are appointed for Children's Courts, and the Governor may appoint other persons to be members of a particular Children's Court. One member may sit and adjudicate with the special magistrate, but in the magistrate's absence at least two members must be present.

A Children's Court is deemed to be a court of summary jurisdiction and may exercise exclusive jurisdiction in respect of all offences except wilful murder, murder, manslaughter or treason alleged to have been committed by children.

Adults charged with certain indictable offences against children may forego the right to trial by jury and agree to be dealt with summarily by Children's Courts.

6. **Tasmania.**—Under the provisions of the Child Welfare Act 1960, Children's Courts are established to deal with offenders under the age of 17 years. Special magistrates may be appointed by the Governor to adjudicate in these Courts and one such Magistrate is sufficient to constitute a Court. In the absence of a Special Magistrate, the Court may be constituted by a Police Magistrate or two justices.

A Children's Court is a court of summary jurisdiction, but in the case of children under 14 years of age it may hear and determine all indictable offences except murder, attempt to murder, manslaughter, and wounding with intent to do grievous bodily harm. When children over this age are charged with an indictable offence they, or their parents on their behalf, may elect to be dealt with by the Court in a summary way instead of being tried by a jury, except when the offences are murder, attempt to murder, manslaughter, rape, wounding with intent to do grievous bodily harm and robbery with violence.

7. **Northern Territory.**—The Child Welfare Ordinance 1958–1960 provides for the establishment of Children's Courts. These courts are constituted by a special magistrate and one member of the Child Welfare Council authorized to sit as a member of the Children's Court. Where no Children's Court has been established for a particular area, or where special circumstances require it, the jurisdiction of a Children's Court may be exercised by a court of summary jurisdiction constituted by a special magistrate.

Proceedings in a Children's Court are in form similar to proceedings in a court of summary jurisdiction, but no reports of proceedings may be published without the express authority of the Court, and any person not directly concerned may be excluded from the hearing.

A Children's Court has jurisdiction in respect of all offences committed by persons under 18 years of age in respect of which proceedings may be taken in a court of summary jurisdiction. In dealing with such offences, the Court may, in cases other than homicide, impose a fine not exceeding fifty pounds or a sentence of imprisonment for not more than six months, and, in addition to or in lieu of these punishments, may make an order committing the child to the care of the Director of Child Welfare or of a person who is willing to undertake the care on the Court's terms and conditions (in which case the child may be declared a State child), or it may commit the child to an institution for a specified period or release the child on probation on such conditions as the Court orders. Children's Courts also exercise jurisdiction in respect of destitute, neglected, incorrigible or uncontrollable children.

8. **Australian Capital Territory.**—The Child Welfare Ordinance 1957 provides that the Court of Petty Sessions constitutes the Children's Court when it is hearing proceedings involving persons under the age of 18 years. Its proceedings are similar to those of an ordinary Court of Petty Sessions except that persons not directly interested are excluded from the Court.

In addition to the power to deal with summary offences, the Children's Court has power to hear and determine summarily a charge for an indictable offence other than an offence punishable by death. In either case, the Court's powers include releasing an offender on probation, committing him to the care of a specified person, making him a government ward, or committing him to an institution for up to three years.

## § 4. Higher (Judges') Courts.

## A. CRIMINAL PROCEEDINGS.

1. Offences for which Persons were Convicted at Higher Courts.—The following table shows the number of persons convicted at higher courts in each of the States and Territories of Australia during 1960, classified according to the nature of the offence.

## PERSONS CONVICTED AT HIGHER COURTS, 1960.

Offence.	N.S.W.	Vic.	Q'land. (a)(b)	S. Aust.	W. Aus.	Tas. (c)	N.T.	A.C.T.	Australia.
<b>I. OFFENCES AGAINST THE PERSON.</b>									
Infanticide .. ..	1	1	..	..	..	..	..	..	2
Murder .. ..	14	3	8	1	1	1	..	..	28
Attempted Murder .. ..	3	1	1	..	1	..	..	..	6
Manlaughter(d) .. ..	17	8	12	7	2	4	3	..	53
Culpable Driving .. ..	27	..	6	6	..	..	..	..	33
Rape .. ..	8	7	10	8	5	1	..	..	39
Other Offences against Females .. ..	273	274	88	145	3	16	2	2	803
Abduction .. ..	1	6	1	1	1	..	..	..	9
Incest .. ..	2	7	12	2	6	..	..	..	29
Unnatural Offences .. ..	143	119	22	12	3	3	1	1	304
Abortion and Attempts to Procure .. ..	3	2	2	..	1	2	1	..	11
Bigamy .. ..	23	13	8	3	1	3	..	..	51
Aggravated Assault .. ..	51	31	48	..	11	3	8	2	143
Common Assault .. ..	37	22	3	1	..	..	3	2	79
Malicious Wounding .. ..	29	37	..	14	..	..	..	..	80
Other Offences against the Person .. ..	10	18	11	..	..	6	..	..	45
<i>Total</i> .. ..	642	549	225	200	35	39	18	7	1,715
<b>II. OFFENCES AGAINST PROPERTY.</b>									
Burglary, Breaking and Entering .. ..	1,001	811	423	201	88	161	4	38	2,727
Robbery and Stealing from the Person .. ..	76	46	38	16	6	45	2	..	229
Horse, Cattle and Sheep Stealing .. ..	..	12	16	20	..	..	2	..	50
Embezzlement or Fraudulent Misappropriation .. ..	82	65	8	9	14	3	1	..	182
Other larceny .. ..	571	144	35	27	16	..	1	5	799
Unlawfully using Vehicles Receiving .. ..	43	39	214	..	4	2	8	..	255
Fraud and False Pretences .. ..	124	57	19	4	2	9	..	2	135
Arson .. ..	..	5	6	1	1	1	..	9	251
Malicious Damage .. ..	12	8	6	1	1	3	..	..	17
Other Offences against Property .. ..	18	11	2	4	..	..	..	..	28
<i>Total</i> .. ..	1,929	1,250	777	320	138	230	10	54	4,708
<b>III. FORGERY AND OFFENCES AGAINST THE CURRENCY.</b>									
Forgery and Uttering .. ..	23	36	6	22	7	13	1	1	109
Offences against the Currency .. ..	7	..	..	..	..	..	..	..	7
<i>Total</i> .. ..	30	36	6	22	7	13	1	1	116
<b>IV. OFFENCES AGAINST GOOD ORDER</b>									
.. ..	5	16	1	..	..	6	..	..	28
<b>V. OTHER</b>									
.. ..	29	145	11	38	3	7	..	..	233
<b>Total all Offences</b> .. ..	<b>2,635</b>	<b>1,996</b>	<b>1,020</b>	<b>580</b>	<b>183</b>	<b>295</b>	<b>29</b>	<b>62</b>	<b>6,800</b>

(a) Year ended 30th June. (b) A person convicted on several counts at the one hearing is included only once, but if a person has been convicted at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately. (c) Convictions. (d) Includes causing death by dangerous driving.

2. Persons Convicted at Higher Courts, Numbers and Rates.—The numbers of persons convicted at higher courts and rates of conviction per 10,000 of population for the years 1956 to 1960 are given in the following table.

## PERSONS CONVICTED AT HIGHER COURTS.

State or Territory.	1956.	1957.	1958.	1959.	1960.
NUMBER.					
New South Wales .. ..	(a) 1,933	2,225	2,274	2,325	2,635
Victoria .. ..	1,249	1,643	1,779	1,799	1,996
Queensland(a)(b) .. ..	431	584	883	915	1,020
South Australia .. ..	362	459	457	499	580
Western Australia .. ..	241	200	255	216	183
Tasmania(c) .. ..	184	205	276	290	295
Northern Territory .. ..	(a) 72	(a) 59	31	69	29
Australian Capital Territory .. ..	40	32	50	40	62
<b>Australia .. ..</b>	<b>4,512</b>	<b>5,407</b>	<b>6,005</b>	<b>6,153</b>	<b>6,800</b>

## PER 10,000 OF POPULATION.

New South Wales .. ..	(a) 5.5	6.1	6.2	6.2	6.9
Victoria .. ..	4.8	6.2	6.5	6.5	7.0
Queensland(a)(b) .. ..	3.2	4.2	6.2	6.3	6.9
South Australia .. ..	4.3	5.3	5.1	5.4	6.1
Western Australia .. ..	3.6	2.9	3.6	3.0	2.5
Tasmania(c) .. ..	5.7	6.2	8.2	8.5	8.5
Northern Territory .. ..	(a) 39.1	(a) 29.6	14.3	29.2	11.6
Australian Capital Territory .. ..	11.3	8.4	12.2	8.6	11.8
<b>Australia .. ..</b>	<b>4.8</b>	<b>5.6</b>	<b>6.1</b>	<b>6.1</b>	<b>6.6</b>

(a) Twelve months ended 30th June of year shown. (b) A person convicted on several counts at the one hearing is included only once, but if a person has been convicted at different hearings during the year, whether for the same or for a different type of offence, the results of all hearings are recorded separately. (c) Convictions.

3. **Habitual Offenders.**—An account of the methods adopted in each jurisdiction in connexion with habitual offenders is given in the following paragraphs.

(i) *Commonwealth.* Under the provisions of the Crimes Act 1914–1960, where a person who is convicted of an indictable offence against the law of the Commonwealth has been previously convicted on at least two occasions of indictable offences against the law of the Commonwealth or of a State or Territory, the court before which he is convicted may declare that he is a habitual criminal, and may direct as part of his sentence that on expiration of the term of imprisonment then imposed on him he be detained during the pleasure of the Governor-General.

(ii) *New South Wales.* The Habitual Criminals Act, 1957, gives power to judges to declare as a habitual criminal any person of or above the age of 25 years who has been convicted on indictment and has on at least two occasions previously served separate terms of imprisonment as a consequence of convictions for indictable offences, provided that such offences were not dealt with summarily without his consent. A person may also be pronounced by a Judge to be a habitual criminal upon recommendation by a Stipendiary Magistrate.

A judge, having pronounced a person to be a habitual criminal, shall sentence him to a term of imprisonment of not less than five years nor more than fourteen years.

A habitual criminal so sentenced may be considered for release on licence in the light of his conduct and attitude after he has served two-thirds of his sentence. He will, in any event, be granted a remission to permit his release on licence after five-sixths of his sentence, subject to good conduct and industry.

At 30th June, 1961, there were 77 prisoners detained in pursuance of this Act.

(iii) *Victoria.* The Indeterminate Sentences provisions of the Crimes Act were abolished as from 1st July, 1957, with the proclamation of the Penal Reform Act 1956. The terms "reformatory prison" and "habitual criminal" also ceased to exist as from that date.

Under the Penal Reform Act 1956, a sentence of twelve months or more must contain provision for an offender's release on parole after he has served a minimum term which must be named. With sentences of under twelve months, the courts may fix a minimum term.

The relevant parts of the Penal Reform Act 1956 have now been embodied in Sections 506 to 542 of the Crimes Act 1958. In the case of the persistent offender, if the court is satisfied that it is expedient for the protection of the public that he should be detained in gaol for a substantial time, the court may pass a sentence of preventive detention for a term of not more than ten years, and where any such sentence is passed shall fix a minimum term during which the offender shall not be eligible to be released on parole.

(iv) *Queensland.* Sections 659A to 659I of the Queensland Criminal Code deal with habitual criminals. Only the Supreme Court or a judge thereof may declare a person to be a habitual criminal. A habitual criminal is detained in a reformatory prison (Section 659D) and there employed (Section 659F).

Where the Supreme Court or a judge recommends the discharge of a habitual criminal, the Governor may direct his discharge and may order him so long as he remains in Queensland to report at intervals during any period not exceeding two years (Section 659G).

A habitual criminal may be released by order in writing (called a "parole order") by the Parole Board set up under the provisions of "The Offenders Probation and Parole Act of 1959," after he has been detained during a period of two years (Section 32).

(v) *South Australia.* The Criminal Law Consolidation Act, 1935-1956 provides that persons previously convicted of a certain number of indictable offences of a particular class may be declared habitual criminals and shall then be detained during Her Majesty's pleasure. Proof of previous convictions is in all cases relevant to the question of penalty.

(vi) *Western Australia.* Under the Criminal Code Amendment Act, 1918, power is given to sentence a prisoner to be detained in a reformatory prison during the Governor's pleasure, where such prisoner is deemed to be a habitual criminal, or in other special circumstances where the Court considers such a sentence is fit.

The number under preventive detention on 30th June, 1960, was 25, and the total number dealt with since the passing of the Act was 199.

(vii) *Tasmania.* Since the Indeterminate Sentences Act came into operation in 1922, 132 persons have been confined under its provisions and 14 were in custody at the end of 1961.

Of the 118 released on probation, 28 have been re-committed.

(viii) *Northern Territory.* The Habitual Criminals Amendment Act, 1907, of South Australia is still in force in the Northern Territory. By virtue of that Act, a Judge of the Northern Territory Supreme Court has power to declare as habitual criminals persons of any age who come before him for sentence and have had at least two or, in some cases, three previous convictions for certain indictable offences specified in the Act. The result of the declaration is that the offender is detained for an indefinite period after the completion of his sentence, and is released only when he is considered fit to be at large.

(ix) *Australian Capital Territory.* The Habitual Criminals Act, 1905, of New South Wales is still in force in the Australian Capital Territory. By virtue of that Act, a judge of the Australian Capital Territory Supreme Court has power to declare as habitual criminals persons of any age who come before him for sentence and have had at least two or, in some cases, three previous convictions for certain indictable offences specified in the Act. The result of the declaration is that the offender is confined for an indefinite period after the completion of his sentence, and is released only when he is considered fit to be at large. Habitual criminals declared in the Australian Capital Territory are detained in New South Wales.

4. **Capital Punishment.**—There were ten executions in Australia during the period 1951 to 1960. Three took place in Victoria (in 1951), three in South Australia (one each in 1953, 1956, and 1958), two in Western Australia (one each in 1952 and 1960), and two in the Northern Territory (in 1952). In each case the offence was murder.

Under the Criminal Code Amendment Act of 1922, capital punishment was abolished in Queensland, and in New South Wales the Crimes Act was amended in 1955, abolishing capital punishment for all offences except treason and piracy. In the Australian Capital Territory, the Child Welfare Ordinance 1957 now provides that no death sentence is to be pronounced or recorded against a person under the age of 18 years.

In the early days of the history of Australia, the penalty of death was attached to a large number of offences, many of which would now be dealt with in a Magistrate's Court. The present tendency is to restrict death sentences to persons convicted of murder. Although rape is a capital offence in some States, the penalty of death has not been imposed in recent years on persons convicted of it.

The average annual number of executions in Australia from 1861 to 1880 was 9; from 1881 to 1900, 6; from 1901 to 1910, 4; from 1911 to 1920, 2; from 1921 to 1930, 2; from 1931 to 1940, 1; from 1941 to 1950, 0.5; and from 1951 to 1960, 1.

## B. DIVORCE AND OTHER MATRIMONIAL RELIEF.

1. **Separation and Maintenance Orders of Courts of Summary Jurisdiction.**—In all States and Territories, there are laws enabling a wife whose husband leaves her or the children of the marriage without adequate means of support to obtain a maintenance order against the husband from a court of summary jurisdiction. In some States and in the Northern Territory, courts of summary jurisdiction also have power to make separation orders. A separation order is primarily intended for the protection of the person of the wife.

2. **Divorce and Other Matrimonial Relief Granted by Higher Courts.**—A marriage may be terminated by a Supreme Court of a State or Territory in one of three ways. Firstly, there may be a dissolution of the marriage, commonly known as divorce; secondly, the courts may annul a marriage; and thirdly, there can be a judicial separation of the parties.

Until recently, each State was primarily responsible for the provision of matrimonial relief. The law varied from State to State; for example, as to the period of desertion needed to obtain a decree for the dissolution of marriage.

In 1959, however, the Commonwealth Parliament passed the Matrimonial Causes Act 1959 which came into force on 1st February, 1961. The Act establishes uniform grounds throughout the whole of the Commonwealth for the termination of marriage. While the Act displaces corresponding State law, it vests jurisdiction in existing State and Territorial Courts.

All statistical information given in this section relates to proceedings under the system before the operation of the Commonwealth Act. The various grounds of dissolution available are shown in the tables.

3. **Matrimonial Causes Act 1959.**—Under the Commonwealth Matrimonial Causes Act 1959, a decree for the dissolution of marriage may be granted on various grounds, such as adultery, desertion, insanity, separation for five years in certain circumstances, or failure to comply with a restitution decree.

Proceedings for nullity of marriage may be instituted in respect of a marriage which is void or voidable. A marriage which is void has no existence at all, and so it is not legally necessary to obtain a decree of nullity of marriage, but since the issue may depend on difficult questions of fact, such as proof that the consent of one of the parties to the marriage was not a real consent, it is advisable and customary to seek a court judgment which decides the question of the validity of the marriage.

Proceedings for annulling a voidable marriage may be instituted on various grounds, as, for example, where at the time of the marriage either party was a mental defective. Proceedings must be taken before the marriage is terminated by dissolution or death. A voidable marriage is void from the date of the decree absolute, but until then the parties have the status of married people, and transactions concluded on the basis of the existence of that status cannot be undone or reopened. Since the parties to a marriage which is void or which has been voided do not have the status of married people, they may re-marry.

A decree for dissolution or annulment is first a decree *nisi*. The decree automatically becomes absolute at the expiration of three months, unless it is in the meantime rescinded, appeal proceedings are instituted, or there are children of the marriage under the age of 16, in which case the Court must be satisfied that appropriate arrangements have been made for their welfare before the decree will become absolute. The parties cannot re-marry until a decree *nisi* has become absolute.

A decree of judicial separation is available on most of the grounds available for divorce. It leaves unimpaired the status of marriage, but suspends rights and duties with respect to cohabitation. A husband is not responsible for the acts of his wife, except that he is liable for necessities supplied to her if he has failed to pay alimony ordered by a court. Persons who have judicially separated cannot re-marry, but a divorce may be obtained on the same facts as those on which the decree of judicial separation was based.

The new Commonwealth Act provides for financial grants to approved marriage guidance organizations and the courts are enjoined to consider at all times the possibility of reconciliation, and they may take certain steps to endeavour to effect a reconciliation.

In the following tables the term "divorce" is used to cover dissolution of marriage, nullity of marriage and judicial separation.

4. Number of Petitions Filed.—The following table shows the number of petitions for dissolution of marriage, nullity of marriage and judicial separation filed in each State during 1960.

**PETITIONS FILED FOR DISSOLUTION OF MARRIAGE, NULLITY OF MARRIAGE AND JUDICIAL SEPARATION, 1960.**

Petition for—	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Dissolution of Marriage—</b>									
Husband Petitioner ..	1,670	860	398	313	292	136	16	24	3,709
Wife Petitioner ..	2,076	938	465	468	268	138	10	22	4,385
Total ..	3,746	1,798	863	781	560	274	26	46	8,094
<b>Nullity of Marriage—</b>									
Husband Petitioner ..	14	5	..	4	..	..	..	..	23
Wife Petitioner ..	13	12	1	4	1	..	..	1	32
Total ..	27	17	1	8	1	..	..	1	55
<b>Judicial Separation—</b>									
Husband Petitioner ..	1	..	..	..	6	..	..	..	7
Wife Petitioner ..	22	..	4	..	3	..	..	..	31
Total ..	23	2	4	..	9	..	..	..	38
<b>Total Petitions—</b>									
Husband Petitioner No.	1,685	865	398	317	298	136	16	24	3,739
Wife Petitioner No.	2,111	952	470	472	272	138	10	23	4,448
%	44	48	46	40	52	50	62	51	46
%	56	52	54	60	48	50	38	49	54
<b>Grand Total</b> ..	<b>3,796</b>	<b>1,817</b>	<b>868</b>	<b>789</b>	<b>570</b>	<b>274</b>	<b>26</b>	<b>47</b>	<b>8,187</b>

5. Number of Divorces Granted, 1960.—The following table shows the number of dissolutions of marriage, nullities of marriage and judicial separations granted in each State during 1960.

**DISSOLUTIONS OF MARRIAGE, NULLITIES OF MARRIAGE AND JUDICIAL SEPARATIONS GRANTED, 1960.**

Decree for—	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Dissolution of Marriage(a)—</b>									
Husband Petitioner ..	1,464	612	315	284	287	93	4	19	3,078
Wife Petitioner ..	1,779	684	381	326	253	117	1	14	3,555
Total ..	3,243	1,296	696	610	540	210	5	33	6,633
<b>Nullity of Marriage(b)—</b>									
Husband Petitioner ..	12	6	2	4	1	..	1	..	26
Wife Petitioner ..	15	10	5	5	1	..	..	1	37
Total ..	27	16	7	9	2	..	1	1	63
<b>Judicial Separation—</b>									
Husband Petitioner ..	..	..	..	..	2	..	..	..	2
Wife Petitioner ..	5	1	2	..	3	..	..	..	11
Total ..	5	1	2	..	5	..	..	..	13
<b>Total Decrees—</b>									
Husband Petitioner No.	1,476	618	317	288	290	93	5	19	3,106
Wife Petitioner No.	1,799	695	388	331	257	117	1	15	3,603
%	45	47	45	47	53	44	83	56	46
%	55	53	55	53	47	56	17	44	54
<b>Grand Total</b> ..	<b>3,275</b>	<b>1,313</b>	<b>705</b>	<b>619</b>	<b>547</b>	<b>210</b>	<b>6</b>	<b>34</b>	<b>6,709</b>

(a) Decrees absolute.

(b) Final decrees.

6. Number of Divorces Granted, 1956 to 1960.—The following tables show the number of dissolutions of marriage, nullities of marriage and judicial separations granted in each State and Territory for each year from 1956 to 1960.

#### DISSOLUTION OF MARRIAGE (DECREES ABSOLUTE).

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. .. .	3,125	2,975	3,217	3,363	3,243
Victoria .. .. .	(a)1,255	1,345	1,698	1,861	1,296
Queensland .. .. .	703	682	759	739	696
South Australia .. .. .	567	529	483	503	610
Western Australia .. .. .	544	541	536	584	540
Tasmania .. .. .	196	179	176	222	210
Northern Territory .. .. .	25	18	15	14	5
Australian Capital Territory .. .. .	20	29	36	29	33
<b>Australia .. .. .</b>	<b>6,435</b>	<b>6,298</b>	<b>6,920</b>	<b>7,315</b>	<b>6,633</b>

#### NULLITY OF MARRIAGE (FINAL DECREES).

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. .. .	18	32	18	23	27
Victoria .. .. .	13	15	19	16	16
Queensland .. .. .	5	7	7	5	7
South Australia .. .. .	5	8	9	7	9
Western Australia .. .. .	4	1	6	2	2
Tasmania .. .. .	1	1	..	..	..
Northern Territory .. .. .	..	..	1	..	1
Australian Capital Territory .. .. .	..	..	1	..	1
<b>Australia .. .. .</b>	<b>46</b>	<b>64</b>	<b>61</b>	<b>53</b>	<b>63</b>

#### JUDICIAL SEPARATIONS.

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales .. .. .	4	6	5	..	5
Victoria .. .. .	2	2	..	..	1
Queensland .. .. .	..	..	1	1	2
South Australia .. .. .	..	1	5	..	..
Western Australia .. .. .	4	3	2	1	5
Tasmania .. .. .	..	..	..	..	..
Northern Territory .. .. .	..	..	..	..	..
Australian Capital Territory .. .. .	1	..	..	..	..
<b>Australia .. .. .</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>2</b>	<b>13</b>

(a) Decrees nisi granted.



7. Average Number of Divorces granted Annually.—The ten-year averages of the numbers of divorces (i.e., dissolutions, nullities and judicial separations) granted annually in Australia for the 80 years from 1881 to 1960 are as follows.

DIVORCES: AUSTRALIA.

Decade	1881-90.	1891-1900.	1901-10.	1911-20.	1921-30.	1931-40.	1941-50.	1951-60.
Average	70	357	399	741	1,692	2,508	6,187	6,973

8. Grounds on which Divorces were Granted.—The grounds on which dissolutions of marriage, nullities of marriage and judicial separations were granted during 1960 in each State and Territory are shown in the following table, but it should be borne in mind that the legal grounds for divorce varied between States and Territories.

GROUND OF DISSOLUTION OF MARRIAGE, NULLITY OF MARRIAGE AND JUDICIAL SEPARATION, 1960.

Ground.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Dissolution of Marriage—</i>									
Adultery .. .. .	901	373	229	274	248	69	1	9	2,104
Cruelty .. .. .	102	3	..	103	..	5	1	2	216
Cruelty and Drunkenness .. .. .	106	8	..	..	2	1	..	3	120
Desertion .. .. .	2,080	829	463	215	129	135	3	19	3,873
Desertion and Adultery .. .. .	..	70	..	..	1	..	..	..	71
Drunkenness and Failure to Support .. .. .	36	2	..	9	..	..	..	..	47
Drunkenness and Neglect of Domestic Duties .. .. .	5	3	..	..	1	..	..	..	9
Failure to Pay Maintenance .. .. .	..	..	..	4	19	..	..	..	23
Imprisonment .. .. .	13	2	..	3	4	..	..	..	19
Insanity .. .. .	..	6	3	..	..	..	..	..	12
Refusal to Consummate .. .. .	..	..	..	..	5	..	..	..	5
Separation for over 5 years .. .. .	..	..	..	2	131	..	..	..	133
Sodomy .. .. .	..	..	1	..	..	..	..	..	1
<i>Total</i> .. .. .	3,243	1,296	696	610	540	210	5	33	6,633
<i>Nullity of Marriage—</i>									
Non-consummation .. .. .	..	1	1	4	2	..	..	..	4
Bigamy .. .. .	18	14	4	1	..	..	1	..	24
Impotence .. .. .	8	1	..	..	..	..	..	1	27
Invalid Marriage .. .. .	..	1	1	4	..	..	..	..	6
Want of Consent .. .. .	1	..	..	..	..	..	..	..	1
Venerical Disease .. .. .	..	..	1	..	..	..	..	..	1
<i>Total</i> .. .. .	27	16	7	9	2	..	1	1	63
<i>Judicial Separation—</i>									
Adultery .. .. .	1	..	..	..	2	..	..	..	3
Desertion .. .. .	4	1	2	..	3	..	..	..	10
<i>Total</i> .. .. .	5	1	2	..	5	..	..	..	13
<i>Grand Total</i> .. .. .	3,275	1,313	705	619	547	210	6	34	6,709

(a) Includes non-compliance with order for restitution of conjugal rights, 402.

9. Ages of Husband and Wife at Time of Dissolution of Marriage.—The following table shows the number of husbands and wives in each age group who were parties to marriages dissolved in 1960. Age is taken at the time the decree absolute is made.

Forty-two per cent. of wives were in the 25-34 years age group and 42 per cent. of husbands in the 30-39 years age group. These proportions have varied little during recent years, and are considerably higher than the proportions of married persons of those age groups in the whole population (27 per cent. and 26 per cent. respectively at the Census of 30th June, 1947; 28 per cent. and 26 per cent. respectively at the Census of 30th June, 1954).

## AGES OF PARTIES AT TIME OF DISSOLUTION OF MARRIAGE: AUSTRALIA, 1960.

Age of Husband (Years).	Age of Wife (Years).										Total Husbands.	
	Under 21.	21 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 to 54.	55 to 59.	60 and over.		Not stated.
Under 21 ..	4	..	..	..	..	..	..	..	..	..	..	4
21 to 24 ..	23	102	13	1	..	..	..	..	..	..	..	139
25 to 29 ..	16	327	497	76	10	3	2	..	..	..	..	931
30 to 34 ..	3	84	566	602	101	14	4	3	..	..	..	1,377
35 to 39 ..	1	13	135	547	528	82	14	3	1	..	..	1,324
40 to 44 ..	..	6	39	147	366	335	81	12	3	..	..	989
45 to 49 ..	..	1	9	45	143	307	276	35	6	..	..	822
50 to 54 ..	..	1	2	15	39	85	179	125	17	10	..	473
55 to 59 ..	..	..	..	6	19	30	72	87	62	15	..	291
60 and over ..	..	1	..	..	4	9	24	35	56	83	..	212
Not Stated ..	..	..	..	..	..	..	..	..	..	..	71	71
<b>Total Wives</b>	<b>47</b>	<b>535</b>	<b>1,261</b>	<b>1,439</b>	<b>1,210</b>	<b>865</b>	<b>652</b>	<b>300</b>	<b>145</b>	<b>108</b>	<b>71</b>	<b>6,633</b>

10. Duration of Marriages Dissolved and Number of Children.—The following table shows the number of dissolutions of marriage granted in 1960, classified according to the legal duration of the marriage (i.e., the period from the date of marriage to the date when the decree nisi was made absolute) and number of children. In 1960, approximately two-thirds of the marriages dissolved were of less than fifteen years' duration and 38 per cent. were of less than ten years' duration.

## DURATION OF MARRIAGES DISSOLVED AND NUMBER OF CHILDREN(a): AUSTRALIA, 1960.

Duration of Marriage (Years).	Dissolutions of Marriages with—											Total Dissolutions of Marriages.	Total Children (a)			
	No Children.	1 Child.	2 Children.	3 Children.	4 Children.	5 Children.	6 Children.	7 Children.	8 Children.	9 Children.	10 Children.			11 Children and over.	N.S.	
1 year and under	2	19	3	3	..	..	..	..	..	..	..	..	..	..	25	30
2 years and under	3	66	24	3	..	..	..	..	..	..	..	..	..	..	93	63
3 "	4	91	35	14	..	..	..	..	..	..	..	..	..	..	140	143
4 "	5	167	84	17	5	..	2	..	..	..	..	..	..	..	275	227
5 "	6	217	129	30	10	2	..	..	..	..	..	..	..	..	407	320
6 "	7	193	131	64	16	2	1	..	..	..	..	..	..	..	400	352
7 "	8	177	125	75	17	4	2	..	..	..	..	..	..	..	433	438
8 "	9	163	139	90	28	10	3	..	..	..	..	..	..	..	388	426
9 "	10	146	113	88	30	8	3	..	..	..	..	..	..	..	377	462
10 "	11	124	103	105	38	5	1	..	..	..	..	..	..	..	406	563
11 "	12	118	107	113	49	16	1	1	..	..	..	..	..	..	354	492
12 "	13	115	83	86	50	16	2	1	..	..	..	..	..	..	363	524
13 "	14	109	93	95	39	18	4	5	..	..	..	..	..	..	304	542
14 "	15	66	68	86	47	29	7	..	..	..	..	..	..	..	217	375
15 "	16	50	49	66	32	10	6	2	1	..	..	..	..	..	188	334
16 "	17	48	35	53	33	12	3	1	1	..	..	..	..	..	181	336
17 "	18	33	50	51	23	15	4	2	2	1	..	..	..	..	224	406
18 "	19	52	51	58	41	5	10	4	2	1	..	..	..	..	181	356
19 "	20	38	36	43	38	16	6	3	..	..	..	..	..	..	184	384
20 "	21	28	48	45	31	18	8	3	1	2	..	..	..	..	498	1,056
21 "	25	83	111	132	85	44	25	8	4	5	1	..	..	..	354	806
25 "	30	64	69	87	64	29	17	10	9	1	2	1	..	..	151	385
30 "	35	23	34	30	22	21	7	6	3	1	..	3	1	..	66	178
35 "	40	14	6	12	15	6	6	3	2	1	1	..	..	..	26	60
40 "	45	5	5	4	6	4	1	..	..	1	..	..	..	..	9	15
45 and over	..	3	2	..	..	1	..	..	..	..	..	..	..	..	1	..
Not Stated	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
<b>Total Dissolutions of Marriage</b>	<b>..</b>	<b>2,213</b>	<b>1,733</b>	<b>1,452</b>	<b>719</b>	<b>291</b>	<b>120</b>	<b>49</b>	<b>26</b>	<b>15</b>	<b>6</b>	<b>6</b>	<b>3</b>	<b>..</b>	<b>6,633</b>	<b>..</b>
<b>Total Children (a)</b>	<b>..</b>	<b>1,733</b>	<b>2,904</b>	<b>2,157</b>	<b>1,164</b>	<b>600</b>	<b>294</b>	<b>182</b>	<b>120</b>	<b>54</b>	<b>60</b>	<b>34</b>	<b>..</b>	<b>..</b>	<b>9,302</b>	<b>..</b>

(a) The term "children" used in the table above, being dependent upon State legislation and court rules, is not comparable in all States, and is defined as follows:—New South Wales, Victoria and Western Australia, issue of the marriage, of all ages, living and dead; Queensland, children, including adoptions and step-children of all ages, living and dead; South Australia, issue of the marriage, living, under 16; Tasmania, living issue of the marriage.

11. Number of Divorced Persons at each Census 1901 to 1954.—The following table shows the number and proportion of divorced persons in Australia as recorded from returns supplied at each census from 1901 to 1954. A classification of these persons by age appeared in earlier issues of the Official Year Book (*see* No. 39, p. 269). Prior to 1911, no record was made of divorced persons in South Australia, so comparisons cannot be made beyond that date.

**DIVORCED PERSONS AT CENSUS DATES: AUSTRALIA.**

Sex.	Number.						Proportion per 10,000 of Males or Females, 15 years of age and over.					
	1901. (a)	1911.	1921.	1933.	1947.	1954.	1901. (a)	1911.	1921.	1933.	1947.	1954.
Males ..	1,234	2,368	4,233	10,298	25,052	32,389	10	15	23	42	89	100
Females ..	1,149	2,140	4,304	10,888	27,516	36,650	10	15	24	46	96	115

(a) Excludes South Australia.

**C. BANKRUPTCY.**

1. General.—Particulars relating to bankruptcy in each State to the end of 1927 were incorporated in issues of the Official Year Book prior to No. 23. On 1st August, 1928, the Commonwealth Bankruptcy Act, which is now the Bankruptcy Act 1924–1960, came into operation.

Under the Bankruptcy Act 1924–1960, the Commonwealth is divided into bankruptcy districts which coincide generally with State boundaries. A Federal Court of Bankruptcy has been established with jurisdiction throughout Australia, but it exercises this jurisdiction mainly in the bankruptcy districts of New South Wales, which includes the Australian Capital Territory, and Victoria. Certain State courts have been invested with federal jurisdiction in bankruptcy and, outside New South Wales and Victoria, usually exercise that jurisdiction in the appropriate bankruptcy district.

Any person unable to pay his debts may apply voluntarily for the sequestration of his estate, or his creditors may apply for a compulsory sequestration, if he has committed an act of bankruptcy. The act of bankruptcy usually relied on is non-compliance by a debtor with a bankruptcy notice which requires the debtor to whom it is addressed to pay within a specified time, to a creditor who has obtained a final judgment or order to pay, the amount of the debt, or satisfy the Court that he has a counter-claim, set-off, or cross demand which equals or exceeds the judgment debt. If a bankruptcy notice is not complied with, a creditor may thereupon present a petition against a debtor, provided that—

- (1) the debt or debts amount to £50;
- (2) the act of bankruptcy relied on has occurred within the six months preceding the presentation of the petition; and
- (3) the statutory requirements relating to domicile or residence are applicable to the debtor.

Upon the issue of a sequestration order, the property of the bankrupt vests in the official receiver named in the order, and his property is divisible among his creditors in accordance with the provisions of the Act. No creditor to whom the bankrupt is indebted in respect of any debt provable in bankruptcy has any remedy against the property or person of the bankrupt except by leave of the court.

Under Part XI of the Bankruptcy Act 1924–1960, instead of having a sequestration order made against his estate, a debtor may compound with his creditors or assign his estate for their benefit. Under Part XII of the Act, a debtor may enter into a scheme of arrangement. The object of Parts XI and XII of the Act is to allow a debtor and his creditors to enter into an agreement concerning the debts due to the creditors without having a sequestration order made against the debtor.

The Court has power to decide questions of law affecting a bankrupt estate. Questions of fact may be tried before a jury.

The Bankruptcy Act 1924–1960 provides for an Inspector-General in Bankruptcy, and for a Registrar and an Official Receiver to be appointed for each bankruptcy district.

A Registrar in Bankruptcy is controlled by the Court and has such duties as the Attorney-General of the Commonwealth directs, or as are prescribed, and exercises such functions of an administrative nature as are authorized by the Court. He may examine a bankrupt or a person indebted to a bankrupt or having in his possession any of the estate or effects of a bankrupt. Stipendiary magistrates are appointed Deputy Registrars in country districts.

All sequestrated estates are vested in an Official Receiver, who is a permanent officer of the Commonwealth Public Service. His duties are to investigate the conduct, property and transactions of the debtor, and the cause of bankruptcy of a debtor, and to realize and administer the estate of the debtor. In respect of these activities, the Official Receiver is under the control of the Court.

Persons registered by the Court as qualified to act as trustees may be appointed by resolution of the creditors to be trustees of estates. In cases where a registered trustee under a deed of arrangement, composition, or assignment (Parts XI and XII of the Bankruptcy Act) is removed from or vacates his office, the official receiver may be appointed by the Court to complete the administration of the estate, or the Court may direct the official receiver to convene a meeting of the creditors in the estate to enable them to appoint a registered trustee to complete the administration of the estate.

**2. Bankruptcy Proceedings.**—The following table shows the number of bankruptcies of the various types in each State, together with the assets and liabilities of the debtors, during the twelve months ended 30th June, 1961.

**BANKRUPTCY PROCEEDINGS, 1960-61.**

State.		Sequestration Orders and Orders for Administration of Deceased Debtors' Estates.	Compositions and Schemes under Part XI.	Deeds under Part XI.	Deeds of Arrangement, Part XII.	Total.
N.S.W.	Number ..	783	5	4	76	868
	Liabilities £	2,215,244	33,321	34,676	1,022,723	3,305,964
	Assets £	1,569,439	19,515	33,146	720,175	2,342,275
Vic.	Number ..	362	5	..	122	489
	Liabilities £	1,017,852	63,453	..	870,015	1,951,320
	Assets £	492,396	44,429	..	761,056	1,297,881
Q'land	Number ..	232	..	..	21	253
	Liabilities £	742,864	..	..	209,851	952,715
	Assets £	582,824	..	..	142,832	725,656
S. Aust.	Number ..	421	37	10	..	468
	Liabilities £	1,147,912	76,818	119,124	..	1,343,854
	Assets £	512,531	49,865	133,827	..	696,223
W. Aust.	Number ..	127	70	7	2	206
	Liabilities £	252,042	236,966	35,634	20,880	545,522
	Assets £	81,140	198,838	29,281	18,470	327,729
Tas.	Number ..	76	1	..	4	81
	Liabilities £	226,133	14,411	..	47,174	287,718
	Assets £	89,522	12,955	..	22,863	125,340
N.T.	Number ..	3	..	..	..	3
	Liabilities £	7,813	..	..	..	7,813
	Assets £	5,422	..	..	..	5,422
Australia	Number ..	2,004	118	21	225	2,368
	Liabilities £	5,609,860	424,969	189,434	2,170,643	8,394,906
	Assets £	3,333,274	325,602	196,254	1,665,396	5,520,526

(a) Includes the Australian Capital Territory.

For purposes of comparison, the two tables which follow show Australian figures in respect of each of the various types of bankruptcy, and State figures in respect of all types of bankruptcy for the past five years.

## BANKRUPTCY PROCEEDINGS: AUSTRALIA.

Year.		Sequestration Orders and Orders for Administration of Deceased Debtors' Estates.	Compositions and Schemes under Part XI.	Deeds under Part XI.	Deeds of Arrangement. Part XII.	Total.
1956-57	Number ..	1,200	126	32	171	1,529
	Liabilities £	3,243,749	501,486	126,140	1,242,834	5,114,209
	Assets £	1,795,830	545,275	126,063	1,196,604	3,663,772
1957-58	Number ..	1,357	120	28	164	1,669
	Liabilities £	3,126,313	707,134	166,367	1,271,353	5,271,167
	Assets £	1,680,868	636,032	107,675	1,315,856	3,740,431
1958-59	Number ..	1,603	131	19	196	1,949
	Liabilities £	4,534,479	608,040	198,730	1,844,512	7,185,761
	Assets £	2,089,842	697,414	145,712	1,594,706	4,527,674
1959-60	Number ..	1,949	119	28	192	2,288
	Liabilities £	5,126,243	529,885	161,978	1,961,335	7,779,441
	Assets £	2,738,689	411,084	176,205	1,531,283	4,857,261
1960-61	Number ..	2,004	118	21	225	2,368
	Liabilities £	5,609,860	424,969	189,434	2,170,643	8,394,906
	Assets £	3,333,274	325,602	196,254	1,665,396	5,520,526

## BANKRUPTCY PROCEEDINGS: STATES.

Year.	N.S.W. (a)	Vic.	Q'land	S. Aust.	W. Aust.	Tas.	N.T.	Australia.	
1956-57 ..	Number ..	555	335	152	214	204	66	3	1,529
	Liabilities £	2,262,611	992,246	449,519	598,090	562,808	220,155	28,780	5,114,209
	Assets £	1,441,731	661,268	394,898	352,916	608,424	181,939	22,596	3,663,772
1957-58 ..	Number ..	524	418	181	263	212	70	1	1,669
	Liabilities £	2,010,218	1,021,428	607,109	645,401	793,439	184,552	9,020	5,271,167
	Assets £	1,607,587	676,021	377,379	375,932	578,097	120,778	4,637	3,740,431
1958-59 ..	Number ..	745	394	200	316	206	88	..	1,949
	Liabilities £	2,683,920	1,713,739	832,572	707,481	1,057,664	190,385	..	7,185,761
	Assets £	1,661,574	952,691	656,757	371,488	775,328	109,836	..	4,527,674
1959-60 ..	Number ..	892	494	234	372	199	96	1	2,288
	Liabilities £	3,216,889	2,019,268	725,189	801,093	628,876	373,246	14,880	7,779,441
	Assets £	2,001,621	1,182,287	631,121	446,738	412,387	168,030	15,077	4,857,261
1960-61 ..	Number ..	868	489	253	468	206	81	3	2,368
	Liabilities £	3,305,964	1,951,320	952,715	1,343,854	545,522	287,718	7,813	8,394,906
	Assets £	2,342,275	1,297,881	725,656	696,223	327,729	125,340	5,422	5,520,526

(a) Includes the Australian Capital Territory.

## D. OTHER CIVIL PROCEEDINGS.

The following table shows the civil judgments (excluding those for divorce and bankruptcy) in the higher courts during 1960. The particulars given below include the number and amount of judgments entered by default or confession or agreement.

## CIVIL CASES AT HIGHER COURTS, 1960.

Particulars.	N.S.W. (a)	Vic.	Q'land. (b)	S. Aust.	W. Aust. (c)	Tas.	N.T. (b)	A.C.T.	Total.
Judgments No.	3,693	13,877	1,326	121	285	783	(d)	171	(d)
Amount Awarded £	(d)	3,947,506	726,943	249,631	310,501	(d)	(d)	158,108	(d)

(a) Excludes judgments signed in the Supreme Court.

(b) Twelve months ended 30th June, 1960.

(c) Judgments signed and entered.

(d) Not available.

## § 5. High Court of Australia.

The High Court of Australia consists of a Chief Justice and six other Justices. Its principal seat is in Melbourne, but sittings are held in every State capital as occasion requires. The High Court has both original and appellate jurisdiction. Its original jurisdiction is usually exercised by a single Justice, appellate jurisdiction by at least three Justices.

The Constitution itself confers original jurisdiction on the High Court in all matters (i) arising under any treaty, (ii) affecting consuls or other representatives of other countries, (iii) in which the Commonwealth, or a person suing or being sued on behalf of the Commonwealth, is a party, (iv) between States, or between residents of different States, or between a State and a resident of another State, (v) in which a writ of mandamus or prohibition or an injunction is sought against an officer of the Commonwealth. In addition, Parliament may, under the Constitution, confer additional original jurisdiction on the High Court in certain classes of matters, and has in fact conferred original jurisdiction on the High Court in all matters arising under the Constitution or involving its interpretation and in trials of indictable offences against the laws of the Commonwealth. In matters (i) and (v) and in suits between the Commonwealth and a State or between States, the jurisdiction of the High Court is exclusive of that of the State Courts, and in matters (other than trials of indictable offences) involving any question as to the limits *inter se* of the constitutional powers of the Commonwealth and those of the States, the jurisdiction of the High Court is exclusive of that of the Supreme Courts of the States.

Under the Constitution, the High Court has jurisdiction, with such exceptions and subject to such regulations as the Parliament permits, to hear and determine appeals from all judgments, decrees, orders and sentences of (i) any Justice or Justices exercising the original jurisdiction of the High Court, (ii) any other Federal court or court exercising Federal jurisdiction and (iii) from the Supreme Court or other court of any State from which appeal lay to Privy Council at the establishment of the Commonwealth. In respect of (iii), the Parliament has prescribed that, generally, appeal can be brought only by special leave of the High Court. However, in the case of judgments affecting the status of any person under the laws relating to aliens, marriage, bankruptcy or insolvency, or in respect of any sum or matter at issue, or involving any claim, demand, or question, to or regarding any property or civil right, amounting to or of the value of £1,500, appeal may be brought as of right from final judgments, and by leave of the High Court or the Supreme Court from interlocutory judgments.

By Acts of Parliament and by subordinate legislation, the High Court has also been given appellate jurisdiction in respect of the courts of the Territories under the control of the Commonwealth. Provision is also made in various enactments for appeal to the High Court on points of law from administrative determinations, such as decisions of the Commissioner of Taxation and Taxation Boards of Review, the Commissioner of Patents, or the Registrar of Trade Marks. Such proceedings, although called appeals, are in reality proceedings in the original jurisdiction of the High Court.

The following table shows the transactions of the High Court for 1960 and 1961.

## TRANSACTIONS OF THE HIGH COURT OF AUSTRALIA.

Original Jurisdiction. (a)	1960.	1961.	Appellate Jurisdiction.	1960.	1961.
	Number of writs issued	183		130	Number of appeals set down for hearing ..
Number of cases entered for trial ..	40	51	Number allowed ..	49	31
Judgments for plaintiffs	23	27	Number dismissed ..	85	65
Judgments for defendants	4	8	Otherwise disposed of	16	31
Otherwise disposed of ..	48	29			
Amount of judgments ..	£182,693	£58,175			

(a) Some matters dealt with by the High Court neither originate as writs nor are entered as cases.

During 1960 and 1961, respectively, the High Court dealt also with the following:— appeals from assessments under the Taxation Assessment Act, 130, 39; special cases stated for the opinion of the Full Court, 13, 11; applications for prohibition, etc., 22, 21. The fees collected amounted to £4,305 in 1960 and £2,952 in 1961.

## § 6. Police, Prisons and Prisoners.

1. **Police.**—(i) *General.* The primary duties of the police are to prevent crime, to detect and detain offenders, to protect life and property, to enforce the law, and to maintain peace and good order. In addition, they perform many duties in the service of the State, e.g. they act as clerks of petty sessions in small centres, as crown land bailiffs, foresters, mining wardens, and inspectors under the fisheries and various other acts. In metropolitan and large country areas, they also regulate the street traffic. With the exception of the Commonwealth Police Force (*see* next page) and the police in the Northern Territory and the Australian Capital Territory, the police forces of Australia are under the control of the State governments, but their members perform certain functions for the Commonwealth government, such as acting as aliens registration officers and policing various acts and regulations.

Women police perform special duties at places where young women and girls are subject to moral danger, control traffic at school crossings, and lecture school children on road safety. They also assist male police as required in the performance of normal police duties.

The strength of the police force in each State and Territory and the number of persons to each police officer are shown in the following table for the years 1956 to 1960. The figures include traffic police, probationers, cadets, special constables and women police, but exclude parking police, native trackers (natives employed in outlying districts in tracking lost persons and persons wanted by the police), female searchers, wardresses and interpreters. Figures refer to 30th June, except where otherwise indicated.

## STRENGTH OF POLICE FORCES.

As at 30th June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aus- tralia.
TOTAL STRENGTH.									
1956 .. ..	(a)4,927	(a)3,392	2,422	1,132	971	481	67	60	13,452
1957 .. ..	(a)5,043	(a)3,709	2,491	1,234	970	507	80	60	14,094
1958 .. ..	5,130	3,753	2,617	1,351	988	526	76	66	14,507
1959 .. ..	5,245	3,753	2,678	1,425	1,056	524	102	73	14,856
1960 .. ..	5,378	3,867	2,647	1,498	1,142	550	103	77	15,262

## POPULATION TO EACH POLICE OFFICER.

1956 .. ..	(a) 729	(a) 772	570	750	695	662	292	586	705
1957 .. ..	(a) 726	(a) 723	567	708	709	643	263	631	688
1958 .. ..	719	724	550	664	708	633	291	624	678
1959 .. ..	717	742	548	646	674	648	236	631	677
1960 .. ..	713	739	565	631	632	625	248	680	673

## NUMBER OF POLICEWOMEN.(b)

1956 .. ..	(a) 36	(a) 43	7	23	9	8	..	2	128
1957 .. ..	(a) 38	(a) 55	7	24	9	10	..	2	145
1958 .. ..	46	52	9	32	11	9	..	2	161
1959 .. ..	48	50	9	33	12	8	..	2	162
1960 .. ..	54	55	9	34	13	10	..	2	177

## NUMBER OF NATIVE TRACKERS.(c)

1956 .. ..	(a) 8	(a) 1	25	(d)	7	..	31	..	72
1957 .. ..	(a) 8	(a) 1	23	(d)	3	..	30	..	65
1958 .. ..	7	1	23	(d)	4	..	31	..	66
1959 .. ..	5	1	24	(d)	4	..	35	..	69
1960 .. ..	5	1	18	(d)	4	..	32	..	60

(a) Figures refer to 31st December of year shown. (b) Included in total strength shown above.  
 (c) Not included in total strength shown above. (d) One native tracker, who is paid a small weekly retainer and is supplied with rations, is continually on call.

(ii) *The Commonwealth Police Force.* The Commonwealth Police Force commenced operations on 21st April, 1960, and is the principal agency for the enforcement of the laws passed by the Commonwealth Parliament. It is also responsible for the protection of Commonwealth property and interests at various buildings and establishments under the control of the Commonwealth.

This Force co-ordinates the work of other Commonwealth investigation and law enforcement agencies and acts on behalf of the United Nations Organization for the suppression of traffic in women and the suppression of obscene literature.

Under the control of the Force is the Australian Police College at Manly, N.S.W., which provides training for members of various police forces and other agencies in Australia and New Zealand.

District Offices of the Force are in each State Capital City while the Head Office is in Canberra. Kennels are maintained in Melbourne and Adelaide for the breeding and training of guard dogs which are used by the Force. Some of these dogs are specially trained in tracking and are made available as required to the State Police Forces.

Strength.	Policemen.	Policewomen.	Guard Dogs.
30th June, 1960 .. .. .	498	Nil	35
30th June, 1961 .. .. .	560	2	44

2. *Prisons and Prison Accommodation.*—The table below shows the number of prisons in each State and the accommodation therein at 30th June, 1960.

#### PRISONS AND PRISON ACCOMMODATION, 1960.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australia.
Prisons .. .. .	18	11	8	18	19	1	2	77
Accommodation .. .. .	2,804	2,046	929	959	900	244	59	7,941

There is no gaol in the Australian Capital Territory, but there is a lock-up consisting of five cells attached to the police station at Canberra, and another lock-up at Jervis Bay, where offenders are held while awaiting trial or serving short sentences not exceeding one week imposed by a Magistrate's Court.

3. *Convicted Prisoners.*—The number of convicted prisoners at 30th June of each of the years 1956 to 1960 and the proportion per 10,000 of the population are shown in the following table. The figures exclude aborigines, except for New South Wales and Victoria.

#### CONVICTED PRISONERS.

At 30th June—	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Australia.
NUMBER.								
1956 .. .. .	2,860	1,462	612	457	482	149	21	6,043
1957 .. .. .	3,050	1,441	680	569	488	162	29	6,419
1958 .. .. .	3,126	1,397	799	526	527	196	32	6,603
1959 .. .. .	2,895	1,539	868	577	477	223	28	6,607
1960 .. .. .	2,903	1,678	865	570	526	195	26	6,763
NUMBER PER 10,000 OF POPULATION.								
1956 .. .. .	8.0	5.6	4.4	5.4	7.1	4.7	10.7	6.4
1957 .. .. .	8.3	5.4	4.8	6.5	7.1	5.0	13.8	6.7
1958 .. .. .	8.4	5.1	5.6	5.9	7.5	5.9	14.4	6.7
1959 .. .. .	7.6	5.5	5.9	6.2	6.7	6.6	11.6	6.6
1960 .. .. .	7.5	5.9	5.8	6.0	7.3	5.7	10.2	6.6

(a) Includes the Australian Capital Territory. Includes short-term prisoners held in lock-ups at police stations.



§ 7. Cost of Administration of Law and Order.

1. *Expenditure by the States.*—The tables below show the net expenditure (i.e., gross expenditure less receipts from fees, fines, recoups for services rendered, etc.) from Consolidated Revenue during 1960–61 in connexion with the administration of justice, police and prisons in each State.

In South Australia, the receipts for legal fees and registrations exceed the expenditure under "Justice". Because of differing legislative and administrative arrangements in the various States, the activities covered by the figures shown are not exactly the same in each State. Small differences also result from differing accounting practices. However, the figures shown for individual States are comparable from year to year.

NET EXPENDITURE ON LAW AND ORDER, 1960-61.

State.	Net Expenditure.			Per Head of Population.		
	Justice.	Police.	Prisons.	Justice.	Police.	Prisons.
	£.	£.	£.	s. d.	s. d.	s. d.
New South Wales ..	1,093,105	8,502,157	1,351,568	5 8	43 10	6 11
Victoria ..	514,119	7,015,641	1,037,009	3 6	48 6	7 2
Queensland ..	87,889	4,471,755	451,488	1 2	59 6	6 0
South Australia ..	-288,196	2,406,452	382,652	-6 0	50 3	8 0
Western Australia ..	113,549	1,836,362	281,822	3 1	50 4	7 9
Tasmania ..	213,264	893,911	182,988	12 2	51 1	10 5
<b>Total ..</b>	<b>1,733,730</b>	<b>25,126,278</b>	<b>3,687,527</b>	<b>3 4</b>	<b>48 9</b>	<b>7 2</b>

2. *Commonwealth Expenditure.*—(i) *Attorney-General's Department.* The expenditure shown in the previous table is that incurred by the State Governments. Since the functions of the Commonwealth Government in the administration of law and order differ considerably from those of the States, precise comparison between Commonwealth and State expenditure in this field is not possible. The following table, however, shows the gross expenditure by the Commonwealth Attorney-General's Department during the year 1960–61 on the main services performed by that department.

EXPENDITURE BY THE COMMONWEALTH ATTORNEY-GENERAL'S DEPARTMENT, 1960-61.

(£.)

Item.	Gross Expenditure.
Administration .. .. .	317,504
Bankruptcy .. .. .	214,506
Commonwealth Police Force .. .. .	288,016
Court Reporting Branch .. .. .	185,251
Crown Solicitor's Office .. .. .	419,855
High Court .. .. .	158,144
Industrial Court .. .. .	110,022
Industrial Registrar's Branch .. .. .	207,986
Judges' Pensions .. .. .	20,166
Legal Service Bureau .. .. .	59,410
Matrimonial Causes—Grants to organizations .. .. .	36,500
Patents, Trade Marks and Designs .. .. .	475,938
Rent .. .. .	71,284
Repairs and Maintenance .. .. .	29,913
<b>Total .. .. .</b>	<b>2,594,495</b>

In addition, £262,675 was spent by the Attorney-General's Department on capital works and services.

The items of expenditure shown in the table above are gross. Receipts of the Attorney-General's Department for 1960-61 aggregated £812,493, of which revenue on account of Patents, Trade Marks and Designs, and Copyright amounted to £476,292, Bankruptcy £142,404, Court Reporting Branch £131,871, Fees, Fines and Costs of Court £35,969, and Miscellaneous £25,957.

Expenditure and receipts of the Attorney-General's Department for the five years 1956-57 to 1960-61 is shown in the following table.

**EXPENDITURE BY THE COMMONWEALTH ATTORNEY-GENERAL'S  
DEPARTMENT.**

(£.)

Year.	Gross Expenditure.	Receipts.	Net Expenditure.
1956-57 .. .. .	1,952,184	451,758	1,500,426
1957-58 .. .. .	1,984,776	516,090	1,468,686
1958-59 .. .. .	2,100,388	572,771	1,527,617
1959-60 .. .. .	2,434,828	670,048	1,764,780
1960-61 .. .. .	2,594,495	812,493	1,782,002

(ii) *Police and Prisons.* Expenditure (other than capital) by the Commonwealth Government on police in the Australian Capital Territory (excluding the Commonwealth Police Force shown above), and police and prisons in the Northern Territory for the five years 1956-57 to 1960-61 is shown in the following table.

**EXPENDITURE ON POLICE AND PRISONS IN THE NORTHERN TERRITORY  
AND THE AUSTRALIAN CAPITAL TERRITORY.**

(£.)

Year.	Northern Territory.	Australian Capital Territory.(a)
1956-57 .. .. .	136,000	109,710
1957-58 .. .. .	208,099	142,462
1958-59 .. .. .	227,031	137,894
1959-60 .. .. .	262,261	168,952
1960-61 .. .. .	322,763	197,275

(a) Expenditure on police only. There is no prison in the Australian Capital Territory.

## CHAPTER XVII.

## PUBLIC HEALTH.

## A. STATE GOVERNMENT ACTIVITIES.

(Including activities of the Commonwealth Government in the Northern Territory and the Australian Capital Territory).

## § 1. Public Health Legislation and Administration.

1. **New South Wales.**—The Department of Public Health comes under the jurisdiction of the Minister for Health, with an Under-Secretary as Permanent Head of the Department for administrative purposes.

There is a Director-General of Public Health who is Chief Medical Adviser to the Government, *ex officio* President of the Board of Health, Chairman of the Nurses Registration Board and Director of State Psychiatric Services. In the latter capacity, he is responsible for the administration of the part of the Mental Health Act relating to the care and treatment of mental patients.

The Department's activities embrace all matters relating to public health and the greater part of the general medical work of the Government. These include:— (a) Supervision of the work of local authorities (municipal and shire councils) in relation to public health matters connected with the following Acts—Public Health Act, Noxious Trades Act and Pure Food Act; (b) Scientific divisions (Government Analyst, Microbiological Laboratory, Institute of Clinical Pathology and Medical Research, and Division of Occupational Health); (c) Tuberculosis and Epidemiological Divisions; (d) Medical Officers of Health at Sydney, Broken Hill, Newcastle, Wollongong, Bathurst and Lismore; (e) State hospitals and homes and State sanatoria; (f) Mental hospitals; (g) Public hospitals (Hospitals Commission); (h) Maternal and baby welfare (baby health centres); (i) School medical and dental services; and (j) Publicity, nutrition and library services.

2. **Victoria.**—The Department of Health, which is constituted under the Health Act 1958, contains, in addition to the central administration, four branches, the General Health Branch, the Maternal and Child Hygiene Branch, the Tuberculosis Branch, and the Mental Hygiene Branch. The work of these branches is described below.

(a) *The General Health Branch.* This branch, which, *inter alia*, is the administrative branch for the Commission of Public Health, protects or promotes the health of the community in the following ways.

The Engineering Division scrutinizes from a public health point of view the plans of all public buildings and provincial sewerage installations and makes periodical inspections. Other activities include prevention of stream pollution and supervision of abattoirs and cattle sale yards.

The Poliomyelitis Division provides a comprehensive orthopaedic, physiotherapy and respirator service for all eligible patients and carries out rehabilitation in conjunction with the Commonwealth Government. Facilities developed for poliomyelitis are now being used for other neurological disorders. The Division is also concerned with the Salk immunization campaign being undertaken in Victoria. Through the municipalities, immunization against poliomyelitis, diphtheria, smallpox, whooping cough, and tetanus is encouraged and supervised.

Prevention and control of infectious diseases are functions of this Branch, which also sponsors original research into virus diseases and epidemiological investigations throughout Victoria.

The Venereal Diseases Division provides a centrally situated headquarters where the use of modern remedies is effecting a general improvement in the standard of treatment.

Standards of quality and purity of foods and drugs are fixed by the Food Standards Committee and are administered and enforced by both departmental and municipal health inspectors.

Investigations into occupational hazards to the health of workers, the treatment and incidence of occupational diseases, and research into the effects of toxic substances used in industry are conducted by the Industrial Health Division.

Subsidies are granted to municipalities to provide meals for pensioners, to clubs for elderly citizens, and to emergency housekeeper services.

Other services operated by the Branch are:—registering plumbers and gasfitters; providing free travel to hospital for people with limited incomes; analysing food, drink, water and sewerage effluents; registering cinematograph operators; administering the Cemeteries Acts and the Clean Air Act; and advising industry on health hazards associated with handling radioactive substances.

(b) *The Maternal and Child Hygiene Branch.* This branch is concerned with pre-natal hygiene, the development of pre-school services, and the school medical and dental services.

(c) *The Tuberculosis Branch.* The Tuberculosis Branch is concerned with the prevention of tuberculosis and the treatment and rehabilitation of tubercular patients.

(d) *The Mental Hygiene Branch.* This Branch is controlled by the Mental Hygiene Authority and consists of institutions for in-patient care and out-patient's clinics and other services necessary for a comprehensive community mental health programme. Since the appointment of the Authority in 1951, existing buildings have been remodelled and new ones provided. Services have been re-organized to conform with modern requirements.

(e) *The Cancer Institute.* This Institute was incorporated in 1948 and provides, *inter alia*, facilities for research and investigation related to the causes, prevention, diagnosis and treatment of cancer and allied conditions. The policy of the Cancer Institute Board has been to ensure the provision of maximum clinical service to patients and to carry out related research. Clinics have been opened in a number of country centres in co-operation with the local hospital committees.

Under an agreement with the Government of Tasmania, clinics are also conducted at Launceston and Hobart.

A four million electron volt linear accelerator was installed in Melbourne in 1956 and a cobalt 60 unit in Launceston in 1957. A second 4 M.E.V. unit came into operation in Melbourne at the beginning of 1962, and the acquisition of still another high voltage X-ray unit is contemplated.

During the 12 months ended 30th June, 1961, out-patient attendances totalled 128,790 involving 9,008 individual patients. In-patient beds have been increased during the year by 20 to 120.

3. **Queensland.**—(i) *General.* The Health Acts 1937 to 1960 are administered by the Director-General of Health and Medical Services subject to the Minister for Health and Home Affairs. A central staff controls the following divisions,

(a) *Division of Public Health Supervision.* This Division is controlled by the Deputy Director-General of Health and Medical Services, and comprises separate sections of communicable disease control, environmental sanitation, food and drug control, enthetic (venereal) diseases, hookworm control and Hansen's disease (leprosy) control. Free treatment of venereal diseases is offered at the Department's clinics in Brisbane and at any public hospital. Free immunization against poliomyelitis, diphtheria, whooping cough and tetanus is offered by most of the local authorities. The majority of school children have been immunized against diphtheria and poliomyelitis.

(b) *Division of Tuberculosis.* A central chest clinic in Brisbane offers Mantoux tests, X-ray examinations, and inoculations of Mantoux negative reactors free of charge, and this service is extensively used. Similar clinics are situated at the Cairns, Rockhampton, Thursday Island, Toowoomba, and Townsville district hospitals. Children in the final grade of primary schools are now being Mantoux-tested and given B.C.G. vaccine. The compulsory X-ray examination of all persons over the age of 14 years has been completed in Northern Queensland and is proceeding in Southern and Central Queensland.

(c) *Division of Industrial Medicine.* The services of this division are available both to industry and to the trade union movement, for the prevention of industrial hazards. This division is particularly interested in occupational diseases, such as silicosis and lead and other poisoning, and advises on industrial problems such as lighting, ventilation, fatigue, air pollution and the use of radio-active isotopes.

(d) *Division of Maternal and Child Welfare.* This Division offers supervision and advice on the rearing and health of infants and pre-school children at 248 baby health centres throughout the State. Outlying centres are visited by air or by special rail car. Homes for in-patient treatment of infants with feeding problems have been established at Brisbane, Toowoomba, Ipswich and Rockhampton.

(e) *Division of School Health Services.* This Division comprises the Chief Medical Officer, School Health Services, and a staff of doctors, dentists and visiting school nurses. Every child has a medical examination at least once in three years.

(f) *Division of Mental Hygiene.* The Director is responsible for the care and treatment of mentally sick patients in the State's four mental hospitals at Brisbane, Toowoomba, Ipswich and Charters Towers.

(g) *Division of Laboratory Services.* Two laboratories—the Laboratory of Microbiology and Pathology and the Government Chemical Laboratory—are maintained to ensure the purity of a wide range of foodstuffs and materials. The former also offers a service in clinical pathology to institutions, country hospitals and private doctors, and provides a medico-legal service for the whole State. The Institute of Forensic Pathology is controlled by the medical staff of the Laboratory of Microbiology and Pathology, and coroner's autopsies are conducted there.

(ii) *Hospitals.* All public hospitals operate under the district system, which provides for the constitution of hospitals regions and hospitals districts, and a hospitals board for each district. The State is divided into 11 hospitals regions with a base hospital for each region. Each region comprises a number of hospitals districts, the purpose of the regional scheme being to co-ordinate the public hospitals in the region with the base hospital. The administration of the hospital services, including public dental services, in each hospitals district is vested in the hospitals board, which comprises not less than four members nor more than eight members appointed by the Governor-in-Council, and one member elected by the component local authorities. During the year 1959-60, there were 57 hospitals boards controlling 132 public hospitals. In addition, five other general hospitals received aid from the Government, and there were two institutions for the treatment of Hansen's disease, one of which (Peel Island) closed in August, 1959.

An institution for the treatment of Hansen's disease in aboriginals is maintained at Fantome Island near Townsville. Modern therapy has rendered the Peel Island institution unnecessary and patients are now treated at the South Brisbane Hospital.

Private hospitals in Queensland are controlled under the provisions of the Health Acts, 1937 to 1960, and the Private Hospitals Regulations, 1937. There are 57 private hospitals licensed in the State, containing 1,839 beds and cots, of which 22, containing 902 beds and cots, are in Brisbane.

4. *South Australia.*—The Department of Public Health embraces the activities of the Central Board of Health, the Food Drugs Advisory Committee, the Radiological Advisory Committee, the School Health Services (comprising School Medical and Dental Services and Deafness Guidance Clinic), Poliomyelitis Services and the public health aspect of the control of tuberculosis, including the State X-ray Health Survey and the Chest Clinic, under the control of the Director of Tuberculosis.

The Central Board of Health consists of five members, three of whom (including the chairman) are appointed by the Governor, while one is elected by metropolitan local boards and one by all other local boards. The Central Board of Health administers the Health, Food and Drugs, Dangerous Drugs, Noxious Trades, Bakehouses Registrations and Early Notification of Birth Acts. The Board is also concerned to some degree with Acts relating to local government, abattoirs and cremation. Other legislation administered by the Department of Public Health relates to venereal diseases and vaccination.

The Health Act 1935-1956 constitutes every municipal council and every district council a local board of health for its municipality or district. There are 143 local boards under the general control and supervision of the Central Board. Under the Food and Drugs Act each local board is constituted the local authority for its respective district except in the metropolitan area, for which the Metropolitan County Board is the local authority.

5. *Western Australia.*—Health services are provided under the Health Act 1911-1959. The central authority is the Department of Public Health, controlled by a Commissioner, who must be a qualified medical practitioner. The State is divided into local government areas, each administered by a municipal council. All local government authorities have health administration powers.

In any emergency, the Commissioner may exercise all the powers of a health authority in any part of the State.

Features of legislation since 1947 are as follows:—(a) Act No. 70 of 1948 gives power to control sufferers from tuberculosis and establishes a Tuberculosis Control Branch; (b) Act No. 11 of 1952 gives wide powers to regulate the sale and use of pesticides; (c) Act No. 34 of 1954 provides for the licensing of manufacturers of therapeutic substances; (d) Act No. 21 of 1957 gives power to require the notification of any prescribed condition of health in addition to infectious diseases; (e) Act No. 17 of 1956 gives local authorities power to provide or subsidize centres for the accommodation and care of the aged; (f) Act No. 30 of 1958 provides for the establishment of the Health Education Council with the object of promoting and improving the health of the people of Western Australia; (g) Act No. 43 of 1958 provides for the establishment of the Cancer Council of Western Australia with the objects of co-ordinating, promoting and subsidizing cancer research; and (h) Act No. 23 of 1960 establishes a Maternal Mortality Committee to investigate each maternal death and to recommend preventive measures.

6. **Tasmania.**—The Department of Health Services is under the jurisdiction of the Minister of Health. The Department consists of a Headquarters and three Divisions. The Director-General of Health Services is the permanent head of the Department, and he administers the Department through Directors of each of the three divisions (Division of Public Health, Division of Mental Health, and Division of Tuberculosis) and through several other clinical directors and other senior officers attached to the Headquarters of the Department, including the Directors of Orthopaedics, Pathology and Anaesthetics, and the Government Analyst and Chemist.

In addition to his responsibility for the functioning of the Department as a whole, the Director-General of Health Services directly administers the various branches of the work performed by Headquarters. This is concerned particularly with the following.

- (a) The Administration of the Hospital Services throughout the State.
- (b) The District Medical Service.
- (c) The Hospital and Government Nursing Service, which includes the administration of 27 District Nursing Centres throughout the State.
- (d) Legislation concerned with Health and allied matters and the Nurses' Registration Board.
- (e) The Health Education Council and National Fitness Council.
- (f) Specialist Medical Services.
- (g) Statistical classification of Diseases and Injuries.
- (h) Liaison with other States and the Commonwealth Health Department, and all matters dealing with the maintenance of departmental property and the appointments and salaries of departmental staff.

The Division of Public Health is responsible for the oversight of those services (except those specifically related to tuberculosis), which aim at the attainment and maintenance of good physical health in the community. It controls the school health services (both medical and dental) and the child health service. It supervises the immunization campaigns conducted by local health authorities and is responsible for custody of poliomyelitis vaccine and maintenance of records of its use. The Division also sets standards of food quality and of environmental sanitation, which are policed in detail by local health authorities. The Division administers laws relating to standards of food and drugs, and of food premises, and to environmental sanitation, public buildings, infectious disease (other than tuberculosis) and cremation.

The Division of Mental Health provides a community psychiatric service. This includes a mental hospital and a neurosis hospital; institutional care for mental defectives, alcoholics, and sexual offenders; and a community psychiatric service on a regional basis covering the whole State. In addition, the Division administers the Mental Hospitals Act, the Mental Deficiency Act and provides a State-wide service for the supervision of mental defectives in the community.

The Tuberculosis Division is concerned with the prevention (including B.C.G. vaccination), detection, notification, examination and treatment of all forms of tuberculosis, and the maintenance of chest hospitals and diagnostic clinics.

7. **Northern Territory.**—The Commonwealth Department of Health provides hospital, health and medical services in the Northern Territory.

Four general hospitals have been established. The Darwin Hospital has accommodation for 253 in-patients, Alice Springs Hospital 125, Katherine Hospital 36, and Tennant Creek Hospital 34. The treatment of Hansen's disease (leprosy) is carried out at East Arm Settlement. A full range of ancillary services is available at the Darwin hospital, which serves as a base hospital for the Territory. Dental clinics have been set up at Darwin and Alice Springs.

Medical and dental services to outback areas are provided by road and air. Aircraft used in the Territory are two De Havilland Doves stationed at Darwin, and one at Alice Springs. They are staffed and serviced by Trans-Australia Airlines and are extensively used in ambulance and survey medical work. At Alice Springs, doctors of the Northern Territory provide the medical services to the Royal Flying Doctor Service (South Australian) base.

A section of the Department of Health undertakes continuous investigation into native health.

School doctors and dentists travel throughout the Territory to carry out diagnosis and treatment. Public health services are provided, and health inspectors visit all settlements periodically.

Darwin, as a first port of entry for overseas aircraft and shipping, has a quarantine station.

8. *Australian Capital Territory.*—The Public Health Ordinance 1928–1951 places under the control of the Minister for Health all matters relating to public health and hygiene in the Australian Capital Territory. A Medical Officer of Health and a number of Health Inspectors are appointed to administer and police this ordinance. The Canberra Community Hospital is administered, subject to the Minister for Health, by a board consisting of five elected members and three members appointed by the Minister. The hospital has accommodation for 305 in-patients. A district nursing service, administered by the Commonwealth Department of Health, was established in 1950 to provide a home-nursing service for the sick and aged. The service is available at the request of a registered doctor.

## § 2. Supervision and Care of Infant Life.

1. *General.*—The number of infant deaths and the rate of infant mortality for the five years 1956 to 1960 are given in the following table. Further information regarding infant mortality (including information for each State as a whole and for the Territories) will be found in Chapter X.—Vital Statistics (*see page 341*).

### INFANT DEATHS AND DEATH RATES.

State.	Metropolitan.					Remainder of State.				
	1956.	1957.	1958.	1959.	1960.	1956.	1957.	1958.	1959.	1960.

#### NUMBER OF INFANT DEATHS.

New South Wales	784	795	792	842	802	993	1,009	912	990	933
Victoria ..	630	703	718	758	734	498	516	460	562	448
Queensland ..	224	224	209	212	224	513	508	448	509	516
South Australia ..	193	202	241	225	200	184	201	208	197	197
Western Australia	156	168	167	161	168	228	189	193	184	198
Tasmania ..	53	51	63	53	50	117	119	104	149	119
Australia(a) ..	2,040	2,143	2,190	2,251	2,178	2,568	2,574	2,370	2,638	2,465

#### RATE OF INFANT MORTALITY.(b)

New South Wales	21.33	20.40	20.03	20.91	19.67	25.49	24.92	22.52	24.39	22.64
Victoria ..	18.13	19.39	19.41	20.09	18.74	21.07	21.32	18.95	22.93	18.02
Queensland ..	19.93	18.88	17.83	17.23	18.33	24.23	23.20	20.23	21.85	22.44
South Australia ..	18.47	18.85	21.62	19.96	17.03	21.61	22.79	23.37	21.66	21.36
Western Australia	17.89	19.63	18.44	18.28	19.35	27.82	22.59	24.75	22.16	24.01
Tasmania ..	22.18	19.97	24.51	20.18	18.03	20.48	20.23	17.34	24.84	19.57
Australia(a) ..	19.56	19.68	19.81	19.92	18.88	23.82	23.10	21.17	23.15	21.44

(a) Northern Territory and Australian Capital Territory included in "Remainder of State".

(b) Number of deaths of children under one year of age per 1,000 live births registered.

Because the health of mothers and infants depends largely on pre-natal attention as well as after-care, government and private organizations provide instruction and treatment for mothers before and after confinement. The health and well-being of mother and child are looked after by baby health centres, baby clinics, crèches, etc.

In all States, Acts have been passed with the object of supervising the conditions of infant life and reducing the rate of mortality. Departments control the boarding-out of the wards of the State to suitable persons, and wherever possible the child is boarded out to its mother or to a near female relative. Stringent conditions regulate the adoption, nursing and maintenance of children placed in foster-homes by private persons, while special attention is devoted to the welfare of ex-nuptial children.

Under the provisions of Part V. of the Social Services Act 1947-1961, a sum of £15 is payable to the mother in respect of each confinement at which a living or viable child is born if the mother has no other children under 16 years of age. Where there are one or two other children under 16, the amount payable is £16, and where there are three or more other children under 16, the amount payable is £17 10s. Where more than one child is born at a birth, the amount of the allowance is increased by £5 in respect of each additional child born at that birth. More detailed information concerning maternity allowances is devoted in Chapter XVIII.—Welfare Services.

2. Nursing Activities.—(i) *General.* In several States, the Government maintains institutions which provide treatment for mothers and children, and, in addition, subsidies are granted to various associations engaged in welfare work.

(ii) *Details by States.* In earlier issues of the Official Year Book (see No. 22, pp. 515-16), information concerning the activities of institutions in each State is given.

(iii) *Summary.* The following table gives particulars of the activities of Baby Health Centres and Bush Nursing Associations for the year 1961.

#### BABY HEALTH CENTRES AND BUSH NURSING ASSOCIATIONS, 1961.

Heading.	N.S.W.	Vic.	Qld. (a)	S. Aust. (a)	W.Aust.	Tas.	N.T.	A.C.T. (a)	Aus- tralia.
Baby Health Centres—									
Metropolitan No.	123	173	70	97	37	22	..	12	534
Urban-Provincial and Rural No.	255	445	178	127	26	77	2	..	1,110
Total No.	378	618	248	224	63	99	2	12	1,644
Mobile Units—									
No. at Centres	..	6	1	3	4	..	..	..	14
Attendances									
No. at Centres	1,110,641	1,392,634	494,215	234,883	230,764	137,056	7,567	33,719	3,641,479
Visits paid by Nurses									
No.	(b)	160,193	32,055	27,619	23,414	78,037	3,888	4,293 <sup>c</sup>	329,499
Bush Nursing Associa- tions—Number of Centres .. ..	25	59	7	31	11	25	..	..	158

(a) Year ended 30th June.

(b) Not available.

(c) Excludes New South Wales.

In the last thirty years, the number of attendances at the Baby Health Centres has nearly quadrupled. The numbers of attendances, at five-year intervals, since 1930 were as follows:—1930, 919,893; 1935, 1,355,306; 1940, 2,035,299; 1945, 2,927,764; 1950, 3,049,375; 1955, 3,099,233; and 1960, 3,480,203. During the year 1961, the number of attendances was 3,641,479.

### § 3. Medical Inspection of School Children.

1. *General.*—Medical and dental inspection of school children is carried out in all States, in the Northern Territory and in the Australian Capital Territory. In some States, travelling clinics have been established to deal with dental defects.



2. **New South Wales.**—(i) *School Medical Service.* Doctors of the School Medical Service examine children attending all schools administered by the Department of Education and the majority of other schools in the State. They make annual visits to schools in the metropolitan, Newcastle and Wollongong areas, and in Armidale, Bathurst, Lismore and district, Grafton and district, and Cootamundra, and examine children in kindergarten or 1st grade in primary schools, and 2nd year in secondary schools. Children in 4th grade in primary schools and 4th year in secondary schools are reviewed. Children in other classes are examined or reviewed as necessary.

In country areas, school children are examined by local medical practitioners according to the normal practice of the School Medical Service and under the supervision of local Municipal and Shire Councils. During the first examination, all children at these schools are examined, and following that, the same procedure is adopted as in the metropolitan area. This scheme is growing and the majority of Councils in New South Wales have expressed interest and are endeavouring to arrange with local medical practitioners to have the scheme introduced. If treatment is necessary, the parent is informed and, if possible, is called in for interview. In the metropolitan, Newcastle, Wollongong, Lismore and Grafton areas, school nurses follow up these cases with the object of persuading parents to seek medical advice for the children.

As well as examining school children, the medical officer examines the sanitary arrangements at each school. Bush nurses act as school nurses in schools at or near the bush nursing centres. Medical officers of this service examined 178,818 children in 1960. Notifiable defects were found in 27.3 per cent. of the children examined.

Various surveys of school children are undertaken from time to time, e.g. hearing surveys, hookworm surveys, height-weight surveys, nutrition surveys, and investigations to determine the incidence of enlargement of the thyroid gland, defective vision, and postural defects.

Six child guidance clinics in the metropolitan area and one at Newcastle operate under the administration of the School Medical Service. One clinic functions at the Yasmarr Boys' Shelter and deals exclusively with cases which come before the Children's Courts. Each clinic is staffed by a psychiatrist, a psychologist and social workers.

(ii) *School Dental Service.* There are 28 dental officers and 23 dental assistants of the staff of the Division of Dental Services, Department of Public Health, providing a School Dental Service for New South Wales school children. At the beginning of the 1962 school year, twelve fully-equipped mobile dental clinics were in service in country areas. The clinics are staffed by a dentist and assistant. They visit country schools and provide treatment free of charge.

Arrangements are proceeding for the erection of five fixed clinics, each of two surgeries, waiting room, office and separate washrooms for patients and staff. These will be located at Newcastle and Wollongong, and at Hurstville, Parramatta and Naremburn in the Sydney metropolitan area. When the clinics are completed, free treatment may be obtained for those school children whose parents desire it. It will be necessary to restrict the treatment to children of 6, 7 and 8 years of age although children of any age may obtain free treatment of an emergency nature. A system involving examination only was commenced in September, 1960, whereby as many primary school children as possible are encouraged to seek private treatment.

A well-equipped dental surgery is in continuous operation at the Stewart House Preventorium, staffed by officers of the Division. A free dental service is provided, in co-operation with the Royal Flying Doctor Service, for children living in far western areas. In country areas where no adequate dental facilities exist, school children of all ages are eligible for treatment in the mobile clinics.

In 1961, 99,259 school children were examined and 15,423 were treated in 49,205 visits; 24,611 extractions, 50,650 fillings and 53,672 other treatments were completed. The parents of a further 57,670 children were notified of dental defects requiring treatment.

3. **Victoria.**—School Medical Services are conducted in close association with the Education Department. All children between the ages of 5 and 14 years attending State and registered primary schools are examined regularly, and any disabilities found in the children are brought to the notice of their parents. School nurses, under medical direction, visit the homes and schools. Children suffering from physical and mental disabilities are recommended to attend appropriate schools or classes by the medical officers. Some special training for the handicapped is given.

The School Dental Service has a staff of 40 dental officers and provides dental attention for children in parts of the metropolitan area at one of three dental centres and for a number of country districts by means of 15 mobile units. It also provides dental service for children's institutions in and around Melbourne and certain provincial centres. This service is now providing dental attention for some 80,000 primary school children.

4. **Queensland.**—During 1960–61, medical officers and nurses examined 98,846 school children, referring children with defects to their own doctors. In western Queensland, local doctors act as part-time ophthalmic surgeons. Advice is given on school sanitation, infectious diseases in schools, and health education.

During 1960–61, school dentists gave treatment to 13,887 school children whose parents could not afford private treatment. The treatment was carried out at four rail dental clinics and with portable equipment at schools. In addition, school children are treated at hospital dental clinics in the larger towns.

5. **South Australia.**—The Metropolitan State schools are visited annually and the children are examined while in Grades 1, 4 and 7 in the primary schools, and in their second and fourth years in secondary schools. Efforts are made to visit country schools every three years, when all the children are examined. Students who wish to become teachers are examined on appointment as Leaving Teaching Scholars while still attending secondary schools, again immediately prior to entering the Teachers' College and finally when they leave the College to take up teaching. Courses of lectures in hygiene and in first aid are given to all College students and, in addition, domestic arts students are lectured on home nursing.

During 1960, 54,868 children were examined by medical officers in 154 country and 86 metropolitan schools. Of these, 3,814 required treatment for defective vision, 1,261 for defective hearing, and 11,118 for dental disorders.

There were 992 children examined at the Deafness Guidance Clinic during 1960. Of the 484 new patients, 312 were referred to doctors or hospitals for treatment.

Educational work was assisted by talks to mothers' clubs and interviews with parents by doctors and dentists, and by home visits and interviews by nurses.

6. **Western Australia.**—The School Medical Service of the State Health Department employs seven full-time medical officers for schools. During 1960, these officers examined 60,207 children (metropolitan 36,795, country 23,412). The 398 schools visited comprised metropolitan, 215 (state schools 153, private schools 62), and country, 183 (state schools 148, private schools 35). The aim is to examine each school child three times in his school career.

During 1960, the nine full-time dentists employed by the School Dental Service visited 17 metropolitan schools, 103 country schools, 12 orphanages and 8 native missions. The number of children examined was 10,470. With the consent of their parents, 6,213 of these were treated. The number of dental vans operating was 12. The cost of the School Medical Service and the School Dental Service for 1959–60 was £88,324.

7. **Tasmania.**—During 1961, two full-time and three part-time medical officers examined school children in State and private schools, and 17 full-time and one part-time sisters visited homes and schools. Of the 26,346 children examined by medical officers, 9,377 were found to have defects.

Twelve school dental officers were employed during 1961, operating from surgeries at Hobart, Launceston, Burnie, Devonport, Queenstown and Currie, and from mobile clinics in other districts. A full-time dental surgeon is in charge of each surgery or clinic. During the year, there were 16,914 new visits to the school dentists and 26,544 repeat visits.

The cost of school medical and school dental services for the year ended 30th June, 1961, was £92,877.

8. **Northern Territory.**—(i) *School Medical Service.* The Schools Medical Officer makes routine physical examinations of all children attending both pre-school centres and the schools which come under the supervision of the Assistant Supervisor of Education in the Northern Territory. The only children not so examined by him are those at the Native Welfare Settlement School, i.e. full-blood aboriginals, who are examined during native health surveys.

An immunization clinic and a paediatric clinic are held each week at the Darwin Hospital.

(ii) *School Dental Service.* A special service for school and pre-school children is available in Darwin.

9. *Australian Capital Territory.*—The Commonwealth Department of Health is responsible for health aspects of child welfare in the Australian Capital Territory. These include a school medical service carried out by a medical officer and a trained nurse who are full-time officers of the Health Department.

Routine examinations are carried out at all schools, public and private, within the Territory. The programme is planned to provide for examinations at the ages of six, eight and 12 years. During 1961, the total number of children examined in these age groups was 3,262.

Examinations of children attending Pre-School Centres are made according to the time available, an attempt being made to cover children aged 4½ to five years. In 1961, lack of time prevented full coverage, but 59 pre-school children were examined.

In addition, an immunization programme for the protection of children aged from six months to 12 years against diphtheria, whooping cough and tetanus is carried out by the school doctor. Injections given during 1961 numbered 7,437.

Anti-poliomyelitis injections are also given to children attending both primary and secondary schools, and 886 injections were given during 1961. Anti-poliomyelitis injections numbering 6,235 were given, also, to infants and pre-school children and adults.

The officer-in-charge of the school service also acts as medical adviser to the Mothercraft Council and at the Baby Health Centres.

The school dental service is staffed by ten dentists and eleven dental nurses, and has operated since 1950. Free dental treatment is available to children at primary and infants' schools and pre-school centres. During 1961, approximately 86 per cent. of children accepted treatment and 9,607 children were examined, involving 26,439 visits.

#### § 4. Inspection of Food and Drugs for Sale.

Public health legislation in force in all States provides for the inspection of foods and drugs, with the object of ensuring that all goods sold shall be wholesome, clean, and free from contamination or adulteration, and that all receptacles, places and vehicles used for their manufacture, storage, or carriage shall be clean.

#### § 5. Supervision of Dairies, Milk Supply, etc.

Earlier issues of the Official Year Book (*see* No. 22, p. 498), refer to the legislation in force in the various States to ensure the purity of dairy produce.

#### § 6. Disposal of Dead by Cremation.

The first crematorium in Australia was opened in South Australia in 1903. At 31st December, 1961, there were eighteen crematoria in Australia, situated as follows:—New South Wales, 7; Victoria, 4; Queensland, 2; South Australia, 1; Western Australia, 2; Tasmania, 2.

There is no crematorium in the Northern Territory or in the Australian Capital Territory.

The following table shows the number of cremations in each State for each of the years 1957 to 1961.

#### CREMATIONS.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
1957 .. ..	12,189	6,849	3,250	539	1,239	688	24,754
1958 .. ..	12,190	6,913	3,308	620	1,363	622	25,016
1959 .. ..	13,352	7,549	3,678	779	1,433	666	27,457
1960 .. ..	13,809	7,839	3,709	915	1,526	692	28,490
1961 .. ..	13,991	7,923	3,998	908	1,576	731	29,127

**B. COMMONWEALTH GOVERNMENT ACTIVITIES.****§ 1. General.**

At the time of Federation, the only health function given to the Commonwealth Government under the Constitution was the power to make laws with respect to quarantine. All other health powers remained with the State Governments. The Commonwealth Quarantine Act was passed in 1908, and a branch of the Department of Trade and Customs, under the control of a Director of Quarantine, was created on 1st July, 1909. The systems of quarantine originally established by the State Governments were transferred to the control of the Commonwealth.

The Commonwealth Department of Health was formed in 1921 by the extension and development of the quarantine service, the Director of Quarantine becoming the Director-General of Health. It had certain other functions in the field of public health. An amendment to the Constitution in 1946 gave the Commonwealth power to make laws with respect to pharmaceutical, hospital and sickness benefits, and medical and dental services. In addition, the Commonwealth Government has used its powers under Section 96 of the Constitution to make grants to the States for health purposes.

**§ 2. National Health Benefits.**

**1. Pharmaceutical Benefits.**—A comprehensive range of drugs and medicines is made available to all persons receiving treatment from a medical practitioner registered in Australia. The benefits are supplied by an approved pharmacist upon presentation of a prescription, or by an approved hospital to patients receiving treatment at the hospital.

The patient pays the first 5s. of the cost of the prescription, but pensioners who are eligible for treatment under the Pensioner Medical Service (*see* para. 5, page 673) receive all benefits without any contribution being made.

Total Commonwealth expenditure on pharmaceutical benefits in the year 1960–61 was £27,881,222.

**2. Hospital Benefits.**—The payment of hospital benefits to the States is authorized under Part V. of the National Health Act 1953–1961. This Act continues the agreements entered into with the various States under the Hospital Benefits Act 1951. Under these agreements, the Commonwealth pays the States certain sums of money which vary according to the number of occupied beds in public hospitals and the status of patients.

The agreements provide for the payment of 12s. a day for patients who are pensioners or their dependants, and for patients in certain South Australian hospitals. The rate of 8s. a day is paid for other patients.

The National Health Act also provides for the payment of 8s. a day for patients in approved private hospitals. This payment is made to the proprietor of the private hospital. A condition of the benefit is that an equivalent amount has been allowed against the patient's account.

Commonwealth additional benefit is paid in the case of patients who are members of a registered hospital benefit organization. The additional benefit is payable at the rate of 4s. a day if a person contributes for a fund benefit of at least 6s. a day but less than 16s. a day, and at the rate of 12s. a day if a person contributes for a fund benefit of at least 16s. a day. Payment of the additional benefit is made through the benefit organization, and the patient normally receives it with the amount of fund benefit payable by the organization. Reimbursement of the Commonwealth additional benefit is subsequently made to the organization by the Commonwealth.

Until 1st January, 1959, organizations' rules generally provided for disallowance of claims for fund benefit in cases of chronic or pre-existing ailments, or after the contributor had received benefit for a certain maximum period each year. As from 1st January, 1959, provision was made for fund benefit to be paid in these cases. The fund benefit generally

payable in such cases is 16s. a day and is paid either from special accounts guaranteed by the Commonwealth, or from the ordinary accounts of the organizations. One of the original conditions of payment was that the treatment was given in a hospital recognized for the purpose of paying this benefit. While this condition still remains as a general rule, provision has been made as from 1st January, 1960, for fund benefit to be paid in certain circumstances to particular cases for treatment in hospitals which are not recognized. If the payments from special accounts exceed the contributions credited to the account, the amount of the deficit is reimbursed by the Commonwealth.

Australian residents and their dependants who receive hospital treatment while temporarily living overseas are eligible to receive the benefit of 8s. a day and the additional benefit to which they are entitled.

Expenditure on hospital benefits in 1960-61 was £18,533,706. In addition, Commonwealth payments towards special account deficits totalled £2,134,304. This does not include expenditure on mental hospitals (*see* para. 3, below).

The following tables show the amount of ordinary benefit paid for each of the years 1956-57 to 1960-61, together with the number of registered organizations, the membership thereof, and payments of Commonwealth additional benefit and hospital fund benefit on account of occupied beds in public and approved private hospitals, for the year 1960-61. As many persons contribute on behalf of both themselves and their dependants, the total number of persons covered by hospital benefit schemes is considerably higher than the number of members. Reliable figures for coverage are not available.

The figures for Commonwealth Benefits in the table below, and for Medical Benefits shown on page 673, exclude payments towards special account deficits.

**HOSPITAL BENEFITS: ORDINARY BENEFITS(a) PAID.**  
(£.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Territories and Overseas.	Australia.
1956-57 ..	3,065,921	1,920,075	1,356,017	714,980	594,007	264,227	57,936	7,973,163
1957-58 ..	2,832,282	2,024,597	1,415,169	735,079	644,149	276,378	63,498	7,991,152
1958-59 ..	3,260,416	2,077,329	1,493,257	746,282	720,164	284,522	65,313	8,647,283
1959-60 ..	3,788,086	2,144,317	1,577,241	820,126	740,266	305,693	71,176	9,446,905
1960-61 ..	3,760,701	2,269,308	1,599,194	824,749	757,225	307,561	74,246	9,592,984

(a) Ordinary benefits are payable in respect of:—(i) beds occupied by pensioners in public hospitals (12s. a day); (ii) beds occupied in certain South Australian hospitals (12s. a day); and (iii) other occupied beds in public hospitals and approved private hospitals (8s. a day).

**HOSPITAL BENEFITS: ADDITIONAL BENEFITS(a), SUMMARY, 1960-61.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.(b)
Registered Organizations	No. 30	(c)47	3	14	10	11	115
Members ..	No. 1,189,756	860,323	311,409	314,793	257,992	109,787	3,044,060
Commonwealth Benefit £	3,789,195	2,154,838	1,043,672	782,707	906,798	263,512	8,940,722
Fund Benefit ..	£ 6,634,704	2,770,653	1,424,092	1,493,463	1,249,950	575,926	14,148,788

(a) An additional benefit of 4s. a day is payable to registered hospital benefit organizations for persons who contribute for a fund benefit of at least 6s. a day but less than 16s. a day, or 12s. a day for those who contribute for a fund benefit of at least 16s. a day. (b) No hospital benefit organization is registered in the Northern Territory or the Australian Capital Territory. Members who live in one of these territories, or who are overseas, receive their Commonwealth additional benefit and fund benefit through membership of an organization registered in one of the States. (c) Includes 17 Bush Nursing Hospitals.

3. Mental Hospitals.—In 1946, when Commonwealth hospital benefits were introduced for patients in public hospitals, no provision was made for patients in mental hospitals. To help meet the cost of maintaining patients in mental hospitals, the Commonwealth Parliament passed the Mental Institutions Benefits Act 1948. This Act ratified agreements with the States, whereunder it was provided that:—

- (a) the Commonwealth would pay the States a benefit equal to the amount being collected by the States from the relatives of patients in mental hospitals by way of charges for maintenance; and
- (b) the States would cease making charges for the maintenance of mental patients.

These agreements operated for five years, and terminated in the latter half of 1954. The amount contributed by the Commonwealth during the operation of the agreements was approximately one shilling a day for each patient. When the agreements terminated, Dr. Alan Stoller, of the Victorian Mental Hygiene Authority, was commissioned to undertake a survey on mental health facilities and needs in Australia. His report was released in May, 1955. The report stated that serious overcrowding existed in the majority of mental hospitals in Australia. The provision of more beds was the most urgent need, but other accommodation and rehabilitation facilities were also required.

Following the report, the Commonwealth made an offer of £10 million to the States, as part of a capital expenditure programme of £30 million on increasing and improving patient accommodation. All States accepted the Commonwealth offer.

The following table sets out the amounts which have been paid to the State Governments by the Commonwealth Government each year from 1955-56 to 1960-61.

**EXPENDITURE ON MENTAL HOSPITALS BY THE COMMONWEALTH GOVERNMENT.**

(£.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
1955-56 ..	208,763	445,747	66,588	12,245	9,984	29,822	773,149
1956-57 ..	383,555	527,213	88,068	128,467	51,855	68,974	1,248,132
1957-58 ..	324,151	545,365	114,104	152,159	29,236	91,384	1,256,399
1958-59 ..	196,831	619,585	118,512	122,328	17,210	45,892	1,120,358
1959-60 ..	359,060	518,271	74,613	91,770	36,799	66,995	1,147,508
1960-61 ..	432,881	83,819	97,642	45,691	15,276	51,933	727,242

Amounts shown in the foregoing table represent payments made during the year shown, under the States Grants (Mental Institutions) Act 1955. The total amounts payable to each State under this Act are in aggregate £10,000,000, to be distributed as follows:—New South Wales, £3,830,000; Victoria, £2,740,000; Queensland, £1,460,000; South Australia, £895,000; Western Australia, £720,000. Tasmania, £355,000; Victoria and Tasmania have received their full entitlement under the Act.

There are no mental hospitals in the Northern Territory or the Australian Capital Territory.

**4. Medical Benefits.**—A medical benefits scheme has operated since July, 1953, being authorized firstly by the National Health (Medical Benefits) Regulations and then by the National Health Act 1953.

The basic principle of the scheme is Commonwealth support of voluntary insurance towards meeting the costs of medical attention. The benefits payable by the Commonwealth are paid either on a fee-for-service basis in respect of the items set out in the first and second schedules to the National Health Act, or in the form of a subsidy not exceeding half of the payments made to doctors by registered organizations under contract arrangements.

In order to qualify for the Commonwealth benefit, a person is required to be insured with a registered medical benefits organization. The organization pays the Commonwealth benefit to the contributor, usually at the time it pays its own benefit. Reimbursement of the Commonwealth benefit is subsequently made to the organization by the Commonwealth.

Provision was made from 1st January, 1959, for payments of fund benefit in cases of pre-existing ailments and long-term illnesses. These payments are made from the special accounts referred to on page 671.

Substantially increased Commonwealth and fund benefits were introduced for a number of medical services from 1st January, 1960. The largest increases were for major operations, where the combined benefits were doubled.

An organization wishing to be registered by the Commonwealth for the purposes of the medical benefits scheme is required to provide to its contributors, subject to its rules, all benefits specified in the first schedule to the National Health Act 1953-1961, at rates not less than those provided by the Commonwealth. The organization must be non-profit-making.

In 1960-61, Commonwealth expenditure on medical benefits was £9,783,423. In addition, Commonwealth payments towards special account deficits totalled £192,731.

The following table shows the number of registered medical benefit organizations, their membership, the number of medical services rendered to members and their dependants, and payments of Commonwealth benefits and medical fund benefits to members of registered organizations. As many persons contribute on behalf of both themselves and their dependants, the total number of persons covered by medical benefit schemes is considerably higher than the number of contributors. Reliable figures for total coverage are not available.

#### MEDICAL BENEFITS: SUMMARY, 1960-61.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia. (a)
Registered Organizations							
Members	No. 26	23	6	9	9	10	83
Medical Services	No. 1,210,614	753,096	296,582	273,778	216,891	99,112	2,850,073
Commonwealth Benefit	£ 8,369,871	5,078,882	2,204,442	2,139,080	1,702,750	628,002	20,123,027
Fund Benefit	£ 4,112,952	2,414,490	1,071,462	1,038,890	851,831	293,798	9,783,423
	£ 6,240,220	2,776,308	1,539,933	1,396,182	1,141,656	471,878	13,566,177

(a) No medical benefit organization is registered in the Northern Territory or the Australian Capital Territory. Members who live in one of those territories, or who are overseas, receive their Commonwealth Benefit and fund benefit through membership of an organization registered in one of the States.

5. **Pensioner Medical Service.**—The Pensioner Medical Service, which commenced on 21st February, 1951, was introduced under the authority of the National Health (Medical Services to Pensioners) Regulations made under the provisions of the National Health Services Act 1948-1949. The service has been continued under the provisions of the National Health Act 1953-1961.

The service provided to eligible pensioners consists of medicines provided free of cost and a medical service of a general practitioner nature such as that ordinarily rendered by a general medical practitioner in his surgery or at the patient's home. Specialist services are not provided. Patients may be charged a small fee by doctors for travelling and attendance outside normal surgery or visiting hours. Doctors participating in the scheme are paid on a fee-for-service basis by the Commonwealth Government.

Persons eligible to receive the benefits of the service are those who satisfy a means test and are receiving an age, invalid or widow's pension under the Social Services Act or a service pension under the Repatriation Act; persons receiving a tuberculosis allowance under the Tuberculosis Act; and dependants of persons eligible for the service.

Since 1st November, 1955, the means test which has applied to new enrolments in the service is the income test that had to be satisfied in order to qualify for a full rate pension as at 31st December, 1953.

The means test does not apply to persons who had applied for and were eligible to receive a pension prior to 1st November, 1955, or to persons receiving a tuberculosis allowance.

At 30th June, 1961, 5,861 doctors were enrolled in the scheme to attend to approximately 766,251 pensioners and their dependants.

During the year ended 30th June, 1961, doctors in the scheme performed 6,996,483 services—visits and surgery consultations—for persons enrolled in the scheme. For these services, they were paid £4,200,273. The average number of services rendered by doctors to each person was 9.1.

6. **Anti-Tuberculosis Campaign.**—The main provisions of the Tuberculosis Act 1948 are as follows:—(a) Section 5 authorizes the Commonwealth to enter into an arrangement with the States for a national campaign against tuberculosis; (b) Section 6 empowers the Commonwealth to take over or provide specified facilities for the diagnosis, treatment and control of tuberculosis; (c) Section 8 provides for the setting up of an advisory council to advise the Commonwealth Minister for Health on matters relating to the national campaign; and (d) Section 9 authorizes the Commonwealth to pay allowances to sufferers from tuberculosis and to their dependants.

Under an arrangement with the Commonwealth Government, each State conducts a campaign against tuberculosis. The Commonwealth Government reimburses the State for all approved capital expenditure in relation to tuberculosis, and for net maintenance expenditure to the extent that it exceeds net maintenance expenditure for the year 1947–48. Thus the States carry out the physical or field work of the national campaign and the Commonwealth acts in an advisory, co-ordinating and financial capacity. For this reason, the Commonwealth has not found it necessary to make much use of its powers under Section 6.

An advisory council, known as the National Tuberculosis Advisory Council, has been set up. There are twelve members, the chairman being the Commonwealth Director-General of Health. Other members are the Commonwealth Director of Tuberculosis, the six State Directors of Tuberculosis, the Consultant (Chest Diseases) of the Department of Repatriation, two specialist private practitioners, and an Administrative Officer of the Commonwealth Department of Health.

To help reduce the spread of infection, the Commonwealth Government pays living allowances to persons suffering from tuberculosis, so that they may give up work and undergo treatment. These allowances have been in operation since 13th July, 1950. Since 5th November, 1961, the rates payable have been:

Married sufferer with a dependent wife . .	£12 2s. 6d. a week.	
Dependent child or children under sixteen years of age—		
First dependent child . . . . .	15s. a week	} (additional to child endowment)
Each dependent child in addition to the first . . . . .	10s. a week	
Sufferer without dependants . . . . .	£7 7s. 6d. a week (reducible to £5 5s. a week if a person is maintained free of charge in an institution)	

There is a means test on income but not on property. The allowance is reduced by the amount by which a person's income from sources other than his allowance exceeds, in the case of a married person, £7 a week, and in the case of a person without a dependent wife, £3 10s. a week.

The following table gives particulars of the number of new cases of tuberculosis notified in Australia for the year 1960–61.

**TUBERCULOSIS: NEW CASES NOTIFIED, 1960-61.**

State or Territory.	Age Group.					Total.
	0–14.	15–34.	35–54.	55 and over.	Not Stated.	
New South Wales ..	67	269	557	544	9	1,446
Victoria . . . . .	74	202	301	202	..	779
Queensland .. .. .	42	126	280	308	17	773
South Australia .. .	28	60	93	63	..	244
Western Australia ..	15	59	101	115	1	291
Tasmania .. .. .	11	35	48	26	..	120
Northern Territory ..	3	19	13	14	1	50
Australian Capital Territory .. .. .	2	6	3	..	..	11
<b>Australia .. .. .</b>	<b>242</b>	<b>776</b>	<b>1,396</b>	<b>1,272</b>	<b>28</b>	<b>3,714</b>



Expenditure by the Commonwealth Government during 1960-61 on its anti-tuberculosis campaign is set out in the following table. The figures for "Maintenance" differ from those in the table shown in Chapter XVIII.—Welfare Services, A. § 2, because they include administrative costs which are not a charge on the National Welfare Fund.

**ANTI-TUBERCULOSIS CAMPAIGN: EXPENDITURE BY THE COMMONWEALTH GOVERNMENT, 1960-61.**  
(£.)

State or Territory.	Allowances.	Maintenance. (a)	Capital.	Total.
New South Wales .. ..	327,994	1,300,221	125,807	1,754,022
Victoria .. ..	197,756	1,102,988	47,946	1,348,690
Queensland .. ..	221,178	743,102	175,451	1,139,731
South Australia .. ..	89,836	412,218	30,656	532,710
Western Australia .. ..	57,427	508,273	21,513	587,213
Tasmania .. ..	52,254	170,000	8,997	231,251
Northern Territory .. ..	..	..	..	..
Australian Capital Territory ..	..	(b) 22,210	..	(b) 22,210
<b>Australia .. ..</b>	<b>946,445</b>	<b>4,259,012</b>	<b>410,370</b>	<b>5,615,827</b>

(a) Includes £80,000 for administrative costs. (b) Consists of £21,000 for cost of manufacturing B.C.G. vaccine for distribution throughout Australia and £1,210 for cost of survey work in the A.C.T.

The following table sets out expenditure by the Commonwealth Government on its anti-tuberculosis campaign since the start of the campaign.

**ANTI-TUBERCULOSIS CAMPAIGN: EXPENDITURE BY THE COMMONWEALTH GOVERNMENT, 1947-48 TO 1960-61.**  
(£.)

Year.	Allowances.	Maintenance.	Capital.	Total.
Total, 1947-48 to 1955-56 ..	11,214,497	17,462,619	7,516,587	36,193,703
1956-57 .. ..	1,460,651	4,754,765	2,381,210	8,596,626
1957-58 .. ..	1,254,693	4,585,215	2,128,462	7,968,370
1958-59 .. ..	1,062,609	4,864,186	1,411,062	7,337,857
1959-60 .. ..	1,025,472	4,414,620	729,236	6,169,328
1960-61 .. ..	946,445	4,259,012	410,370	5,615,827

**7. Anti-Poliomyelitis Campaign.**—The success of the 1954 United States field trials of the poliomyelitis vaccine developed by Dr. Jonas Salk and his associates at the University of Pittsburgh was announced in April, 1955. The Commonwealth Government immediately decided to produce the anti-polio vaccine in Australia.

With the advantage of the experience of the campaigns in the United States and Canada, Australia has adopted a vaccine which has proved to be safe and effective in building up immunity against poliomyelitis.

The vaccine was being produced in Australia by the end of 1955 under the most rigid safety conditions. Plans were made for comprehensive testing procedures to be carried out at many stages both during the production process and with the finished product. These tests ensured the maintenance of safety standards no less rigid than those laid down in other countries where vaccination campaigns were in progress. The Research Laboratory at the Fairfield Hospital, Melbourne, agreed to act as an independent testing authority under an arrangement with the Commonwealth Government, and the pathology department of the University of Melbourne also agreed to conduct tests. No vaccine was released for use unless the searching requirements of the Commonwealth Serum Laboratories, the Fairfield Hospital, and the University of Melbourne were met.

The vaccine was supplied to the States free of charge and the States accepted responsibility for the cost of their particular vaccination programmes. No child can be vaccinated without the consent of his parents or guardian.

Distribution of the Salk poliomyelitis vaccine to the States began in July, 1956. The States were responsible for the organization and running of their own campaigns and for the distribution of the vaccine in accordance with priority groups established by the National Health and Medical Research Council. Up to 1958, priority was given to children in the 0-14 age group, expectant mothers, and persons subjected to special risk. During 1958, this priority was extended to persons in the 15-44 age group.

Vaccination against poliomyelitis takes the form of three injections of the vaccine. The second injection is given approximately four weeks after the first, and the third injection is given not less than 32 weeks after the first.

Where the incidence of the disease in certain areas approaches epidemic proportions, special efforts have been made to vaccinate as soon as possible all persons in the area who give their consent.

The following figures relating to immunization coverage are taken from reports presented by the States at the meeting of the Poliomyelitis Committee of the National Health and Medical Research Council held in July, 1961.

State.	Age Group.	Percentage of Population Completed Course of Immunization.
New South Wales .. .. .	0- 4 .. .. .	67.5
	5- 9 .. .. .	89.2
	10-14 .. .. .	92.6
	15-19 .. .. .	75.3
	20-40 .. .. .	42.6
Victoria .. .. .	0-14 .. .. .	72.0
	15-44 .. .. .	15.6
Queensland .. .. .	0-14 .. .. .	75.0
	15-44 .. .. .	46.0
South Australia .. .. .	0-14 .. .. .	78.0
	15-44 .. .. .	46.0
Western Australia .. .. .	0- 4 .. .. .	64.0
	5- 9 .. .. .	84.0
	10-14 .. .. .	89.0
	Total under 15 years .. .. .	78.0
	Total 15 years and over .. .. .	47.0
	Total 20 years and over .. .. .	41.0
	Total all ages .. .. .	57.0
Tasmania .. .. .	Under 17 years .. .. .	91.7
	17-45 .. .. .	52.0

The number of new cases of poliomyelitis notified in each State is shown for each year from 1956 to 1961 in the following table.

## POLIOMYELITIS: NEW CASES NOTIFIED.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1956 ..	240	251	112	122	401	55	..	13	1,194
1957 ..	58	13	24	16	8	6	..	..	125
1958 ..	23	60	5	10	2	..	..	..	100
1959 ..	16	30	6	1	3	..	..	..	56
1960 ..	11	25	5	12	7	39	17	..	116
1961 ..	175	75	161	43	3	20	3	..	480

8. Free Milk for School Children Scheme.—In 1950, the States Grants (Milk for School Children) Act was passed. The object of this Act was to improve the diet of school children by the addition of a small quantity of milk each day. All children under the age of thirteen years attending public or private primary schools, including nursery schools, kindergartens, crèches and aboriginal missions, are eligible to receive free milk. The cost of the milk plus half the capital or incidental costs, including administrative expenses of the scheme, is reimbursed by the Commonwealth to the States. All States now participate in the scheme. At 30th June, 1961, approximately 1,619,500 children were entitled to receive free milk under this scheme.

Expenditure by the Commonwealth Government under the scheme since its inception has been as follows.

## COMMONWEALTH EXPENDITURE ON MILK FOR SCHOOL CHILDREN SCHEME.

(£.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.
1950-51 to 1955-56 ..	4,081,809	2,040,766	890,940	746,042	531,840	700,665	2,880	41,041	9,035,983
1955-56 ..	1,042,173	540,000	308,000	184,000	137,211	185,000	1,016	14,048	2,411,448
1956-57 ..	1,094,469	600,901	386,999	200,000	158,659	156,275	1,323	16,146	2,614,772
1957-58 ..	1,139,512	677,000	401,000	212,000	153,600	160,433	860	18,186	2,762,591
1958-59 ..	1,190,048	782,623	474,909	235,879	182,249	181,025	2,799	19,104	3,068,636
1959-60 ..	1,286,672	910,000	480,246	275,000	229,872	156,358	10,493	22,874	3,371,515
1960-61 ..	1,279,460	1,020,000	518,244	282,000	225,377	200,075	21,994	24,064	3,571,214

The figures in the foregoing table differ slightly from those in the table shown in Chapter XVIII., Welfare Services, A. § 2, as they include capital and administrative costs. Figures in the latter table represent only expenditure which is a charge on the National Welfare Fund (i.e., the cost of the milk).

## § 3. Commonwealth Laboratories and Research Institutions.

1. National Health and Medical Research Council.—In 1926, the Commonwealth Government established a Federal Health Council, in accordance with a recommendation of the Royal Commission on Health (1925), "for the purpose of securing closer co-operation between the Commonwealth and State Health Authorities". This Council held sessions each year except in 1932. In 1936, the Commonwealth Government decided to create a body with wider functions and representation, and the National Health and Medical Research Council was established with the following functions.

- To advise Commonwealth and State Governments on all matters of public health legislation and administration, on matters concerning the health of the public and on medical research.
- To advise the Commonwealth Government on the expenditure of money specifically appropriated to be spent on the advice of this Council.
- To advise the Commonwealth Government on the expenditure of money on medical research and on projects of medical research generally.
- To advise Commonwealth and State Governments on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition.

The council consists of the Commonwealth Director-General of Health (as chairman), two officers of his department, a representative of the Commonwealth Serum Laboratories Commission, the official head of each State Health Department, and the Director of Public Health for Papua and New Guinea, together with ten other members, one each being nominated by the Australian Medical Association, the Royal Australasian College of Surgeons, the Royal Australasian College of Physicians, the Australian Regional Council of the Royal College of Obstetricians and Gynaecologists, the Australian College of General Practitioners, the College of Pathologists of Australia, the Australian Dental Association, the Australian Paediatric Association, the College of Radiologists of Australasia and the Australian universities having medical schools. An eminent layman and laywoman, appointed by the Commonwealth Minister for Health, also serve on the council.

The first session of the National Health and Medical Research Council was held at Hobart in February, 1937. The fifty-second session was held at Canberra in November, 1961.

Under the Medical Research Endowment Act 1937, the Commonwealth Government has made an annual appropriation of funds to assist:—(a) departments of the Commonwealth or of a State engaged in medical research; (b) universities for the purpose of medical research; (c) institutions and persons engaged in medical research; and (d) in the training of persons in medical research. In 1961–62, this appropriation was £298,500.

Approved research institutions under this system now number 75. For 1962, grants for projects numbered 89 in the following fields:—biochemistry, biophysics, clinical research, dentistry, experimental biology, experimental medicine, experimental pathology, haematology, microbiology, neurology, obstetrics, physiology and pharmacology. In certain instances, equipment and apparatus have been made available by the council; this has greatly facilitated some specialized lines of research. The wide scope of work being carried out is greatly assisted by the formation of committees which meet regularly and advise the council on such subjects as public health, epidemic diseases, occupational health, radioactive isotopes, medical statistics, radio-therapy, medical radiation, antibiotics, tropical physiology and hygiene, ultrasonics, maternal and child welfare, nutrition, dental research, nursing and veterinary public health.

The research work being done under these grants is of a high standard, many of the individual investigators enjoying international reputations. Beyond this practical achievement, the original objectives of the council are being attained by encouraging young graduates to take up research work and by securing a continuity and permanence of medical research in Australia.

Four scholarships are available each year to allow study overseas for one year. In addition, assistance is often given to scholarship-holders to cover part of their travel expenses.

**2. The National Biological Standards Laboratory.**—The Therapeutic Substances Act 1953–1959 provides the Commonwealth with powers to ensure that therapeutic substances used for the prevention, diagnosis and treatment of disease in man and animals are safe, pure and potent.

The Director-General of Health is authorized under this Act to set up laboratories to test such substances. In 1958, the first steps were taken to establish an Australian National Biological Standards Laboratory in Canberra.

The Laboratory is divided into two main divisions, a Biological Division and a Pharmaceutical Division. The Biological Division consists of the Bacterial Products Laboratory, the Viral Products Laboratory and an Antibiotic Products Laboratory. The Pharmaceutical Division consists of an Analytical Chemistry Laboratory, an Endocrine Products Laboratory and a Pharmacology Laboratory.

All these laboratories have now been established and have commenced work with the exception of the Bacterial Products Laboratory.

Samples of therapeutic agents available in Australia are taken and tested for compliance with legal standards. A major function of the Laboratories is the establishment of such standards where none at present exist or present standards are unsatisfactory.

The Laboratories receive international reference standards of biological substances from stocks maintained by the World Health Organization, and will on request issue Australian reference standards which have been assayed against international standards.

3. **Commonwealth Serum Laboratories.**—The laboratories were established in 1916 under the administration of the Department of Trade and Customs and from 1921 to 1961 were operated under the Department of Health. By Act No. 38 of 1961, control of the laboratories passed to the Commonwealth Serum Laboratories Commission on 2nd November, 1961.

The laboratories' basic function is to ensure the supply of essential biological products in accordance with national health needs. This includes:—

- (a) Production and supply of essential biological products;
- (b) research and development relating to biological products and allied fields;
- (c) the maintenance of potential production capacity for use in emergencies.

Since their foundation, the Laboratories have greatly extended in size and scope. They now produce some 450 regular products and many special products for use in the diagnosis, prevention and treatment of human and animal diseases. Professional, technical and other staff total over 1,000.

Products comprise a full range of human bacterial and virus vaccines, veterinary bacterial and virus vaccines, serum products such as blood fractions, a wide variety of antibacterial and antitoxic sera, antivenenes, penicillin, endocrines, including insulin, A.C.T.H., pituitary and thyroid extracts, allergy testing materials and desensitizing preparations, culture media and diagnostic agents for clinical and laboratory work. More recently, tissue culture materials have been prepared and supplied to virus research workers throughout Australia.

Continuous research is conducted into the relevant aspects of microbiology and immunology, and related fields. As the growth of medical and scientific knowledge in Australia and overseas reveals new methods of diagnosis, prevention and treatment of diseases, this information is applied to the preparation of new biological products at the Laboratories, the most recent being the production of a combined vaccine for simultaneous immunization against tetanus, diphtheria, whooping cough and poliomyelitis.

Facilities are maintained for investigation into public health matters which are inconvenient or impracticable to handle at the Commonwealth Health Laboratories or the School of Public Health and Tropical Medicine.

The Laboratories serve as a national centre for the maintenance in Australia of International Standards of the Permanent Commission on Biological Standards (World Health Organization). They act as a regional reference centre for W.H.O. in collating reports of the prevalence of certain infectious diseases, and provide facilities for the identification of these diseases.

Veterinary biological products produced at the Laboratories have given the lead to other producers in Australia, resulting in the diminution of incidence of a number of serious infectious stock diseases.

4. **The Commonwealth Health Laboratories.**—Health Laboratories, of which there are fifteen, are situated in the following towns: Albury, Alice Springs, Bendigo, Cairns, Canberra, Darwin, Hobart, Kalgoorlie, Launceston, Lismore, Port Pirie, Rockhampton, Tamworth, Toowoomba and Townsville. They were established as an essential part of the quarantine system, but were also to undertake research into local health problems and to provide doctors of each district with up-to-date facilities for laboratory investigation and diagnosis. It was realized that co-operation between the general practitioner, with his clinical observations and knowledge of the environment of disease on the one hand, and the staff of a well-equipped laboratory on the other, is essential to the investigation and control of disease.

From this standpoint, the Laboratories have already proved their value in the determination of leptospirosis and endemic typhus in North Queensland, in the investigation of special local problems in Darwin, of undulant fever throughout Australia, of silicosis and tuberculosis at Kalgoorlie and of plumbism at Port Pirie. In these investigations, close co-operation has existed with State and local health and hospital services, especially in Queensland, where collaboration has yielded exceptionally valuable results in differentiating the groups of fevers previously unclassified in that State. In this investigational work, as well as in more routine activities, the Laboratories have at their disposal the full resources and technical and specialist facilities available at the Commonwealth Serum Laboratories and the School of Public Health and Tropical Medicine, Sydney.

These laboratories are unique in that, with the exception of the use of X-rays, they cover all the fields of diagnostic requirements, namely, pathology, public health, haematology, parasitology, mycology, bacteriology and biochemistry.

**5. Commonwealth Acoustic Laboratories.**—Sponsored by the National Health and Medical Research Council, the Acoustic Research Laboratory, Sydney, investigated inter-communication difficulties and noise problems in aircraft and tanks (1942–46). It then investigated the problem of congenital deafness in children resulting from maternal rubella. The Department of Health took over this laboratory in January, 1947, and subsequently established branch laboratories in all other State capitals.

The Acoustic Laboratories Act 1948 gave the Minister for Health the right to establish, maintain and operate, within the Commonwealth, acoustic laboratories for scientific investigations, including tests in respect of hearing aids and their application to the needs of individuals, and in respect of problems associated with noise as it affects individuals. In 1949, the Government approved the provision and maintenance of hearing aids, without charge, to deaf school and pre-school children. This service has since been extended to those whose hearing loss is discovered after leaving school, but who are still under 21 years of age. The Laboratories' functions also include:—(1) provision and maintenance of hearing aids on behalf of Repatriation and other Commonwealth Departments; (2) assistance to the State Education Departments in measuring deafness by providing and maintaining portable audiometers; (3) the making of hearing tests of Civil Aviation aircrew as required by international agreement; and (4) the making of independent tests on behalf of State and other authorities.

The Sydney Laboratory is responsible for staff training, production of equipment, calibration of hearing-aids and audiometers, and the technical administration of branch laboratories.

**6. Commonwealth X-ray and Radium Laboratory.**—The Commonwealth Radium Laboratory was established in 1929 by the Commonwealth Department of Health to act as the custodian of radium and to ensure its equitable distribution and efficient use.

A total of 10 grams of radium, purchased in 1928 by the Commonwealth Government for use in treatment and research, is distributed on loan to treatment centres throughout Australia. Under the terms of this loan, treatment at well-equipped clinics is available to all persons requiring it, irrespective of their ability to pay. This work is co-ordinated by the Department. From time to time, portions of the original radium holding have been remounted by the Department in forms more suitable for recently developed techniques.

In 1935, the Commonwealth Department of Health extended the work of the Commonwealth Radium Laboratory to include the investigation of the physical problems of X-ray therapy. This laboratory, known since then as the Commonwealth X-ray and Radium Laboratory, is maintained by the Commonwealth Department of Health. It is specifically designed for work with X-rays and radioactive materials, and is provided with equipment for research work, including a 400 kV. high-tension generator. The free-air chamber which acts as the Australian standard X-ray dosimeter is maintained in the Laboratory.

Since 1939, the functions of the Laboratory have included investigations of the physical aspects of the diagnostic use of X-rays with particular emphasis on miniature radiography and high-kilovoltage techniques.

The Laboratory co-operates closely with the local physical services which have been developed in the other capital cities of Australia to provide local facilities for the production of radon, for the calibration of X-ray therapy equipment, and for the measurement of radiation exposure of those who work with X-rays and radioactive materials.

A radon service has been operated by the Laboratory since its inception. During the year 1960–61, 39,360 millicuries of radon were prepared and issued from the Laboratory in the form of implants, needles and tubes for use in Victoria, Tasmania, South Australia and Western Australia. A further 27,872 millicuries were issued by the associated centres in Sydney and Brisbane. The corresponding figures for 1959–60 were 32,150 and 23,223 millicuries respectively. The issue of radon from a few centres to serve hospitals all over the continent is an Australian development and enables very efficient use to be made of the radium available.

Through the development of atomic energy programmes overseas, supplies of radio-isotopes have been available for use in Australia since 1946. The Australian Atomic Energy Commission is now able to prepare, in its own reactor, some of the radio-isotopes required in Australia. The Commission has for some years maintained an advisory service in the use of radio-isotopes in industry and non-medical research. However, the Department of Health continues to have the responsibility for procurement and distribution of radio-isotopes in industry and non-medical research.

The importation of radio-isotopes is restricted under the Customs (Prohibited Imports) Regulations. Approval for importation is given either by the Director-General of Health or by the Australian Atomic Energy Commission, depending on the category of use, after it has been established that the isotope will be used safely and usefully. Isotopes used in Australia are obtained from Great Britain, Canada and the United States of America, and are imported through the Laboratory as the central procurement agency.

During 1960-61, 54 different radio-isotopes were imported for all purposes. This represented 1,134 separate deliveries from overseas sources of supply. Of this number of shipments, 445 were for medical purposes, 655 for research purposes and 34 for industrial purposes. In 1959-60, the total deliveries were 820, of which 389 were for medical purposes, 411 for research purposes and 20 for industrial purposes. In addition to the 1,134 deliveries of radio-isotopes arranged by the Laboratory in 1960-61, 66 certificates of approval under the Customs (Prohibited Imports) Regulations were issued to permit the entry of radioactive materials imported directly by local firms from their overseas principals. These radioactive materials were for use in industry, medicine and research. In 1959-60, the corresponding figure was 49. In addition, in 1960-61, 22 certificates of approval were issued to the Australian Atomic Energy Commission to permit the entry of special radio-active materials, including calibrated reference sources, for use within that establishment. Nine shipments of static isotopes were also procured.

Bulk supplies of radio-isotopes for medical purposes are obtained regularly, and these are distributed by the Laboratory as individual doses for use on patients throughout Australia in accordance with a policy developed by the Committee on Radio-isotopes of the National Health and Medical Research Council. These radio-isotopes are issued free of charge.

Ten different radio-isotopes were imported in the year 1960-61 for medical purposes, iodine-131, phosphorus-32, chromium-51 and iron-59 being in greatest demand. The therapeutic use of colloidal gold-198 has decreased considerably in favour of the alternative use of colloidal chromic phosphate and colloidal zirconium phosphate. The demand for special compounds labelled with iodine-131 has been maintained.

In all, approximately 8,700 individual doses of radio-isotopes were issued by the Laboratory during 1960-61 for use on patients. The corresponding figure for 1959-60 was approximately 7,300.

During 1960-61, a radiochemical laboratory and associated equipment were set up in the Laboratory to permit the assay of radio-active material present in minute amounts in the environment, in particular, in foods and in biological material.

Investigations of the degree of protection necessary in particular applications of X-rays and radio-active materials continue to be an important activity of the Laboratory. It prepares specifications of the protection facilities necessary in departments and laboratories employing ionizing radiation in medicine, research and industry, and carries out measurements of radiation levels in existing departments and laboratories. A film-badge service to measure the radiation dose received by those exposed to ionizing radiation is maintained. In 1960-61, 26,238 film-badges were processed and assessed. The corresponding figure for 1959-60 was 21,351 films.

The Laboratory has an extensive library of radiological literature and issues library bulletins at appropriate intervals. Technical communications on topics related to its functions are issued from time to time to medical men engaged in the clinical investigation and treatment of cancer, to research workers, and to those in industry interested in applications of radiation.

Officers of the Laboratory serve on a number of committees, both national and international. The services of the Laboratory are available to all who work with ionizing radiation.

**7. The School of Public Health and Tropical Medicine.**—In March, 1930, the Commonwealth government, under an agreement with the University of Sydney, established a School of Public Health and Tropical Medicine at the University of Sydney, for the purpose of training medical graduates and students in the subjects of public health and tropical medicine. The organization of the Australian Institute of Tropical Medicine at Townsville was merged in the new school, and the staff, equipment and material were transferred to Sydney.

The School comprises sections of Preventive Medicine, Tropical Medicine, Occupational Health, Environmental Health, Biochemistry, Bacteriology and Pathology, Parasitology, Medical Entomology and Medical Statistics. The Child Welfare section of the Institute of Child Health is located at the School, with which it is closely associated. The Occupational Health Section undertakes surveillance of the health of persons employed at the Small Arms

Factory, Lithgow, and at the Munitions Filling Factory, St. Mary's. The library, which includes approximately 17,000 bound volumes and a large collection of official and institutional papers and reports, forms an important information centre in the subjects of public health and tropical medicine.

The work of the school comprises both teaching and investigation. Courses are held for the university post-graduate diploma in public health and the diploma in tropical medicine and hygiene. Lectures are given in public health and preventive medicine as prescribed for the fifth year of the medical curriculum. Courses are also provided in hygiene and social medicine for students of architecture and social studies, in tropical medicine for lay officers, nurses in tropical service, and missionaries, and in industrial health for engineering students. Training is also provided for certain personnel of the armed services, for laboratory workers from various services and institutions, and for post-graduate nursing diploma students.

Investigation covers a wide field of public health and medical subjects, both in the laboratory and in the field. Field work has been carried out in Australia and in Papua, New Guinea, Norfolk Island and Nauru in co-operation with the local administrations and the South Pacific Commission. Limited accommodation and other facilities for investigation can be made available at the school for independent research workers.

**8. Institute of Child Health.**—Associated with the School of Public Health is the Institute of Child Health, part of which is located in the School of Public Health and Tropical Medicine in the grounds of the University of Sydney and part at the Royal Alexandra Hospital for Children, Camperdown. The activities of the Institute are concerned with research into medical and social problems of childhood, undergraduate teaching of students of the Faculty of Medicine in the University of Sydney, post-graduate teaching of doctors and members of associated professions, and collaboration with other bodies concerned with the general field of child health.

The director of the Institute is the Professor of Child Health in the University of Sydney. He is also a senior honorary paediatrician on the staff of the Children's Hospital.

The director is required to co-ordinate and control undergraduate and post-graduate teaching in paediatrics and child health. Each group of medical students attends the Children's Hospital for 10 weeks tuition in paediatrics and child health.

The particular research activities of the Institute vary with the immediate and long term problems which present themselves. Fields of study have included rheumatic fever, scurvy, accidents, prematurity, hypothyroidism and mental deficiency. Studies are undertaken into the problems of infants and children deprived of a normal home life.

Members of the Institute staff are available for consultation by Commonwealth and State authorities and voluntary agencies.

The establishment of the Institute at present consists of the director, two senior medical officers, one child psychiatrist, five other medical officers, a psychologist, a social worker and clerical and stenographic staff.

**9. Commonwealth Bureau of Dental Standards.**—This Bureau is concerned with research, standards, and testing, related to dental and allied materials and processes. It became part of the Department of Health in January, 1947, but for the preceding eight years it was sponsored by the National Health and Medical Research Council. During that time, the former Dental Materials Research Laboratory established itself as a recognized authority in its special field and proved to be of particular value to the defence services, government departments, the dental profession and manufacturers of dental products. By maintaining the quality of dental materials and improving techniques for their use, the Bureau continues to assist the dentist in his service to the community—a service that calls for restorations and appliances of a high degree of precision and permanence under very exacting conditions.

The functions of the Bureau are: (1) original research into dental equipment, materials, techniques and processes; (2) regular reporting of the results of these investigations in recognized Australian scientific journals; (3) the development of specifications for dental materials and equipment, through the Standards Association of Australia, in consultation with a committee representing the Commonwealth Department of Health, the Australian Dental Association, and manufacturers and distributors; and (4) the provision of a consultative service and testing facilities for manufacturers and distributors of dental materials with a view to assisting them in the improvement of existing products and the development of new materials.

**10. The Australian Institute of Anatomy.**—The Australian Institute of Anatomy is situated in a building erected in Canberra by the Commonwealth Government under the Zoological Museum Agreement Act 1924. Prior to the passing of this Act,



the Commonwealth Government had expressed regret that the Australian nation possessed neither a collection of specimens of the unique and fast disappearing fauna of Australia, nor a museum in which such specimens could be preserved for future generations. Sir Colin MacKenzie, the first Director of the Institute of Anatomy, presented his entire private collection of Australian fauna to the Commonwealth Government. This gift was housed in the Institute. The Institute became part of the Commonwealth Department of Health in 1931.

The original collection has been greatly augmented. A list of gifts to the Australian nation may be found in Official Year Book No. 39, page 1277. In addition to these donations of material, there have been several endowments for orations and lectures, particulars of which are shown in previous issues of the Official Year Book.

The Institute consists of a museum section and a laboratory section. In the museum section, which is open to the public, a portion of the original collection of anatomical specimens assembled by Sir Colin MacKenzie is displayed, together with ethnological collections which have been added since the foundation of the Institute. The material has been arranged to present simple lessons in human hygiene, to display the anatomical features and peculiarities of Australian fauna, and to display aspects of the character of Australian aboriginals and natives of Papua and New Guinea.

A number of Health Department sections are now situated in the Institute. These include the Museum and Medical Artistry Section, the Nutrition Section, the Commonwealth Health Laboratory for the Australian Capital Territory, and a Veterinary Laboratory.

The scientific research work of the Institute is now concentrated on problems of nutrition. It takes the form of field surveys of the dietary status of the Australian population and laboratory investigations into the biochemistry of nutrition and metabolism.

#### § 4. Control of Infectious and Contagious Diseases.

1. **General.**—The provisions of the various Acts with regard to the compulsory notification of infectious diseases, and the precautions to be taken against the spread thereof, may be conveniently dealt with under the heading of quarantine and notifiable diseases, including venereal diseases.

2. **Quarantine.**—The Quarantine Act is administered by the Commonwealth Department of Health, and has three sections of disease control, as follows:—(i) human quarantine which controls the movements of persons arriving from overseas until it is apparent that they are free of quarantinable disease; (ii) animal quarantine, which controls the importation of animals and animal products from overseas and the security of other animals present on vessels in Australian ports; and (iii) plant quarantine, which regulates the conditions of importation of all plants and plant products with the object of excluding plant diseases, insect pests and weeds.

In respect of interstate movements of animals and plants, the Act becomes operative only if the Governor-General considers that Commonwealth action is necessary for the protection of any State or States, and in general the administration of interstate movements of animals and plants is left in the hands of the States.

(i) *Human Quarantine.* All passengers and crews arriving in Australia from overseas, whether by air or sea, are subjected to a medical inspection for the purpose of preventing the introduction of disease into Australia. At the major ports, full-time quarantine officers carry out the work, but in the minor ports local doctors act as part-time quarantine officers. In each State, quarantine activities are controlled by the Commonwealth Director of Health, who is a medical officer of the Commonwealth Department of Health.

The main concern of the examining officers is to detect cases of the quarantinable diseases smallpox, cholera, yellow fever, plague and typhus fever. These diseases are not endemic to Australia, and it is of great importance to prevent their entry. Quarantine stations at the major ports and at Darwin and Townsville are kept ready for occupation at all times. In addition, persons arriving in Australia and suffering from infectious diseases such as chicken pox, mumps, scarlet fever and measles are directed to appropriate care and placed in isolation where necessary.

The increasing use of air travel has created particular quarantine problems. Before the use of air transport, persons suffering from an infectious disease would show symptoms on arrival and before disembarkation. Passengers travelling by air, however, can arrive well within the incubation period, and they are, therefore, required to be vaccinated against smallpox before departure. Those from an area infected with cholera or yellow fever

are required to be inoculated, in addition, against the particular disease prevalent in that area. They are also required to report any sickness which they might suffer within the fourteen days after arrival. Passengers arriving in Australia by sea are also required to be vaccinated against smallpox, but exemption is granted to infants under twelve months of age, and to those who hold religious convictions against vaccination or who are suffering from a medical condition which makes vaccination undesirable. All passengers, whether they arrive by sea or air, are required to give their intended place of residence, so that they may be traced if a case of disease occurs among the passengers on the aircraft or ship by which they travelled to Australia.

The number of cases of infectious (non-quarantinable) diseases which were discovered among the passengers and crew of oversea vessels and aircraft calling at Australian ports during the year ended 30th June, 1961, and during the preceding four years, are shown in the following tables.

**HUMAN QUARANTINE: CASES OF INFECTIOUS (NON-QUARANTINABLE) DISEASES ON OVERSEA VESSELS AND AIRCRAFT CALLING AT AUSTRALIAN PORTS, 1960-61.**

Disease.	Number of Oversea Vessels and Aircraft on which Cases were Found.	Number of Cases of Infectious Disease.	
		Passengers.	Crew.
Chicken Pox .. .. .	24	67	3
Infectious Hepatitis .. .. .	8	10	..
Measles .. .. .	31	179	1
Mumps .. .. .	16	29	..
Rubella .. .. .	5	8	..
Scarlet Fever .. .. .	1	1	..
Varicella .. .. .	1	2	..
<b>Total .. .. .</b>	<b>(a) 55</b>	<b>296</b>	<b>4</b>

(a) On some vessels there were cases of more than one disease.

**HUMAN QUARANTINE: OVERSEA VESSELS AND AIRCRAFT ARRIVING IN AUSTRALIA AND CASES OF INFECTIOUS (NON-QUARANTINABLE) DISEASE, FOUND THEREON.**

Year ended 30th June.	Number of Oversea Vessels and Aircraft Cleared.		Number of Oversea Vessels and Aircraft on which Cases were Found.	Number of Cases of Infectious Disease.	
	Ships.	Aircraft.		Passengers.	Crew.
1957 .. .. .	2,702	1,747	53	216	10
1958 .. .. .	2,658	1,881	61	202	20
1959 .. .. .	2,826	1,938	63	344	9
1960 .. .. .	3,046	2,063	61	234	12
1961 .. .. .	3,481	2,354	55	296	4

(ii) *Animal Quarantine.* Animal quarantine, authorized by the provisions of the Quarantine Act 1908-1961, aims at preventing the introduction or spread of animal diseases. It covers the importation of all animals, raw animal products and biological cultures associated with animal diseases, and goods associated with animals.

Of the domesticated animals, only horses, dogs, cats and poultry are admitted from a limited number of countries depending on diseases present in the country of origin. All must be accompanied by health certificates which include prescribed tests. On arrival in Australia, they are subject to quarantine detention.

Zoological specimens are imported into registered zoos, where they remain in permanent quarantine. Circuses are also registered if exotic species of animals are kept. In a somewhat similar manner, animals for scientific purposes are imported to approved laboratories. All these premises are kept under constant surveillance. Raw animal products such as hair, special types of wool, skins and hides, are specially treated under quarantine control, while such items as raw meat, sausage casings and eggs, which cannot be sterilized, are admitted from very few countries. Other items, such as harness fittings, fodder, and ship's refuse, are treated to destroy any possible infection.

The Animal Quarantine Service is also responsible for the health certification of animals for export to overseas countries in accordance with their various requirements.

The Division of Veterinary Hygiene was created in 1926 to deal with the administration of animal quarantine. Formerly, the full responsibility for this administration fell on the Director of Quarantine. The organization of the Division provides an excellent example of Commonwealth and State co-operation. The central administration is situated within the Health Department at Canberra, with a director, an assistant director, and veterinary officers. The Principal Veterinary Officer of the Department of Agriculture in each State is appointed Chief Quarantine Officer (Animals) of the State, and members of his staff Quarantine Officers (Animals). These State officers carry out the quarantine policy formulated by the central administration. Quarantine accommodation is provided in permanent animal quarantine stations at each capital city.

The Division participates in world-wide international notification of the more serious contagious diseases of animals and maintains a census of such diseases throughout the world. Information regarding animal diseases and parasites in Australia is also collected and disseminated by means of service publications. Consultation on technical matters is maintained with various scientific institutions, notably the Commonwealth Scientific and Industrial Research Organization. In matters of policy and the quarantine control of imports, there is a close liaison with the Department of Customs and Excise.

The Division collaborates with the "General" and "Plant" divisions of the quarantine service. Many diseases of animals are communicable to man, and for this reason "Animal" and "General" quarantine administration are in some respects inseparable. Similarly the interests of "Animal" and "Plant" divisions overlap, many items such as insects, fodder and straw being the subject of combined control.

In each alternate year, the director of the Division convenes the Biennial Conference of Principal Commonwealth and State Veterinarians, which meets under the auspices of the Australian Agricultural Council to discuss problems of animal health and disease control and animal quarantine.

(iii) *Plant Quarantine.* Since 1st July, 1909, the importation into Australia of all plants or parts of plants, cuttings, seeds and fruits, whether living or dead, has been subject to an increasingly stringent quarantine with the object of preventing the introduction of insect pests, plant diseases and weeds not yet established in this country. Under the Quarantine Act 1908-1961, quarantine inspectors are required to examine all plant material at the first port of entry and to release only material free from diseases and pests. Everyone entering Australia is required to declare if he or she has any plant material in luggage or personal effects. Heavy penalties are laid down for those found evading the regulations. All plant material entering as cargo must also be declared.

When the Commonwealth became responsible for all plant quarantine, the State Governments agreed to co-operate by providing and maintaining inspection facilities and personnel, for which they are reimbursed by the Commonwealth. In 1921, the administration of the regulations came under the newly-formed Department of Health, and in 1927 the Division of Plant Quarantine was created, under a director who is responsible for policy and legislation and for co-ordinating the work of the State officers, who carry out the detailed administration in their capacity as Commonwealth officers.

Any plant material found carrying diseases or pests, or suspected of doing so, may be ordered into quarantine for remedial treatment, or, if the treatment be impracticable, may be destroyed. The cost of treatment is met by the importer. Regulations governing the different types of plants are based on the following broad principles. (a) The importation of plants likely to be infected with plant diseases, noxious fungi or poison plants is prohibited. (b) Agricultural seed must conform to standards of purity, insect pest and disease freedom. Some seeds are prohibited except with special permission of the Director of Quarantine, who specifies conditions of importation. (c) Many commodities such as hops, cotton, peanuts in shell, potatoes, certain crop seeds, vines and specified plants may be imported only by approved importers under special conditions. (d) Certain plant products such as bulbs and timber (in logs or sawn) from specified areas may be imported only if accompanied by certificates showing that prescribed treatment has been given in the country of origin.

(e) All nursery stock, including bulbs, must be grown in post-entry quarantine. Propagating material for commercial fruits, vines and berries are permitted importation only after being specially screened for virus diseases. It may only be imported by approved importers who are registered for this purpose. The numbers of plants which may be imported in any one year are limited.

3. Notifiable Diseases.—(i) *General.* (a) *Methods of Prevention and Control.* Provision exists in the Health Acts of all States for the compulsory notification of certain infectious diseases and for the application of preventive measures. When any such disease occurs, the local authority must be notified at once, and in some States notification must be made also to the Health Department.

As a rule, the local authorities are required to report from time to time to the Central Board of Health in each State on the health, cleanliness and general sanitary state of their several districts, and on the appearance of certain diseases. Regulations provide for the disinfection and cleansing of premises, and for the disinfection or destruction of bedding, clothing or other articles which have been exposed to infection. Regulations also provide that persons suspected to be suffering from or to be carriers of infectious disease must submit to clinical and laboratory examination. Persons suffering from certain communicable diseases, for example, smallpox and leprosy, may be detained in isolation.

(b) *Diseases Notifiable and Cases Notified in each State and Territory.* The following table, which has been compiled by the Commonwealth Department of Health, shows for each State and Territory the diseases notifiable in 1960 and the number of cases notified. Diseases not notifiable in a State or Territory are indicated by an asterisk.

**DISEASES NOTIFIABLE IN EACH STATE AND TERRITORY OF AUSTRALIA AND NUMBER OF CASES REPORTED DURING 1960.**

Disease.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Acute rheumatism .. .. .	63	91	126	2	14	(a) 6	4	1	307
Amoebiasis .. .. .	*	1	3	2	10	..	1	1	18
Ankylostomiasis .. .. .	78	..	82	..	..	..	298	..	458
Anthrax .. .. .	*	4	..	..	..	..	..	..	4
Bilharziasis .. .. .	*	..	..	..	..	..	..	..	..
Breast abscess .. .. .	11	56	71	*	*	*	(b)—	1	139
Brucellosis .. .. .	8	17	..	..	7	1	..	..	33
Chorea .. .. .	7	8	..	..	3	..	1	..	19
Dengue .. .. .	..	..	(c) 1	..	..	..	..	..	1
Djarrhoea, infantile .. .. .	288	630	175	3	30	34	318	45	1,523
Diphtheria .. .. .	10	4	6	1	5	2	..	..	28
Dysentery, bacillary .. .. .	*	72	47	73	104	..	61	17	374
Encephalitis .. .. .	17	22	5	26	..	..	2	2	74
Erythema nodosum .. .. .	..	20	..	2	1	..	..	1	24
Filariasis .. .. .	*	..	..	..	..	..	..	..	..
Homologous serum jaundice .. .. .	*	1	*	..	..	*	..	..	1
Hydatid .. .. .	*	21	..	1	1	15	..	..	38
Infectious hepatitis .. .. .	4,924	2,385	719	1,121	256	44	23	88	9,560
Influenza .. .. .	*	..	*	12	*	*	*	*	12
Lead poisoning .. .. .	*	..	64	..	2	..	..	..	66
Leprosy .. .. .	..	..	2	..	18	..	21	..	41
Leptospirosis .. .. .	13	..	105	..	9	*	..	..	127
Leukaemia .. .. .	*	(d) 37	*	*	*	*	*	*	37
Malaria .. .. .	*	8	58	1	4	1	15	1	88
Meningococcal infection .. .. .	62	67	30	3	4	28	5	1	200
Ophthalmia .. .. .	*	*	*	..	67	..	..	12	79
Ornithosis .. .. .	2	..	(c) 2	2	2	*	..	..	8
Paratyphoid fever .. .. .	2	1	..	1	4	2	..	..	10
Poliomyelitis .. .. .	11	25	5	12	7	39	17	..	116
Puerperal fever .. .. .	56	7	29	3	1	1	3	..	100
Q-fever .. .. .	*	*	255	*	*	*	*	*	255
Rubella .. .. .	*	528	12	105	127	..	1	5	778
Salmonella infection .. .. .	*	*	*	72	28	..	2	6	108
Scarlet fever .. .. .	412	776	128	168	38	38	..	3	1,563
Staphylococcal infection (infancy) .. .. .	(e) 137	(c) 117	*	*	*	*	*	*	254
Tetanus .. .. .	..	10	42	3	8	*	1	..	64
Trachoma .. .. .	..	..	..	..	437	*	198	..	635
Trichinosis .. .. .	..	..	..	..	..	..	..	..	..
Tuberculosis .. .. .	1,533	892	844	288	316	114	54	16	4,057
Typhoid fever .. .. .	7	5	7	1	1	1	4	..	26
Typhus—flea, mite or tick borne .. .. .	1	..	13	..	..	..	..	..	14

(a) Notifiable from 1960. (b) Notifiable from December, 1960. (c) Notifiable from December, 1959. (d) Notifiable from October, 1959. (e) Notifiable from January, 1959.

\* Not notifiable.

NOTE.—No cases of cholera, plague, smallpox, epidemic typhus or yellow fever were notified.

(ii) *Infectious Hepatitis.* As will be seen from the table below, there has been a marked increase in the cases notified of this disease during the past four years, from 5,599 in 1958 to 12,687 in 1961. The age group most affected is 5-9 years.

INFECTIOUS HEPATITIS: CASES NOTIFIED.

State.	1958.	1959.	1960.	1961.
New South Wales .. .. .	3,262	3,183	4,924	5,840
Victoria .. .. .	1,053	1,452	2,385	3,557
Queensland .. .. .	469	762	719	1,029
South Australia .. .. .	307	749	1,121	1,360
Western Australia .. .. .	396	142	256	263
Tasmania .. .. .	51	21	44	304
Northern Territory .. .. .	45	53	23	55
Australian Capital Territory .. .. .	16	16	88	279
<b>Australia .. .. .</b>	<b>5,599</b>	<b>6,378</b>	<b>9,560</b>	<b>12,687</b>

(iii) *Venereal Diseases.* The prevention and control of venereal diseases is the responsibility of State Health Departments. The necessary powers for the purpose are provided either by a special Venereal Diseases Act or by a special section of the Health Act. These Acts make it obligatory upon the patient to report for and continue under treatment until certified as cured. Treatment of venereal disease must be by a registered medical practitioner. Facilities for treatment of venereal disease free of charge may be arranged at subsidized hospitals or at special clinics. Drugs and instruments required for the treatment of venereal disease may be sold only by a registered pharmaceutical chemist on the prescription of registered medical practitioners.

Penalties may be imposed on a patient who fails to continue under treatment. Clauses are inserted in the Acts which aim at preventing the marriage of any infected person, or the employment of an infected person in the manufacture or distribution of foodstuffs.

## § 5. Commonwealth Grants to Organizations Associated with Public Health.

1. *General.*—In addition to providing the services mentioned in §§ 1-4 above, the Commonwealth Government gives financial assistance to certain organizations associated with public health. Examples of organizations included in this category are the National Fitness Organizations, the Royal Flying Doctor Service of Australia, the Red Cross Blood Transfusion Service, and the Lady Gowrie Child Centres.

2. *National Fitness.*—In 1938, arising from a recommendation of the National Health and Medical Research Council, the Commonwealth Government appointed a Commonwealth Council for National Fitness, under the Commonwealth Minister for Health, to effect collaboration of Commonwealth, State and Local Government authorities in the National Fitness Movement. Following the recommendations of the first Commonwealth Council meeting in 1939, the Commonwealth Government agreed to make available an annual sum of £20,000 for five years, and grants were allocated to each State for purposes of organization and to each of the six Australian universities to establish lectureships in physical education. In June, 1942, this grant was increased to £72,500 to include grants to State Education Departments and for the work in the Australian Capital Territory.

The functions of autonomous National Fitness Councils operating in each State are connected with voluntary leader training, camping and hostels, assisting the work of voluntary youth and amateur sports organizations, and providing advisory services to these organizations.

The six State education departments spend their Commonwealth grants to assist the promotion of physical education programmes in schools and teachers' colleges. This is done mainly through the organization of training courses for teachers and the development of school camping, which in most States is part of the regular school physical education programme. In New South Wales and Victoria, holiday play centres and camps have become a special feature of the programmes, while Queensland has led the way in the provision of school swimming pools financed in co-operation with parent organizations.

In the universities, departments of physical education provide either a diploma course in physical education or a major course in physical education as part of a degree course.

An annual grant of £2,000 is allocated in the Australian Capital Territory, and is distributed on a £1 for £1 basis to youth and sports organizations for the purchase of equipment, the development of coaching schemes, and the extension of club and camp facilities.

**3. Royal Flying Doctor Service of Australia.**—The purpose of the Royal Flying Doctor Service of Australia is to provide medical and dental services to white and aboriginal persons in isolated areas. Most remote homesteads are equipped with two-way radio sets which they use for receiving ordinary radio programmes, participating in the School of the Air, and for contacting each other. In cases of minor illness or injury, they also use these sets to seek medical advice. If the illness or injury is serious, a doctor flies to the homestead and, if necessary, flies the patient to the nearest hospital. Standard medicine chests are supplied by the service. Each chest contains a first-aid book and instructions on the use of the various drugs and medical supplies in it. Further instructions are given by doctors over the air.

From time to time, special purpose work is undertaken in connexion with flood relief, searching for lost parties and co-ordinating cattle movements.

The service is not conducted with a view to profit. In some sections, small charges are made for particular services or a fixed annual charge is levied on graziers. Other sections rely on voluntary contributions from those who use their services. Donations and government contributions help to provide much of the overhead and capital expenditure incurred each year.

The Commonwealth has made an annual grant to this organization for operational expenses since 1936. Prior to that, from 1928 to 1931, the Commonwealth subsidized the Australian Inland Mission Aerial Medical Service. The Commonwealth annual grant to the Royal Flying Doctor Service of Australia towards maintenance was increased from £25,000 to £40,000 per annum for four years from 1st July, 1958. The Commonwealth grant towards capital expenditure was increased from £15,000 to £27,500 per annum for the same period. This capital expenditure grant is made on a £1 for £1 basis, in respect of approved projects.

The Royal Flying Doctor Service of Australia is conducted by a federal council comprising representatives of six sections, namely Queensland, New South Wales, Victoria, South Australia, Western Australia and the Eastern Goldfields of Western Australia. The Queensland, New South Wales and South Australian sections are centred in their own States but in Western Australia there are three centres, that in the far north being under the control of the Victorian section, and that in the south-east under the control of the Eastern Goldfields section. The third one, which has bases at Port Hedland and Meekatharra, is sponsored by the Western Australian section.

**4. Red Cross Blood Transfusion Service.**—The Australian Red Cross Society conducts a blood transfusion service in all States.

Before 1952–53, the cost of the Red Cross Blood Transfusion Service was borne by the Red Cross Society with assistance from the State Governments. In 1952, the Commonwealth made an amount of £50,000 available to the Red Cross Society through the State Governments. The States were to continue to assist the society at the same level as previously and make arrangements with the society to share any deficit still remaining.

The Commonwealth recognized that the proper maintenance of a blood transfusion service was of the utmost importance to the welfare of the community, and that the service was one eminently suited for operation by the Australian Red Cross Society. In March, 1954, therefore, the Commonwealth offered each State Government a grant equal to 30 per cent. of the certifiable operating expenses incurred by the Society in the conduct of the blood transfusion service in that State. The grant was to be made subject to the condition that the government of the State concerned agreed to meet 60 per cent. of the cost of operating the service in that State, leaving the society to meet the remaining 10 per cent. of the cost. All States accepted this proposal. The payments made by the Commonwealth government to the State governments in 1960–61 were as follows:—New South Wales, £41,800; Victoria, £49,994; Queensland, £28,182; South Australia, £17,535; Western Australia, £14,503; Tasmania, £5,520; Total, £157,534.

5. **Lady Gowrie Child Centres.**—In 1940, the Commonwealth Government established a pre-school demonstration centre in each of the six capital cities. These centres are known as the Lady Gowrie Child Centres and are administered by the Australian Pre-school Association for the Commonwealth Department of Health.

The specialized function of the centres is that of demonstration and research, and the programmes are carried out under the supervision of the Federal Pre-school Officer. Each centre is concerned with a study of the factors promoting and retarding physical and mental health in young children, and in demonstrating an educational health programme based on the developing needs of children aged 3 to 6 years.

The centres are used for observation by university students of Medicine, Psychology, Education, Social Studies, Architecture, Physical Education, Teacher Training Colleges, Nursing Colleges and Domestic Science.

Fuller information concerning these centres was given in earlier issues of the Year Book (see No. 44, p. 536).

### C. INSTITUTIONS.

#### § 1. General.

Institutions referred to in this section are classified into the following groups:—

- (i) Public (other than mental);
- (ii) Mental;
- (iii) Private;
- (iv) Repatriation;
- (v) Isolation (leper).

#### § 2. Public Hospitals (other than Mental Hospitals).

1. **General.**—The statistics shown under this heading refer to all institutions affording hospital relief, whether general or special, with the exception of mental hospitals, repatriation hospitals, leper hospitals, and private hospitals conducted commercially. They include hospitals wholly provided for by the State, hospitals partially subsidized by the State or by State endowments but receiving also private aid, and hospitals established and endowed by individuals for the benefit of the needy generally. All the State capitals have several large and well-equipped hospitals, and there is at least one in every important town. In large centres, there are special hospitals for infectious diseases, tubercular patients, women, children, and patients suffering from chronic diseases.

The particulars given herein refer to public hospitals at the latest available date.

2. **Number, Staff and Accommodation.**—Details regarding the number of public hospitals, staff, and accommodation for the year 1959–60 are given in the following table.

**PUBLIC HOSPITALS: NUMBER, STAFF AND ACCOMMODATION, 1959–60.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Number of Hospitals	267	141	139	65	93	28	4	1	738
Medical Staff—									
Honorary ..	4,496	1,531	29	518	379	97	..	65	7,115
Salaried ..	809	815	796	185	120	134	15	4	2,878
Total ..	5,305	2,346	825	703	499	231	15	69	9,993
Nursing Staff ..	13,568	9,432	5,529	2,790	3,017	1,290	162	235	36,023
Accommodation—									
Number of beds and cots ..	22,883	12,817	12,422	4,409	4,505	2,468	441	305	60,250

3. **In-Patients Treated.**—The following table furnishes particulars of in-patients treated. The figures shown refer to cases, that is to say, a person who is admitted to hospital twice during a year is counted twice. Newborn babies are excluded unless they remain in hospital after their mothers' discharge.

## PUBLIC HOSPITALS: IN-PATIENTS TREATED, 1959-60.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
<b>In-patients at beginning of year—</b>									
Males ..	7,330	3,750	3,819	1,183	1,398	883	165	79	18,607
Females ..	9,832	5,385	4,300	1,529	1,541	959	157	111	23,814
Persons ..	17,162	9,135	8,119	2,712	2,939	1,842	322	190	42,421
<b>Admissions and re-admissions during year—</b>									
Males ..	181,773	94,495	96,309	35,255	40,770	13,969	3,747	2,829	469,147
Females ..	281,547	159,532	120,175	44,981	47,937	21,072	4,255	5,044	684,543
Persons ..	463,320	254,027	216,484	80,236	88,707	35,041	8,002	7,873	1,153,690
<b>Total in-patients (cases) treated—</b>									
Males ..	189,103	98,245	100,128	36,438	42,168	14,852	3,912	2,908	487,754
Females ..	291,379	164,917	124,475	46,510	49,478	22,031	4,412	5,155	708,357
Persons ..	480,482	263,162	224,603	82,948	91,646	36,883	8,324	8,063	1,196,111
<b>Discharges—</b>									
Males ..	174,283	89,644	92,457	33,683	39,346	13,340	3,626	2,758	449,137
Females ..	275,354	155,521	117,427	43,818	46,937	20,519	4,177	4,951	668,704
Persons ..	449,637	245,165	209,884	77,501	86,283	33,859	7,803	7,709	1,117,841
<b>Deaths—</b>									
Males ..	7,706	4,893	3,646	1,504	1,361	603	123	77	19,913
Females ..	6,266	3,949	2,572	1,129	946	493	77	62	15,494
Persons ..	13,972	8,842	6,218	2,633	2,307	1,096	200	139	35,407
<b>In-patients at end of year—</b>									
Males ..	7,114	3,708	4,025	1,251	1,461	909	163	73	18,704
Females ..	9,759	5,447	4,476	1,563	1,595	1,019	158	142	24,159
Persons ..	16,873	9,155	8,501	2,814	3,056	1,928	321	215	42,863
<b>Average daily number resident ..</b>	17,644	8,808	7,961	2,683	2,913	1,809	309	196	42,323

In addition to those admitted to the hospitals, there are large numbers of out-patients treated. During 1959-60, there were 1,155,822 out-patients treated in New South Wales, 571,020 in Victoria, 576,191 in Queensland, 142,881 in South Australia, 124,000 (estimated) in Western Australia, 89,655 in Tasmania, 82,312 in the Northern Territory and 12,544 in the Australian Capital Territory, making an estimated total for Australia of 2,754,400. The figures quoted refer to cases, as distinct from persons and attendances.

4. Revenue and Expenditure.—Details of the revenue and expenditure for the year 1959-60 are shown in the next table. The revenue includes the Commonwealth Hospital Benefits Scheme.

PUBLIC HOSPITALS: REVENUE AND EXPENDITURE, 1959-60.  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'land	S. Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Aus- tralia.
<b>Revenue—</b>									
Government aid ..	25,350	16,033	11,045	5,237	5,691	1,915	921	442	73,881
Commonwealth Hospital Benefits, etc.		2,507	2,604	1,013	1,079		44		
Municipal aid ..	(a)	21	..	187	1	..	..	..	209
Public subscriptions									
Legacies, etc. ..	149	1,922	25	78	13	..	..	..	2,187
Fees ..	9,855	5,598	1,461	1,369	1,796	620	67	118	20,884
Other ..	488	497	200	531	89	8	..	2	1,815
<b>Total ..</b>	<b>35,842</b>	<b>26,578</b>	<b>15,335</b>	<b>8,415</b>	<b>8,669</b>	<b>2,543</b>	<b>1,032</b>	<b>562</b>	<b>98,976</b>
<b>Expenditure—</b>									
Salaries and wages	21,316	11,904	7,310	3,894	4,342	1,685	468	362	51,281
Upkeep and repair of buildings and grounds ..	1,002	555	509	364	553	50	42	23	3,098
All other ordinary ..	10,050	8,608	5,909	2,057	2,354	829	345	154	30,306
Capital ..	3,256	4,244	1,340	2,065	1,571	639	177	10	13,302
<b>Total ..</b>	<b>35,624</b>	<b>25,311</b>	<b>15,068</b>	<b>8,380</b>	<b>8,820</b>	<b>3,203</b>	<b>1,032</b>	<b>549</b>	<b>97,987</b>

(a) Included in "Other".



5. Summary.—A summary, for the years 1955–56 to 1959–60, of the number of public hospitals in Australia, medical and nursing staffs, beds, admissions, in-patients treated, out-patients, deaths, average daily number resident, revenue and expenditure is given in the following table.

**PUBLIC HOSPITALS: AUSTRALIA.**

Particulars.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Hospitals .. .. .	721	731	737	735	738
Medical Staff .. .. .	8,103	8,573	9,094	9,406	9,993
Nursing Staff .. .. .	29,070	31,006	32,436	34,372	36,023
Beds and cots .. .. .	53,550	55,801	56,618	58,544	60,250
Admissions during year .. .. .	994,466	1,028,320	1,085,503	1,133,172	1,153,690
Total in-patients (cases) treated .. .. .	1,032,668	1,065,045	1,123,799	1,172,861	1,196,111
Out-patients (cases) (a) .. .. .	2,587,000	2,583,600	2,641,000	2,665,700	2,754,400
Deaths .. .. .	31,417	33,267	33,689	35,848	35,407
Average daily number resident .. .. .	38,341	39,085	40,061	41,637	42,323
Revenue .. .. . £'000	71,612	82,182	87,692	90,512	98,976
Expenditure .. .. . £'000	74,568	83,922	86,817	90,157	97,987

(a) Partly estimated.

**§ 2. Mental Hospitals.**

1. General.—The methods of compiling statistics of mental patients are fairly uniform throughout the States, but there is an element of uncertainty about possible differences in diagnosis in the early stages of the disease. Statistics of mental hospitals (except those relating to revenue and expenditure) include particulars of the two licenced houses in New South Wales. The figures exclude those of reception houses and observation wards in gaols. There are no mental hospitals in the Northern Territory or the Australian Capital Territory.

2. Hospitals, Staff and Accommodation.—Particulars regarding the number of hospitals, the medical and nursing staff, and accommodation are given in the following table for the year 1960. Figures for Victoria and Western Australia relate to 31st December, 1960. Figures for the other States relate to 30th June, 1960.

**MENTAL HOSPITALS: NUMBER, STAFF, ACCOMMODATION, 1960.**

Particulars.	N.S.W.	Vic. (a)	Q'land. (b)	S. Aust.	W. Aust. (a)	Tas.	Aust.
Number of Hospitals .. .. .	15	11	5	2	4	1	38
Medical Staff—							
Males .. .. .	63	116	14 3	13 1	8	5	232
Females .. .. .	9						
Persons .. .. .	(c) 72	116	17	14	8	5	232
Nursing Staff and Attendants—							
Males .. .. .	1,193	1,155	652	228	202	99	3,529
Females .. .. .	1,285	1,247	512	240	125	89	3,498
Persons .. .. .	2,478	2,402	1,164	468	327	188	7,027
Accommodation—							
Number of beds and cots .. .. .	13,245	8,950	4,573	2,727	1,681	850	32,026

(a) 31st December, 1960. (b) Includes the Epileptic Home. (c) In addition, there are 44 visiting specialists who are paid for their services.

3. Patients.—Information regarding patients treated during 1959–60 is given in the following table.

## MENTAL HOSPITALS: PATIENTS, DEATHS, ETC., 1959-60.

Particulars.	N.S.W.	Vic. (a)	Q'land. (b)	S. Aust.	W. Aust. (a)	Tas.	Aust.
<b>Number of patients at beginning of year—</b>							
Males .. .. .	6,798	4,796	2,479	1,428	1,088	382	16,971
Females .. .. .	6,993	4,943	2,145	1,215	878	398	16,572
<i>Persons</i> .. .. .	13,791	9,739	4,624	2,643	1,966	780	33,543
<b>Admissions and re-admissions (excluding absconders retaken and transfers from other mental hospitals)—</b>							
Males .. .. .	1,154	1,892	754	357	181	224	4,562
Females .. .. .	1,341	1,524	699	323	120	285	4,292
<i>Persons</i> .. .. .	2,495	3,416	1,453	680	301	509	8,854
<b>Number of persons treated during year—</b>							
Males .. .. .	7,952	6,688	3,233	1,785	1,269	606	21,533
Females .. .. .	8,334	6,467	2,844	1,538	998	683	20,864
<i>Persons</i> .. .. .	16,286	13,155	6,077	3,323	2,267	1,289	42,397
<b>Discharges (including absconders not retaken)—</b>							
Males .. .. .	1,160	1,595	684	300	112	207	4,058
Females .. .. .	1,455	1,175	766	289	74	235	3,994
<i>Persons</i> .. .. .	2,615	2,770	1,450	589	186	442	8,052
<b>Deaths—</b>							
Males .. .. .	474	334	129	91	64	27	1,119
Females .. .. .	532	451	134	79	46	33	1,275
<i>Persons</i> .. .. .	1,006	785	263	170	110	60	2,394
<b>Number of patients at end of year—</b>							
Males .. .. .	6,318	4,759	2,420	1,394	1,093	372	16,356
Females .. .. .	6,347	4,841	1,944	1,170	878	415	15,595
<i>Persons</i> .. .. .	12,665	9,600	4,364	2,564	1,971	787	31,951
<b>Average daily number of patients resident—</b>							
Males .. .. .	5,888	4,119	2,338	1,394	985	375	15,099
Females .. .. .	5,884	4,245	1,760	1,113	700	475	14,177
<i>Persons</i> .. .. .	11,772	8,364	4,098	2,507	1,685	850	29,276
<b>Number of patients at end of year per 1,000 of population—</b>							
Males .. .. .	3.23	3.27	3.17	2.83	2.93	2.16	3.14
Females .. .. .	3.29	3.38	2.65	2.45	2.45	2.42	3.06
<i>Persons</i> .. .. .	3.26	3.32	2.92	2.64	2.70	2.29	3.10
<b>Average number of patients resident in mental hospitals per 1,000 of population—</b>							
Males .. .. .	3.04	2.86	3.10	2.87	2.68	2.18	2.93
Females .. .. .	3.08	2.99	2.43	2.36	1.97	2.76	2.81
<i>Persons</i> .. .. .	3.06	2.93	2.77	2.62	2.33	2.47	2.87

(a) Year ended 31st December, 1960.

(b) Includes persons treated at the Epileptic Home.

Persons who are well advanced towards recovery are allowed to leave the hospitals and live with their relatives or friends, but they are under supervision and their names are kept in the records. These persons have been included in the table above as patients at the end of the year.

4. Revenue and Expenditure, 1959-60.—Mental hospitals are maintained by the State Governments. They derive a small proportion of their revenue from other sources (chiefly patients' fees, pharmaceutical benefits and sale of farm produce), but in 1959-60 this source provided less than six per cent. of all their revenue. For a statement on the funds provided by the Commonwealth Government for mental hospitals, see para. 3, Mental Hospitals, page 671.

In New South Wales, the expenditure includes the cost of Broken Hill patients treated in South Australian mental hospitals.

MENTAL HOSPITALS: FINANCES, 1959-60.  
(£.)

Particulars.	N.S.W.	Vic.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	Australia.
<i>Revenue (excluding Government Grants)—</i>							
Fees of patients	449,811	268,444	77,408	60,018	43,547	10,714	909,942
Other ..	94,263	62,660	11,497	40,435	18,255	1,675	228,785
<i>Total</i>	<i>544,074</i>	<i>331,104</i>	<i>88,905</i>	<i>100,453</i>	<i>61,802</i>	<i>12,389</i>	<i>1,138,727</i>
<i>Expenditure—</i>							
Salaries and wages	3,296,512	3,527,553	1,363,481	627,375	566,973	307,612	9,689,506
Upkeep and repair of buildings, etc.	436,208	290,221	9,285	70,424	62,223	11,454	879,815
All other ..	2,066,157	2,612,723	857,579	414,708	271,449	150,785	6,373,401
Capital(b) ..	1,174,543	1,425,119	269,495	77,650	52,279	131,373	3,130,459
<i>Total</i> ..	<i>6,973,420</i>	<i>7,855,616</i>	<i>2,499,840</i>	<i>1,190,157</i>	<i>952,924</i>	<i>601,224</i>	<i>20,073,181</i>

(a) Includes the Epileptic Home. (b) Capital expenditure includes purchases of land, cost of new buildings and additions to buildings.

5. Summary for Australia.—The following table gives a summary relating to mental hospitals in Australia for each of the years 1955-56 to 1959-60.

MENTAL HOSPITALS: SUMMARY, AUSTRALIA.

Particulars.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
Hospitals .. .. .	35	36	37	38	38
Medical Staff .. .. .	161	188	206	219	232
Nursing Staff and Attendants .. .. .	6,030	6,470	6,761	6,895	7,027
Beds .. .. .	30,089	30,617	31,587	32,025	32,026
Admissions .. .. .	7,524	8,276	9,244	9,477	8,854
Discharged as recovered, relieved, etc.	4,235	5,282	6,288	6,797	8,052
Deaths .. .. .	2,529	2,672	2,468	2,658	2,394
Patients at end of year .. .. .	32,453	32,775	33,521	33,543	31,951
Average daily number of patients resident .. .. .	28,639	29,032	29,323	29,553	29,276
Revenue (excluding Government Grants) .. .. .	£ 803,873	916,201	1,026,689	1,070,673	1,138,727
Total Expenditure £ .. .. .	£ 15,579,361	17,553,438	18,236,114	18,195,831	20,073,181

6. **Number of Mental Patients.**—The total number returned as under treatment at the end of each year from 1956 to 1959 showed a slight increase, but the proportion to total population showed a slight decline. In 1960, however, the number under treatment decreased and the proportion to total population showed a greater percentage decline. A more rational attitude towards the treatment of mental cases has resulted in a greater willingness in recent years to submit afflicted persons to treatment at an early stage, and an increase in the number of recorded cases, therefore, would not necessarily imply an increase in mental diseases. The difference between States in the number of patients in mental hospitals per 1,000 of population may to some extent be the result of differences in practice. Figures for Victoria and Western Australia relate to 31st December of the year shown; figures for the other States relate to 30th June of the year shown.

**PATIENTS IN MENTAL HOSPITALS.**

State.	1956.	1957.	1958.	1959.	1960.
<b>NUMBER.</b>					
New South Wales .. ..	13,767	13,741	13,761	13,792	12,665
Victoria .. ..	8,713	9,187	9,800	9,739	9,600
Queensland(a) .. ..	4,735	4,657	4,610	4,624	4,364
South Australia .. ..	2,658	2,592	2,667	2,643	2,564
Western Australia .. ..	1,814	1,845	1,926	1,966	1,971
Tasmania .. ..	766	753	757	779	787
<b>Australia .. ..</b>	<b>32,453</b>	<b>32,775</b>	<b>33,521</b>	<b>33,543</b>	<b>31,951</b>

**PER 1,000 OF POPULATION.**

New South Wales .. ..	3.84	3.75	3.69	3.62	3.26
Victoria .. ..	3.33	3.43	3.57	3.46	3.32
Queensland(a) .. ..	3.43	3.30	3.20	3.15	2.92
South Australia .. ..	3.06	2.90	2.90	2.80	2.64
Western Australia .. ..	2.66	2.65	2.72	2.74	2.70
Tasmania .. ..	2.41	2.31	2.27	2.30	2.29
<b>Australia .. ..</b>	<b>3.43</b>	<b>3.39</b>	<b>3.39</b>	<b>3.32</b>	<b>3.10</b>

(a) Includes persons treated at the Epileptic Home.

**§ 3. Private Hospitals.**

1. **General.**—In addition to the other hospitals referred to in previous sections, there are private hospitals licensed by the legislation of the States. Those hospitals shown in the following table refer to those licensed private hospitals which have been approved for the payment of hospital benefits under the Commonwealth National Health Act 1953–1961.

2. **Hospitals, Accommodation and Patients.**—The number of these hospitals and the number of beds and patients are shown in the following table.

PRIVATE HOSPITALS: AUSTRALIA.

State.	1956.	1957.	1958.	1959.	1960.
<b>NUMBER OF HOSPITALS.</b>					
New South Wales .. .. .	389	398	410	429	444
Victoria .. .. .	228	226	240	239	256
Queensland .. .. .	59	61	69	74	79
South Australia .. .. .	120	125	125	140	144
Western Australia .. .. .	39	52	60	63	74
Tasmania .. .. .	20	20	21	28	33
Northern Territory .. .. .	..	..	..	..	..
Australian Capital Territory .. .. .	..	..	..	..	..
<b>Australia .. .. .</b>	<b>855</b>	<b>882</b>	<b>925</b>	<b>973</b>	<b>1,030</b>

<b>NUMBER OF HOSPITAL BEDS.</b>					
New South Wales .. .. .	6,755	7,001	7,438	8,172	8,864
Victoria .. .. .	4,335	4,416	4,827	4,830	5,013
Queensland .. .. .	1,662	1,765	1,877	1,949	2,162
South Australia .. .. .	2,199	2,242	2,382	2,742	2,796
Western Australia .. .. .	1,209	1,450	1,554	1,605	1,799
Tasmania .. .. .	502	481	478	607	665
Northern Territory .. .. .	..	..	..	..	..
Australian Capital Territory .. .. .	..	..	..	..	..
<b>Australia .. .. .</b>	<b>16,662</b>	<b>17,355</b>	<b>18,556</b>	<b>19,905</b>	<b>21,299</b>

NUMBER OF HOSPITAL PATIENTS (AVERAGE DAILY NUMBER RESIDENT).

New South Wales .. .. .	5,501	5,812	6,044	6,398	7,129
Victoria .. .. .	3,377	3,319	3,354	3,494	3,620
Queensland .. .. .	1,341	1,341	1,305	1,476	1,708
South Australia .. .. .	1,600	1,649	1,725	1,956	2,049
Western Australia .. .. .	978	1,019	1,186	1,362	1,524
Tasmania .. .. .	346	351	345	400	510
Northern Territory .. .. .	..	..	..	..	..
Australian Capital Territory .. .. .	..	..	..	..	..
<b>Australia .. .. .</b>	<b>13,143</b>	<b>13,491</b>	<b>13,959</b>	<b>15,086</b>	<b>16,540</b>

§ 4. Repatriation Hospitals.

The medical care of eligible ex-servicemen and dependants of deceased ex-servicemen is a major function of the Commonwealth Repatriation Department, which provides a comprehensive service.

In-patient treatment is provided at Repatriation General Hospitals in each capital city, and at auxiliary hospitals in all States except Tasmania. "Anzac Hostels" are maintained in Queensland and Victoria for long-term patients. In-patient treatment may also be provided in country hospitals at the Department's expense in certain circumstances. Mental patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department in mental hospitals administered by the State authorities.

The average daily number of patients resident in Repatriation General Hospitals during the year ended 30th June, 1961, was 2,941.

### § 5. Leper Hospitals.

Isolation hospitals for the care and treatment of persons suffering from Hansen's disease (leprosy) are located at Little Bay, New South Wales; Fantome Island, North Queensland; Derby, Western Australia; and East Arm Settlement, Northern Territory. Special wards for the isolation of leprosy patients have been provided at Fairfield (Victoria) and Wooroloo (Western Australia). Peel Island (Queensland) Hospital was closed down on 5th August, 1959, the patients being transferred to the chronic diseases section of South Brisbane Hospital. At the end of 1961 there were eight cases at Little Bay, 12 at Fantome Island, six at South Brisbane Hospital, 169 at Derby, two at Wooroloo, 180 at East Arm Settlement and eight at Fairfield. Of the 385 cases, 317 were full-blood aboriginals, 38 were half-caste aboriginals, two were Pacific Islanders, one was an Asian and 27 were Europeans.

## CHAPTER XVIII.

### WELFARE SERVICES.

NOTE.—Further information on subjects dealt with in this chapter may be found in the annual *Bulletin Finance, Part I.—Public and Private Finance*. Current and summarized information is contained in the *Quarterly Summary of Australian Statistics* and the *Monthly Review of Business Statistics*.

#### A. COMMONWEALTH EXPENDITURE ON SOCIAL AND HEALTH SERVICES.

##### § 1. Introduction.

The Welfare services outlined in this chapter are those administered by the Commonwealth Department of Social Services. Particulars of benefits provided under the National Health Service appear in Chapter XVII.—Public Health, page 670.

##### § 2. National Welfare Fund.

The National Welfare Fund was established by the National Welfare Fund Act 1943 to finance a scheme of national welfare. In introducing this measure to Parliament, the Prime Minister said that part of the scheme was to be introduced immediately, and part was to be deferred until after the end of the war. A certain balance, which would therefore accrue to the fund, would be invested in Commonwealth securities, and would thus provide finance for the war effort.

The fund operated from 1st July, 1943. At its commencement, it was used to finance funeral benefits and maternity allowances. Other social and health benefits were made a charge on the fund from time to time. At present, expenditure on all benefits except repatriation and a few minor social and health benefits is met from the fund. The fund is used only to finance the benefits themselves; it is not used to finance the cost of administering the benefits, or of capital works associated with the benefits.

For particulars of the income of the fund, see Chapter XXI, Public Finance, Division A, § 2, C., para. 6. The following table sets out expenditure from the fund during 1960–61.

**COMMONWEALTH EXPENDITURE FROM NATIONAL WELFARE FUND  
ON SOCIAL AND HEALTH SERVICES, 1960-61.  
(£'000.)**

Service.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T. (a)	A.C.T. (a)	Over- seas.	Total
<i>Social Services—</i>										
Age and Invalid Pensions .. ..	64,147	38,734	24,382	14,269	10,793	5,051	202	205	143	157,926
Child Endowment .. ..	26,443	20,344	11,341	7,046	5,701	2,742	253	413	20	74,303
Commonwealth Rehabilitation Service .. ..	190	203	98	101	79	22	..	..	..	693
Funeral Benefits .. ..	150	92	56	32	26	11	..	..	..	367
Maternity Allowances .. ..	1,399	1,069	590	359	284	148	20	24	5	3,898
Unemployment Benefits .. ..	1,327	896	1,300	343	479	114	4	6	..	4,469
Sickness Benefits .. ..	881	542	341	158	153	67	3	6	..	2,151
Special Benefits(b) .. ..	132	234	78	34	22	19	..	1	..	520
Widows' Pensions .. ..	5,107	3,329	2,250	1,189	1,052	470	24	32	15	13,468
<i>National Health Services—</i>										
Hospital Benefits .. ..	8,729	4,824	2,771	1,786	1,909	575	46	28	..	20,668
Medical Benefits .. ..	4,228	2,444	1,073	1,051	885	295	..	..	..	9,976
Medical Benefits for Pensioners .. ..	1,882	1,004	546	367	285	108	..	8	..	4,200
Nutrition of Children .. ..	1,277	1,018	517	281	224	197	22	24	..	3,560
Pharmaceutical Benefits .. ..	7,835	6,316	2,769	1,755	1,316	518	..	(c) 34	..	20,543
Pharmaceutical Benefits for Pensioners .. ..	3,250	1,663	1,077	662	499	187	..	..	..	7,338
Tuberculosis Campaign—										
Allowances .. ..	328	198	221	90	58	52	..	..	..	947
Maintenance and Surveys(d) .. ..	1,278	1,074	742	402	499	162	..	(e) 22	..	4,179
Miscellaneous(f) .. ..	68	55	107	11	19	26	..	(g) 743	..	1,046
Rental Rebates .. ..	..	..	229	..	123	..	..	..	..	352
<b>Total .. ..</b>	<b>128,651</b>	<b>84,039</b>	<b>50,488</b>	<b>29,936</b>	<b>24,406</b>	<b>10,764</b>	<b>591</b>	<b>1,546</b>	<b>183</b>	<b>330,604</b>

(a) Payments for some Health Services to residents of the Northern Territory and the Australian Capital Territory are included in the amounts shown for States. (b) Includes special benefits to migrants in reception and training centres. (c) Includes payments to Bush Nursing Centres and the Royal Flying Doctor Service. (d) Paid to the State Governments as a contribution towards the cost of surveys and the maintenance of institutions for the treatment of tuberculosis. (e) Includes costs of manufacturing B.C.G. Vaccine for distribution through Australia. (f) This item covers the cost of district laboratory services, the free supply of prophylactic materials and biological products (e.g., insulin, poliomyelitis and diphtheria prophylactics), the supply and maintenance of hearing aids for children, subsidies to voluntary organizations conducting home-nursing services, and certain costs associated with the blood transfusion services of the Australian Red Cross Society. (g) Includes £475,000 for the production of poliomyelitis vaccine, £115,422 for running expenses of the Blood Fractionation Plant at the Commonwealth Serum Laboratories, £78,014 for home-nursing services throughout Australia, and £23,000 for the production of smallpox vaccine.

Expenditure from the fund during each of the years 1956-57 to 1960-61 is shown in the following table. A graph showing expenditure from the fund from 1945-46 to 1960-61 is to be found on page 713.

**COMMONWEALTH EXPENDITURE ON SOCIAL AND HEALTH SERVICES  
FROM THE NATIONAL WELFARE FUND.  
(£'000.)**

Service.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Social Services—</i>					
Age and Invalid Pensions .. ..	109,210	121,577	129,571	147,005	157,926
Child Endowment(a) .. ..	57,037	58,734	67,540	62,532	74,303
Commonwealth Rehabilitation Service .. ..	568	608	670	681	693
Funeral Benefits .. ..	341	325	346	353	367
Maternity Allowances .. ..	3,482	3,560	3,599	3,652	3,898
Unemployment, Sickness and Special Benefits .. ..	4,000	7,331	8,652	7,253	7,140
Widows' Pensions .. ..	8,862	9,832	10,777	12,137	13,468
<i>National Health Services—</i>					
Hospital Benefits .. ..	9,813	10,823	14,802	18,599	20,668
Medical Benefits .. ..	6,146	7,086	7,780	9,292	9,976
Medical Benefits for Pensioners .. ..	2,999	3,198	3,806	4,113	4,200
Nutrition of Children .. ..	2,607	2,756	3,069	3,359	3,560
Pharmaceutical Benefits .. ..	9,924	12,911	18,455	20,761	20,543
Pharmaceutical Benefits for Pensioners .. ..	1,793	2,123	2,517	3,574	7,338
Tuberculosis Campaign—					
Allowances .. ..	1,461	1,255	1,063	1,026	947
Maintenance .. ..	4,755	4,511	4,787	4,337	4,179
Miscellaneous .. ..	925	855	768	689	1,046
Rental Rebates .. ..	..	..	25	..	352
<b>Total .. ..</b>	<b>223,923</b>	<b>247,485</b>	<b>278,227</b>	<b>299,363</b>	<b>330,604</b>

(a) See footnote (a) to table on p. 704.



### § 3. Capital and Administrative Expenditure.

Particulars of Commonwealth capital expenditure on mental hospitals and the Anti-Tuberculosis campaign are given in Chapter XVII., Public Health (*see* pages 671 and 674). Grants are made to private organizations for the construction of homes for elderly people (*see* para. 4, p. 712).

Information concerning the cost of administering each benefit separately is not compiled. Particulars of the cost of administering the Department of Health and the Department of Social Services may be found in Chapter XXI., Public Finance, Division A, § 2, C., para. 5.

## B. COMMONWEALTH SOCIAL SERVICES.

### § 1. Introduction.

Under the provisions of section 51 of the Constitution, the Commonwealth Government is empowered to legislate on:—

“(xxiii) Invalid and old-age pensions:

(xxiiiA) The provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances:”.

The latter paragraph was inserted in the constitution after being accepted by the electors at a referendum on 28th September, 1946. The enabling Act was assented to on 19th December, 1946.

Before 1947, each social service benefit was paid under a separate Act. On 1st July, 1947, with the passage of the Social Services Consolidation Act 1947, all Acts providing social service benefits were amalgamated. This Act eliminated certain anomalies and obsolete provisions and changed the title “old-age pension” to “age pension”. The word “Consolidation” was dropped from the short title of the Act in 1954. The Act is at present styled the Social Services Act 1947–1961.

The social service benefits provided by the Commonwealth Government, and the date on which each came into operation, are:—

Age pension .. .. .	..	1st July, 1909
Child endowment (for other than first child) ..	..	1st July, 1941
Child endowment (for first child) ..	..	20th June, 1950
Commonwealth Rehabilitation Service ..	..	10th December, 1948
Funeral benefit .. .. .	..	1st July, 1943
Invalid pension .. .. .	..	15th December, 1910
Maternity allowance .. .. .	..	10th October, 1912
Sickness benefit .. .. .	..	1st July, 1945
Special benefit .. .. .	..	1st July, 1945
Supplementary assistance (age, invalid and widow's pensions) .. .. .	..	15th October, 1958
Unemployment benefit .. .. .	..	1st July, 1945
Widow's pension .. .. .	..	30th June, 1942.

### § 2. Age and Invalid Pensions.

Age pensions are payable to men, 65 years of age and over, and women, 60 years of age and over, who are British subjects and who have resided in Australia continuously for at least 20 years, which need not be immediately prior to the date of claim for a pension. Absence in a Territory of the Commonwealth, any periods of absence during which a person's home remained in Australia, and absences in certain other circumstances including, in the case of a claimant who has had at least 18 years' residence, occasional absences aggregating up to 2 years plus 6 months for every year of residence in excess of 18 years, are counted as residence. Residence in New Zealand or the United Kingdom counts as residence in Australia.

Invalid pensions are payable to persons, 16 years of age and over, who have resided in Australia for a continuous period of five years (including certain absences), and who are permanently incapacitated for work to the extent of at least 85 per cent., or permanently blind. If the incapacity or blindness first occurred outside Australia, except during a temporary absence, a total of 20 years' residence is necessary. Certain absences count as residence, and residence in New Zealand or the United Kingdom counts as residence in Australia.

Aboriginal natives, other than those who are nomadic or primitive, are eligible for age and invalid pensions on the same conditions as other members of the community.

A pension is not payable to:—an alien; a person who has deprived himself of property or income in order to qualify for a pension; a person whose annual rate of income is £455 per annum (£910 per annum for a married couple) or more; a person who owns property apart from his permanent home and other exempt property, valued at £4,750 or more (£9,500 for a married couple). A pensioner with dependent children may, in certain circumstances, have additional income of 10 shillings a week for each child under 16 years of age.

Since 5th October, 1961, the maximum rate of pension has been £273 per annum (£5 5s. a week). The wife of an invalid pensioner (or an age pensioner who is permanently incapacitated for work or permanently blind) may be granted a wife's allowance of not more than £123 10s. per annum (£2 7s. 6d. a week). A child's allowance of £39 per annum (15s. a week) is also paid to an invalid pensioner for the first child under 16 years of age. The pension is increased, subject to the means test, by £26 per annum (10s. a week) for each other child under 16 years. Supplementary assistance of £26 per annum (10s. a week) is payable to single pensioners and to married pensioners whose spouses do not receive pension or allowance, if the pensioner pays rent and is considered to be entirely dependent on his pension. At 30th June, 1961, 505,338 age pensioners (90 per cent. of all age pensioners) and 82,653 invalid pensioners (93 per cent. of all invalid pensioners) were receiving the maximum pension (£260 at that date).

If a pensioner is an inmate of a benevolent home, £1 17s. a week of his pension is paid to him. The rest is paid to the home for his maintenance, except where he is a patient in an infirmary ward.

Age and invalid pensions (other than invalid pensions paid to blind persons) and allowances paid to wives of invalid pensioners (but not the child's allowance of 15s. a week) are subject to a means test which applies to income and to property. From March, 1961, the means tests previously applied separately on income and property were merged into one composite means test. The pension payable depends on the claimant's *means as assessed*. These consist of his annual rate of income plus a property component equal to £1 for each complete £10 of his net property above £200. A person's *means as assessed* may consist entirely of income, entirely of property component, or of various combinations of income and property component. The pension payable is calculated by deducting from the maximum annual rate of pension the amount by which the *means as assessed* exceeds £182. No pension is payable if the pensioner's property is £4,750 or more.

Certain types of income are excepted. The main exceptions are:—income from property; gifts or allowances from children, parents, brothers or sisters; benefits (other than annuities) from friendly societies; child endowment or other payments for children; Commonwealth health benefits and amounts received from registered benefit organizations.

Certain types of property are disregarded. They include the permanent home of the pensioner, his furniture and personal effects, the surrender value (up to £750) of life insurance policies, the capital value of annuities or contingent interests and the value of any reversionary interests.

For the purposes of the means test, the income and property of a married person are considered to be half the total income and property of the husband and wife unless they are legally separated or in other special circumstances. The pension is then assessed as for a single pensioner.

The following statement shows the rates of pension at 1st July, 1909, and the rates as they have been varied since that date, subject in all cases to income and property qualifications.

## MAXIMUM RATES OF PENSION PAYABLE.(a)

Date from which Operative.	Maximum Pension Payable.		Limit of Income (including Pension) per Annum.	Date from which Operative.	Maximum Pension Payable.		Limit of Income (including Pension) per Annum.
	Per Week.	Per Annum.			Per Week.	Per Annum.	
1st July, 1909 ..	s. d.	£ s.	£ s.	1st April, 1943(c) ..	s. d.	£ s.	£ s.
12th October, 1916 ..	10 0	26 0	52 0	10th August, 1943(z) ..	26 6	68 18	101 8
1st January, 1920 ..	12 6	32 10	58 10	25th November, 1943(c) ..	27 0	70 4	102 14
13th September, 1923 ..	15 0	39 0	65 0	25th November, 1943(e) ..	26 6	68 18	101 8
8th October, 1925 ..	17 6	45 10	78 0	5th July, 1945 ..	27 0	70 4	102 14
23rd July, 1931 ..	20 0	52 0	84 10	13th August, 1946 ..	32 6	84 10	117 0
13th October, 1932(b) ..	17 6	45 10	78 0	3rd July, 1947 ..	32 6	84 10	136 10
26th October, 1933 ..	15 0	39 0	71 10	21st October, 1948 ..	37 6	97 10	149 10
4th July, 1935(c) ..	17 6	45 10	78 0	2nd November, 1950 ..	42 6	110 10	188 10
24th September, 1936 ..	18 0	46 16	79 6	1st November, 1951 ..	50 0	130 0	208 0
9th September, 1937 ..	19 0	49 8	81 18	2nd October, 1952 ..	60 0	156 0	234 0
26th Decen ber, 1940 ..	20 0	52 0	84 10	29th October, 1953 ..	67 6	175 10	253 10
3rd April, 1941(c) ..	21 0	54 12	87 2	14th October, 1954 ..	70 0	182 0	286 0
11th December, 1941 ..	21 6	55 18	88 8	27th October, 1955 ..	70 0	182 0	364 0
2nd April, 1942(z) ..	23 6	61 2	93 12	24th October, 1957 ..	80 0	208 0	390 0
2nd April, 1942(z) ..	24 0	62 0	94 18	8th October, 1959 ..	87 6	227 10	409 10
1st October, 1943(c) ..	25 0	65 0	97 10	6th October, 1960 ..	95 0	247 0	429 0
1st January, 1943(c) ..	25 6	66 6	98 16	5th October, 1961 ..	100 0	260 0	442 0
	26 0	67 12	100 2		105 0	273 0	455 0

(a) Excludes amounts payable for wives and children of invalid pensioners and supplementary assistance. (b) Additional pension of £6 10s. per annum (2s. 6d. a week) was payable to a pensioner with no income. Pensioners with income of less than 2s. 6d. a week were paid additional pension of 2s. 6d. less the amount of income. (c) Variation according to change in retail price index number. (d) Increase paid on 9th July, 1942, retrospective to 2nd April, 1942. (e) Rate restored to £70 4s. per annum under National Security (Supplementary) Regulations 112A—Statutory Rule 315 of 1943.

NOTE.—Provision for variations according to retail price index numbers was repealed on 6th April, 1944.

The number of age pensioners at 30th June, 1961 was 562,790 of whom 177,271 (or 31 per cent.) were males and 385,519 (or 69 per cent.) were females. This was an increase of 24,768 for the year.

During 1960–61, 71,351 age pension claims were granted and 47,727 pensions expired through cancellations and deaths. Of these, deaths accounted for 34,757.

The recorded ages of the 71,351 persons (26,918 males and 44,433 females) to whom age pensions were granted during the year 1960–61 varied considerably, ranging from 10,240 at age 60 to 11 who were over 97; 47,883 were in the 60–69 age-group. The conjugal condition of the new pensioners was as follows:—Males—single and divorced, 3,072; married, 19,513; and widowed, 4,333; Females—single and divorced, 6,946; married, 23,290; and widowed, 14,197.

The number of invalid pensioners at 30th June, 1961, was 88,642 of whom 47,204 (or 53 per cent.) were males and 41,438 (or 47 per cent.) were females. During 1960–61, 16,838 invalid pension claims were granted, 7,104 pensions ceased through cancellation or death, and 1,304 invalid pensioners were transferred to the age pension list.

The recorded ages of the 16,838 persons (10,107 males and 6,731 females) to whom invalid pensions were granted during 1960–61 varied widely, 1,592 (10 per cent.) were in the 16–19 years age-group, 2,839 (17 per cent.) were in the 20–44 years age-group, 8,150 (48 per cent.) were in the 45–59 years age-group, 3,537 (21 per cent.) were in the 60–64 years age-group, and 720 (4 per cent.) were over 65 years of age.

The conjugal condition of persons to whom invalid pensions were granted during the year was as follows:—males—single, 3,418; married, 6,008; and widowed, 681; females—single, 2,558; married, 3,253; and widowed, 920.

## AGE AND INVALID PENSIONS, 30th JUNE, 1961.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Age Pensions in force—</i>									
Males .. .. .	69,830	43,058	30,578	16,013	11,931	5,256	367	238	177,271
Females .. .. .	152,467	100,578	58,566	35,976	25,725	11,296	401	510	385,519
Persons .. .. .	222,297	143,636	89,144	51,989	37,656	16,552	768	748	562,790
<i>Invalid Pensions in force—</i>									
Males .. .. .	19,855	10,515	7,227	3,748	3,898	1,779	113	69	47,204
Females .. .. .	18,639	8,919	5,857	3,217	3,047	1,559	115	85	41,438
Persons .. .. .	38,494	19,434	13,084	6,965	6,945	3,338	228	154	88,642

The sum disbursed in age and invalid pensions in 1960–61, including the amount paid to homes for the maintenance of pensioners and allowances to wives of invalid pensioners, represented an expenditure of £15 4s. per head of population as compared with £14 9s. 1d. in 1959–60.

The following table gives details of age and invalid pensions for the years 1955–56 to 1960–61.

## AGE AND INVALID PENSIONS: SUMMARY, AUSTRALIA.

Year ended 30th June—	Pensioners at End of Year.				Total Payments. (c)	Average Fortnightly Pension as at 30th June.		
	Age.		Invalid.	Total. (b)		Age.	Invalid.	Age and Invalid Combined.
	No.	Rate. (a)						
			No.	No.	£	s. d.	s. d.	s. d.
1956 ..	(d)446,207	449	(e) 82,775	535,226	101,625,068	153 7	156 10	154 1
1957 ..	465,781	460	88,236	554,017	109,209,972	152 10	157 8	153 7
1958 ..	(f)496,757	482	(f) 77,431	574,208	121,577,042	166 11	171 9	167 7
1959 ..	513,789	490	83,853	597,642	129,571,447	166 9	173 5	167 8
1960 ..	(g)538,022	523	(g) 80,816	618,838	147,005,341	180 7	189 4	181 9
1961 ..	562,790	536	88,642	651,432	157,925,892	195 8	201 0	196 5

(a) Number of pensioners per 1,000 persons of pensionable age (males aged 65 years and over and females aged 60 years and over). (b) Includes age and invalid pensioners in benevolent homes. (c) Includes allowances and supplementary assistance. (d) Excludes age pensioners in benevolent homes. (e) Excludes invalid pensioners in benevolent homes. (f) On 30th June, 1958, 15,205 invalid pensioners in New South Wales were transferred to their correct designation of age pensioners. (g) On 30th June, 1960, a number of invalid pensioners were transferred to their correct designation of age pensioners as follows:—Victoria, 4,843; Queensland, 4,908; and Western Australia, 486.

## § 3. Child Endowment.

A person who is resident in Australia and has the custody, care and control of one or more children under the age of 16 years, or an approved institution of which children are inmates, shall be qualified to receive an endowment in respect of each child under 16. There are provisions to meet cases of families divided because of divorce, separation, unemployment or death of a parent. There is no means test.

Twelve months' residence in Australia is required if the mother and the child were not born here, but this requirement is waived if the Department of Social Services is satisfied that they are likely to remain in Australia permanently. Where the child's father is not a British subject, endowment is payable if the child was born in Australia, if the mother is a British subject, or if the Department is satisfied that the child is likely to remain permanently in Australia.

Under certain conditions, endowment may be paid to Australians who are temporarily absent overseas. Endowment is payable to aboriginal natives unless they are nomadic or primitive.

From 1st July, 1941, the rate of endowment was 5s. a week for each child in excess of one in a family, and for each child under 16 in an approved institution. The rate was increased to 7s. 6d. a week in June, 1945, and to 10s. a week in November, 1948. Since June, 1950, the rates of endowment have been 5s. a week for the first child in a family, 10s. a week for each other child in a family, and 10s. a week for each child in an institution.

The number of families receiving child endowment at 30th June, 1961, was 1,501,180, an increase of 24,345 or 1.6 per cent. during the year. The following table shows, for each State and Territory, the number of claims for child endowment in force and the number of endowed children at 30th June, 1961.

**CHILD ENDOWMENT: CLAIMS AND ENDOWED CHILDREN, 30th JUNE, 1961.**

State or Territory.	Family Groups.			Institutions.		Total Endowed Children.
	Claims in force.	Endowed Children.		Number.	Endowed Child Inmates.	
		Number.	Average number per claim.			
New South Wales	558,040	1,188,980	2.13	130	7,108	1,196,088
Victoria .. ..	411,744	900,153	2.19	114	5,761	905,914
Queensland ..	213,836	499,858	2.34	52	3,539	503,397
South Australia ..	142,663	317,236	2.22	51	1,760	318,996
Western Australia	109,499	253,258	2.31	68	3,779	257,037
Tasmania ..	52,264	123,727	2.37	18	563	124,290
Northern Territory	4,306	9,854	2.29	32	4,567	14,421
Australian Capital Territory ..	8,528	19,545	2.29	..	..	19,545
Abroad ..	300	614	2.05	..	..	614
<b>Total ..</b>	<b>1,501,180</b>	<b>3,313,225</b>	<b>2.21</b>	<b>465</b>	<b>27,077</b>	<b>3,340,302</b>

The following table shows, as at 30th June, 1961, the number of claims in force and the number of endowed children, classified according to the number of endowed children in the family group. The families included in the table are not necessarily made up entirely of the children of one marriage, but may include step-children, foster children, adopted children, and any other children under the custody, care and control of the claimant.

**CHILD ENDOWMENT: ENDOWED CHILDREN IN FAMILY GROUPS, 30th JUNE, 1961.**

Number of Endowed Children in Family Group.	Claims in Force.	Endowed Children.	Number of Endowed Children in Family Group.	Claims in Force.	Endowed Children.
1 .. ..	524,787	524,787	9 .. ..	1,157	10,413
2 .. ..	488,407	976,814	10 .. ..	430	4,300
3 .. ..	276,832	830,496	11 .. ..	127	1,397
4 .. ..	128,458	513,832	12 .. ..	55	660
5 .. ..	49,694	248,470	13 .. ..	9	117
6 .. ..	20,146	120,876	16 and over ..	7	122
7 .. ..	7,627	53,389			
8 .. ..	3,444	27,552	<b>Total ..</b>	<b>1,501,180</b>	<b>3,313,225</b> }

The following table shows the annual liability in respect of child endowment at 30th June, 1961, and the actual expenditure thereon for the year 1960-61 in each State and Territory.

## CHILD ENDOWMENT: LIABILITY AND EXPENDITURE, 1960-61.

(£.)

State or Territory.	Annual Liability at 30th June, 1961.			Total Payments to Endowees and Institutions during 1960-61.
	Family Groups.	Institutions.	Total.	
New South Wales ..	23,658,960	184,808	23,843,768	26,443,284
Victoria .. ..	18,051,306	149,786	18,201,092	20,343,802
Queensland .. ..	10,216,440	92,014	10,308,454	11,340,949
South Australia ..	6,393,517	45,760	6,439,277	7,045,784
Western Australia ..	5,161,221	98,254	5,259,475	5,701,075
Tasmania .. ..	2,537,470	14,638	2,552,108	2,741,876
Northern Territory ..	200,226	118,742	318,968	253,244
Australian Capital Territory .. ..	397,306	..	397,306	412,971
Abroad .. ..	12,064	..	12,064	19,629
<b>Total .. ..</b>	<b>66,628,510</b>	<b>704,002</b>	<b>67,332,512</b>	<b>74,302,614</b>

The following table shows, for Australia, the number of claims, the number of endowed children and the annual liability at 30th June for each of the years from 1957 to 1961 and the actual expenditure for the years 1956-57 to 1960-61.

## CHILD ENDOWMENT SUMMARY: AUSTRALIA.

At 30th June—	Family Group Claims.	Institutions.	Endowed Children.	Annual Liability for Endowment. (a)	Total Payments. (a) (b)
				£	£
1957 .. ..	1,378,169	397	2,978,191	59,516,769	57,036,962
1958 .. ..	1,415,378	415	3,073,945	61,522,656	58,733,561
1959 .. ..	1,451,516	421	3,171,823	63,597,690	(c) 67,539,615
1960 .. ..	1,476,835	443	3,252,413	65,363,883	62,531,977
1961 .. ..	1,501,180	465	3,340,302	67,332,512	(d) 74,302,614

(a) A number of endowments are paid every twelve weeks. During two years out of every three, there are four such payments, but every third year there are five. Figures for annual liability, therefore, reflect trends in expenditure on child endowment more accurately than do figures for payments. (b) Year ended 30th June. (c) Expenditure for this year includes five twelve weekly payments. (d) Endowment payable on 4th July, 1961, to the credit of bank accounts and in cash at post offices was brought to account in 1960-61.

## § 4. Commonwealth Rehabilitation Service.

The Commonwealth Rehabilitation Service has been set up to help persons who are unable to work because of physical handicap, or who have had to give up their employment because of sickness or injury. It helps disabled persons to reach their maximum physical fitness and to prepare for suitable employment. They are given suitable treatment and training, the cases selected being those in which the person's disability is remediable and there are reasonable prospects of his engaging in a suitable vocation within three years after the commencement of treatment or training.

The service is available to invalid and widow pensioners, persons receiving unemployment, sickness or special benefits, persons receiving tuberculosis allowances and persons aged 14 or 15 who, without treatment and training, would be likely to qualify for

an invalid pension on reaching the age of 16 years. Other persons may participate in the scheme upon reimbursement of the cost of treatment and training. During treatment, payment of pension or benefit continues. When vocational training begins, the pension or benefit is suspended and a rehabilitation allowance, together with a training allowance of £1 10s. a week, is paid instead. With an invalid pensioner, or a sickness, unemployment or special beneficiary, this is equivalent to and calculated in the same manner as an invalid pension. In the case of a widow pensioner, the rate is the same as that of the widow's pension.

Living-away-from-home allowances are paid where necessary. Fares and living expenses (including those of an attendant where required) incurred in connexion with treatment, training or attendance for an interview or for medical examination may also be paid. A person receiving treatment or training may be provided, free of charge, with necessary artificial replacements, surgical aids and appliances. He may also be provided with books, equipment and tools of trade, costing not more than £40. If these are retained by him, he is required to pay the cost, but payments may be made by small instalments after he has commenced in employment.

If the treatment or vocational training does not result in the trainee being able to engage in employment, he receives the pension or benefit to which he is entitled.

The numbers of persons receiving benefits who were examined, accepted, trained and placed in employment during the year 1960-61 are shown in the following table.

COMMONWEALTH REHABILITATION SERVICE: AUSTRALIA, 1960-61.

Type.	Examined.	Accepted.	Completed Training.	Placed in Employment.	
				After Training.	Without Training.
Invalid pensioners .. ..	12,289	247	98	79	77
Widow pensioners .. ..	6	3	2	1	1
Unemployment and sickness beneficiaries .. ..	8,293	911	176	155	543
Special beneficiaries .. ..	6	2	..	..	1
Recipients of Tuberculosis allowance .. ..	490	64	48	62	11
Persons aged 14-15 years .. ..	170	76	24	22	33
Persons provided with rehabilitation on payment of the cost ..	128	99	5	7	78
<b>Total .. ..</b>	<b>21,382</b>	<b>1,402</b>	<b>353</b>	<b>326</b>	<b>744</b>

§ 5. Funeral Benefits.

A funeral benefit of up to £10 is payable to the person who has paid, or is liable to pay, the cost of the funeral of an age or invalid pensioner or of a claimant who, but for his death, would have been granted an age or invalid pension, or of a person who at the time of his death was receiving, or was a claimant for, a tuberculosis allowance, if he would otherwise have been qualified to receive an age or invalid pension. Where the cost of the funeral has been partly met by payment from a contributory funeral benefit fund of an organization other than a friendly society, funeral benefit is payable to the extent of the amount (not above £10) by which the cost of the funeral exceeded the amount paid from the fund. A funeral benefit is not payable to a person administering a contributory funeral benefit fund.

The following table shows the number of funeral benefits which were paid in each State and Territory for the years 1956-57 to 1960-61.

## FUNERAL BENEFITS GRANTED: AUSTRALIA.

State.	Benefits Granted.				
	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	13,927	12,895	14,092	14,764	15,019
Victoria .. ..	9,262	8,740	9,290	9,069	9,200
Queensland .. ..	4,830	4,565	4,880	4,891	5,523
South Australia .. ..	2,974	2,802	3,170	3,141	3,192
Western Australia .. ..	2,366	2,358	2,352	2,448	2,654
Tasmania .. ..	1,002	1,097	1,111	1,100	1,100
Northern Territory .. ..	2	6	8	3	7
Australian Capital Territory ..	28	33	58	49	54
<b>Australia .. ..</b>	<b>34,391</b>	<b>32,496</b>	<b>34,961</b>	<b>35,465</b>	<b>36,749</b>

## § 6. Maternity Allowances.

Maternity allowances are paid to provide financial assistance towards the expenses associated with the birth of children and are additional to the benefits provided under the Commonwealth hospital benefits scheme. They are not subject to a means test.

The allowance is £15 if the mother has no other children, £16 if she has one or two other children and £17 10s. if she has three or more other children under the age of 16 years. The amount is increased by £5 for each additional child born at a birth. An advance payment of £10 on account of a maternity allowance may be made four weeks before the expected date of birth. The balance is payable immediately after the birth. Payment may be made in respect of the birth of a still-born child, or a child which lives for less than twelve hours, if the child had developed for at least 5½ months.

A maternity allowance is payable to a woman who, at the date of giving birth to a child, is residing in Australia, is temporarily abroad, or is on board a ship proceeding from a port in Australia or an Australian Territory to another port in Australia or another Australian Territory, or on board a ship proceeding to Australia, provided she receives no maternity benefit from the country from which she came. An alien mother may receive the allowance if she or her husband resided in Australia for at least twelve months immediately prior to the birth of the child, or if she is likely to remain in Australia. Aboriginal natives, other than those who are nomadic or primitive, are eligible for maternity allowances on the same conditions as other members of the community.

The following table gives details of the amount paid in each State for the years 1956-57 to 1960-61.

## MATERNITY ALLOWANCES: AMOUNT PAID IN EACH STATE.

(£'000.)

Year ended 30th June—	N.S.W.	Vic.	Q'land.	S.Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Abroad.	Total.
1957 .. ..	1,252	949	532	319	271	131	9	17	2	3,482
1958 .. ..	1,281	969	547	323	271	138	11	18	2	3,560
1959 .. ..	1,266	1,020	546	328	267	139	11	20	2	3,599
1960 .. ..	1,277	1,008	574	337	275	143	12	21	4	3,651
1961 .. ..	1,399	1,069	590	359	284	148	20	24	5	3,898



The following table shows the number of maternity allowance claims paid in each State or Territory during the years 1956-57 to 1960-61.

**MATERNITY ALLOWANCES: CLAIMS PAID IN EACH STATE.**

Year ended 30th June—	N.S.W.	Vic.	Q'land.	S.Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Abroad.	Total.
1957 .. ..	77,387	59,648	32,882	19,929	16,853	8,166	579	1,067	106	216,617
1958 .. ..	79,220	60,666	34,000	20,001	16,829	8,509	666	1,137	121	221,149
1959 .. ..	80,289	63,428	34,266	20,541	16,594	8,608	682	1,276	95	225,779
1960 .. ..	81,241	62,853	35,515	21,443	17,012	8,985	767	1,311	262	229,389
1961 .. ..	85,751	66,511	35,587	21,774	17,648	9,077	1,215	1,511	310	239,384

The following table shows the number of claims paid in each State at the several rates of maternity allowances during the year 1960-61.

**MATERNITY ALLOWANCES: CLAIMS PAID AT EACH RATE, 1960-61.**

State or Territory.	Single Births.			Multiple Births.							Total Claims Paid.
	£15.	£16.	£17 10s.	Twins.			Triplets.			Quad- ruplets. £31.	
				£20.	£21.	£22 10s.	£25.	£26.	£27 10s.		
New South Wales ..	27,120	40,325	17,355	223	469	251	2	2	4	..	85,751
Victoria ..	20,813	31,022	13,927	169	387	185	1	3	3	1	66,511
Queensland ..	10,195	15,837	9,126	99	188	135	1	1	2	..	35,587
South Australia ..	6,510	10,194	4,830	51	117	70	1	1	..	..	21,774
Western Australia ..	5,012	8,378	4,071	43	83	59	..	2	..	..	17,648
Tasmania ..	2,630	4,001	2,331	29	51	34	1	..	..	..	9,077
Northern Territory	432	478	296	4	1	4	..	..	..	..	1,215
Australian Capital Territory ..	442	719	324	5	14	7	..	..	..	..	1,511
Abroad ..	77	89	144	..	..	..	..	..	..	..	310
<b>Total ..</b>	<b>73,231</b>	<b>111,043</b>	<b>52,404</b>	<b>623</b>	<b>1,310</b>	<b>745</b>	<b>6</b>	<b>12</b>	<b>9</b>	<b>1</b>	<b>239,384</b>

**§ 7. Unemployment, Sickness and Special Benefits.**

Unemployment and sickness benefits are paid to men over 16 and under 65 years of age, and women over 16 and under 60 years of age who are unemployed or who are temporarily incapacitated for work and thereby suffer loss of income. They must have been living in Australia during the preceding twelve months or be likely to remain permanently in Australia. A person receiving an age, invalid or widow's pension, or a service pension (as distinct from a war pension) under the Repatriation Act, or a tuberculosis allowance is ineligible to receive a benefit.

To qualify for an unemployment benefit, a person must establish that he is unemployed and that his unemployment is not due to his being a direct participant in a strike, that he is capable and willing to undertake suitable work, and that he has taken reasonable steps to obtain such work. Registration with the local Commonwealth District Employment Office is necessary.

To qualify for a sickness benefit, a person must establish that he is temporarily incapacitated for work because of sickness or accident and that he has thereby suffered a loss of salary, wages or other income.

A married woman is not eligible to receive a sickness benefit if it is reasonably possible for her husband to maintain her. Where her husband is able to maintain her only partially, a benefit may be paid at such rate as is considered reasonable in the circumstances. In exceptional cases, a married woman may qualify for an unemployment benefit in her own right.

Aboriginal natives, other than those who are nomadic or primitive, are eligible for these benefits on the same conditions as other members of the community.

Rates of benefit were increased as from 21st September, 1961, and again as from 1st March, 1962. The maximum weekly rates of benefit payable and permissible income in respect of benefit periods which commenced on or after 1st March, 1962, have been as follows.

Age and Marital Status of Claimant.	Maximum Weekly Rates.	Permissible Weekly Income.
	£ s. d.	£ s. d.
Unmarried person under 18 years of age .. .. .	1 15 0	1 0 0
Unmarried person 18-20 years of age .. .. .	2 7 6	1 0 0
All others .. .. .	4 2 6	2 0 0

An additional benefit of £3 a week may be paid for a dependent spouse and 15s. a week for each dependent child under 16 years of age if resident in Australia. Prior to March, 1962, additional benefit was paid for only one dependent child under 16 years. Additional benefit, at the same rate as that for a dependent spouse, may be paid where a woman is keeping house for a claimant who has one or more children under 16 years of age in his care. It may be granted only if no such benefit is payable for his wife and the housekeeper is substantially dependent on him but not employed by him.

The weekly rate of benefit is reduced by the amount by which a beneficiary's other income exceeds the amount shown in the relevant line of the final column in the table above. For unemployment benefit purposes, the incomes of the claimant and his spouse are taken into account, unless they are permanently separated. For sickness benefit purposes, the income of the claimant only is taken into account, while any payment received from an approved friendly society or other similar approved body in respect of the incapacity for which sickness benefit is payable is disregarded. "Income" does not include child endowment, or other payments for children, Commonwealth hospital and pharmaceutical benefits, or a tuberculosis allowance or an amount paid in reimbursement of medical, dental or similar expenses paid. There is no means test on property.

The amount of compensation, damages or similar payment, or war pension, if paid in respect of the same incapacity as that for which sickness benefit is claimed, is deducted from the sickness benefit. If not paid in respect of the same incapacity, compensation is regarded as income and war pension is ignored.

There is a waiting period of seven days for which unemployment or sickness benefit is not payable. Unemployment and sickness beneficiaries are eligible to participate in the Commonwealth Rehabilitation Service under the same conditions as invalid pensioners.

A special benefit may be granted to a person not qualified for unemployment or sickness benefit who is not receiving an age, invalid or widow's pension or a service pension, if because of age, physical or mental disability or domestic circumstances, or for any other reason, he is unable to earn a sufficient livelihood for himself and his dependants. Special benefits are also paid to migrants who are in reception centres and are awaiting their first placement in employment in Australia. During this time, they receive a short instruction in English and in Australian conditions to facilitate their assimilation into the community and employment.

During the year 1960-61, special benefits were granted to 10,073 migrants at a cost of £71,203.

The following table shows the number admitted to benefit during 1960-61, the number of persons on benefit at 30th June, 1961, and the amount paid for each benefit during 1960-61.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS, 1960-61.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	N.T.	A.C.T.	Aust.
<b>Persons Admitted to Benefit—</b>									
<b>Unemployment—</b>									
Males ..	41,636	24,975	37,862	9,338	10,304	3,061	174	410	127,760
Females ..	11,810	7,151	7,859	3,205	2,291	934	38	65	33,353
Persons ..	53,446	32,126	45,721	12,543	12,595	3,995	212	475	161,113
<b>Sickness—</b>									
Males ..	16,412	9,968	7,823	3,703	4,073	1,497	87	140	43,703
Females ..	5,896	3,841	2,289	1,057	939	397	14	48	14,481
Persons ..	22,308	13,809	10,112	4,760	5,012	1,894	101	188	58,184
<b>Special—</b>									
<b>Ordinary—</b>									
Males ..	588	350	585	140	65	47	2	4	1,781
Females ..	544	1,241	170	77	57	55	..	3	2,147
Persons ..	1,132	1,591	755	217	122	102	2	7	3,928
<b>Migrants—</b>									
Persons ..	836	8,844	40	353	..	..	..	..	10,073
<b>Total—</b>									
Males(a) ..	58,636	35,293	46,270	13,181	14,442	4,605	263	554	173,244
Females(a) ..	18,250	12,233	10,318	4,339	3,287	1,386	52	116	49,981
Persons(b) ..	77,722	56,370	56,628	17,873	17,729	5,991	315	670	233,298
<b>Persons on benefit at end of year—</b>									
<b>Unemployment—</b>									
Males ..	15,177	12,795	7,612	2,940	2,749	1,060	11	135	42,479
Females ..	4,397	3,294	2,020	1,102	668	276	3	15	11,775
Persons ..	19,574	16,089	9,632	4,042	3,417	1,336	14	150	54,254
<b>Sickness—</b>									
Males ..	2,499	1,472	1,013	507	512	193	7	25	6,228
Females ..	875	649	387	152	165	76	1	3	2,308
Persons ..	3,374	2,121	1,400	659	677	269	8	28	8,536
<b>Special—</b>									
<b>Ordinary—</b>									
Males ..	189	158	103	39	48	18	1	1	557
Females ..	497	757	251	100	100	90	..	4	1,799
Persons ..	686	915	354	139	148	108	1	5	2,356
<b>Migrants—</b>									
Persons ..	141	939	2	34	..	..	..	..	1,116
<b>Total—</b>									
Males(a) ..	17,865	14,425	8,728	3,486	3,309	1,271	19	161	49,264
Females(a) ..	5,769	4,700	2,658	1,354	933	442	4	22	15,882
Persons(b) ..	23,775	20,064	11,388	4,874	4,242	1,713	23	183	66,262
<b>Benefits Paid—</b>									
Unemployment	£ 1,326,725	895,640	1299,615	342,835	479,159	114,528	3,795	6,235	4,468,532
Sickness ..	£ 880,888	542,147	340,665	158,428	153,348	66,762	3,184	6,057	2,151,479
Special (b) ..	£ 131,430	233,762	77,994	34,435	22,196	19,392	16	682	519,907
<b>Total Benefits Paid b</b> ..	£ 2,339,043	1,671,549	1,718,274	535,698	654,703	200,682	6,995	12,974	7,139,918

(a) Excludes migrants in reception and training centres.

(b) Includes migrants in reception and training centres.

The following table shows the number of persons who were admitted to benefit, the average number receiving benefit at the end of each week and the amount paid for each benefit for Australia during each of the years 1956-57 to 1960-61.

UNEMPLOYMENT, SICKNESS AND SPECIAL BENEFITS: SUMMARY, AUSTRALIA.

Year.	Number Admitted to Benefits.			Average Number of Persons on Benefit at end of each week.			Amount Paid in Benefits.		
	Un-employment.	Sick-ness.	Special. (a)	Un-employment.	Sick-ness.	Special. (a)	Un-employment.	Sick-ness.	Special. (b)
							£	£	£
1956-57 ..	96,030	52,791	14,876	12,452	7,006	2,762	2,096,036	1,498,526	404,866
1957-58 ..	143,877	54,517	17,886	23,847	7,262	2,812	4,919,775	1,857,263	553,706
1958-59 ..	145,016	58,680	13,701	27,669	8,242	2,596	5,959,248	2,196,527	496,535
1959-60 ..	108,224	59,159	14,590	21,374	8,755	2,650	4,504,504	2,238,281	510,163
1960-61 ..	161,113	58,184	14,001	21,569	8,513	2,829	4,468,532	2,151,479	519,907

(a) Includes migrants in reception and training centres.

(b) Includes payments to migrants in reception and training centres.

## § 8. Widows' Pensions.

Widows' pensions are payable to the following classes of women. The rates shown have been in operation since 10th October, 1961.

Class "A"—A widow who has the custody, care and control of one or more children under the age of 16 years—£286 per annum (£5 10s. a week) plus £39 per annum (15s. a week) for each child after the first in her custody, care and control.

Class "B"—A widow who has no children under 16 years of age in her custody, care and control, and who is not less than 50 years of age or who, after having attained the age of 45 years, ceased to receive a Class "A" widow's pension because she no longer had the custody, care and control of a child—£240 10s. per annum (£4 12s. 6d. a week).

Class "C"—A widow who is under 50 years of age and has no children under the age of 16 years in her custody, care and control, but is in necessitous circumstances within 26 weeks after the death of her husband—£4 12s. 6d. a week for not more than 26 weeks. If at the time of her husband's death the widow is pregnant, this period will be extended until the child's birth. She may then become eligible for a Class "A" widow's pension.

Widow pensioners may receive supplementary assistance of £26 per annum (10s. a week) if they pay rent and are considered to be dependent entirely on their pensions.

For classes "A" and "B", the term "widow" includes a deserted wife, a divorcee, a woman whose husband has been imprisoned for at least six months, and a woman whose husband is in a mental hospital. Certain "dependent females" may qualify for "A" "B" or "C" Class pensions.

The residential qualification is five years' continuous residence in Australia immediately prior to the date of lodgment of the claim, but this period may be reduced to one year if the widow and her husband were living permanently in Australia when he died. Certain absences count as residence.

A widow's pension is not payable to an alien, a woman receiving an age or invalid pension, a tuberculosis allowance, or a war widow's pension, a woman who has deprived herself of property or income in order to qualify for a pension, or a deserted wife or a divorcee who has not taken reasonable action to obtain maintenance from her husband or former husband. Aboriginal natives, other than those who are nomadic or primitive, are eligible for widows' pensions on the same conditions as other members of the community.

Widows' pensions are subject to a means test on income and property. The pension payable depends on the claimant's *means as assessed*. These consist of her annual rate of income together with a property component equal to £1 for every complete £10 by which the value of her property is in excess of a stipulated sum. In the case of a Class "B" widow, £200 of property is exempt. A Class "A" widow has a basic exemption of £1,000 when the value of her property exceeds £2,250, but no property component is calculated where she has property of no more than £2,250 in value. A Class "A" pension is not payable where a widow has property valued at £5,680 or more; no Class "B" pension is payable where property is £4,430 or more. There is no specific means test for the Class "C" pension, which is paid only where it is evident that a widow has insufficient means of support. The types of income and property disregarded for means test purposes are the same as for age and invalid pensions.

The pension payable to a Class "A" widow may be continued until her child reaches the age of 18 years if the child continues with full-time education at a school or university, is still dependent on the widow and is not in employment.

The number of widows' pensions by class, current at 30th June, 1961, was as follows:—Class "A", 24,491; Class "B", 30,830; Class "C", 115; total, 55,436.

The amount paid in pensions during 1960-61 was £13,468,519. The following table shows details of widows' pensions paid in each State and Territory in the year 1960-61.

## WIDOWS' PENSIONS AT 30th JUNE, 1961.

State or Territory.	Pensions Current.			Average Fort-nightly Pension.	Amount paid in Pensions during 1960-61.	
	Class "A".	All Classes.	Total per 10,000 of Population.		Amount.	Per head of Population.
				£ s. d.		£ s. d.
New South Wales ..	9,891	21,812	56	9 17 7	5,107,036	1 6 4
Victoria .. ..	5,394	13,311	45	9 14 2	3,328,886	1 3 0
Queensland .. ..	4,291	8,994	59	9 17 8	2,250,570	1 9 11
South Australia ..	2,089	4,897	51	9 15 4	1,188,854	1 4 10
Western Australia ..	1,749	4,348	59	9 11 9	1,051,952	1 8 10
Tasmania .. ..	959	1,849	53	9 19 7	469,851	1 6 10
Northern Territory ..	52	104	38	9 16 3	23,842	0 19 0
Australian Capital Territory .. ..	66	121	21	10 0 8	31,956	0 12 0
Abroad .. ..	(a)	(a)	..	..	15,572	..
<b>Total .. ..</b>	<b>24,491</b>	<b>55,436</b>	<b>53</b>	<b>9 16 3</b>	<b>13,468,519</b>	<b>1 5 11</b>

(a) Included in figures for State in which pensioner is permanently domiciled.

## § 9. Reciprocal Agreements with Other Countries.

1. **New Zealand.**—An agreement between the governments of Australia and New Zealand for reciprocity in social services came into operation on 1st July, 1949.

The reciprocal arrangements cover age and invalid pensions, widows' pensions, child endowment and unemployment and sickness benefits, and apply to both permanent and temporary changes of residence.

Residence in one country counts as residence in the other country in relation to entitlement to benefits in which a residential qualification applies.

Persons from one country taking up permanent residence in the other country become eligible for any of the specified benefits of the new country under the same conditions (with one or two exceptions) as apply to citizens of that country.

Persons in receipt of any of the specified benefits in one country may continue to receive those benefits while temporarily absent in the other country.

2. **United Kingdom.**—A new reciprocal agreement on social services between the United Kingdom and Australia came into operation on 1st April, 1958, replacing the original agreement which operated from 7th January, 1954.

Under this agreement, residence in one country now counts as residence in the other country as the basis for entitlement to benefits in which a residential qualification applies.

Australians going to the United Kingdom for permanent residence are treated in the United Kingdom as if they had been insured under the National Insurance Scheme while in Australia, so that they can qualify for various National Insurance benefits.

There is also provision for the safeguard of social service rights for persons going from one country to the other for temporary residence.

## C. OTHER SERVICES.

## § 1. Benevolent Homes.

1. **General.**—Numerous establishments exist for the housing and protection of persons no longer able to provide for themselves. These homes are supported by government and municipal aid, public subscriptions, bequests, etc. In many cases, relatives of poor and afflicted persons contribute to their maintenance.

An entirely satisfactory statistical tabulation of all forms of charitable aid provided by benevolent institutions is difficult because these services differ considerably.

2. **Principal Institutions.**—Particulars respecting the accommodation and the number of inmates of the principal institutions were published in earlier issues of the Official Year Book (see No. 22, p. 485).

3. **Revenue and Expenditure.**—Details regarding revenue and expenditure for the year 1959–60 are given in the following table.

## BENEVOLENT HOMES: REVENUE AND EXPENDITURE, 1959–60.

(£.)

Particulars.	N.S.W.(a)	Vic.	Q'land.	S.Aust.	W.Aust.	Tas.	Australia.					
<b>Revenue—</b>												
Government Aid..	791,448	1,069,745	565,500	140,709	208,720	363,750	3,139,872					
Municipal Aid ..	..	703	..	..	..	..	703					
Public Subscriptions, Legacies..	} 256,991	{ 120,820	26,588	..	4,050	..	} 1,809,648					
Fees(b) .. ..								798,864	213,314	328	257,162	48,026
Other .. ..								17,793	53,737	3,562	7,814	599
<b>Total</b> ..	<b>1,048,439</b>	<b>2,007,925</b>	<b>859,139</b>	<b>144,599</b>	<b>477,746</b>	<b>412,375</b>	<b>4,950,223</b>					
<b>Expenditure—</b>												
Salaries and Wages	560,907	958,627	436,485	100,466	324,756	278,502	2,659,743					
Upkeep and Repair of Buildings ..	59,562	83,480	14,454	7,544	5,474	12,963	183,477					
All Other ..	320,444	417,154	378,579	33,480	115,521	120,922	1,386,100					
Capital(c) ..	107,526	517,971	97,630	3,109	31,995	162,838	921,069					
<b>Total</b> ..	<b>1,048,439</b>	<b>1,977,232</b>	<b>927,148</b>	<b>144,599</b>	<b>477,746</b>	<b>575,225</b>	<b>5,150,389</b>					

(a) These figures relate to the three State hospitals and homes only. (b) Includes Commonwealth hospital benefits and age and invalid pension receipts. (c) Includes such items as purchase of land, cost of new buildings and additions to buildings.

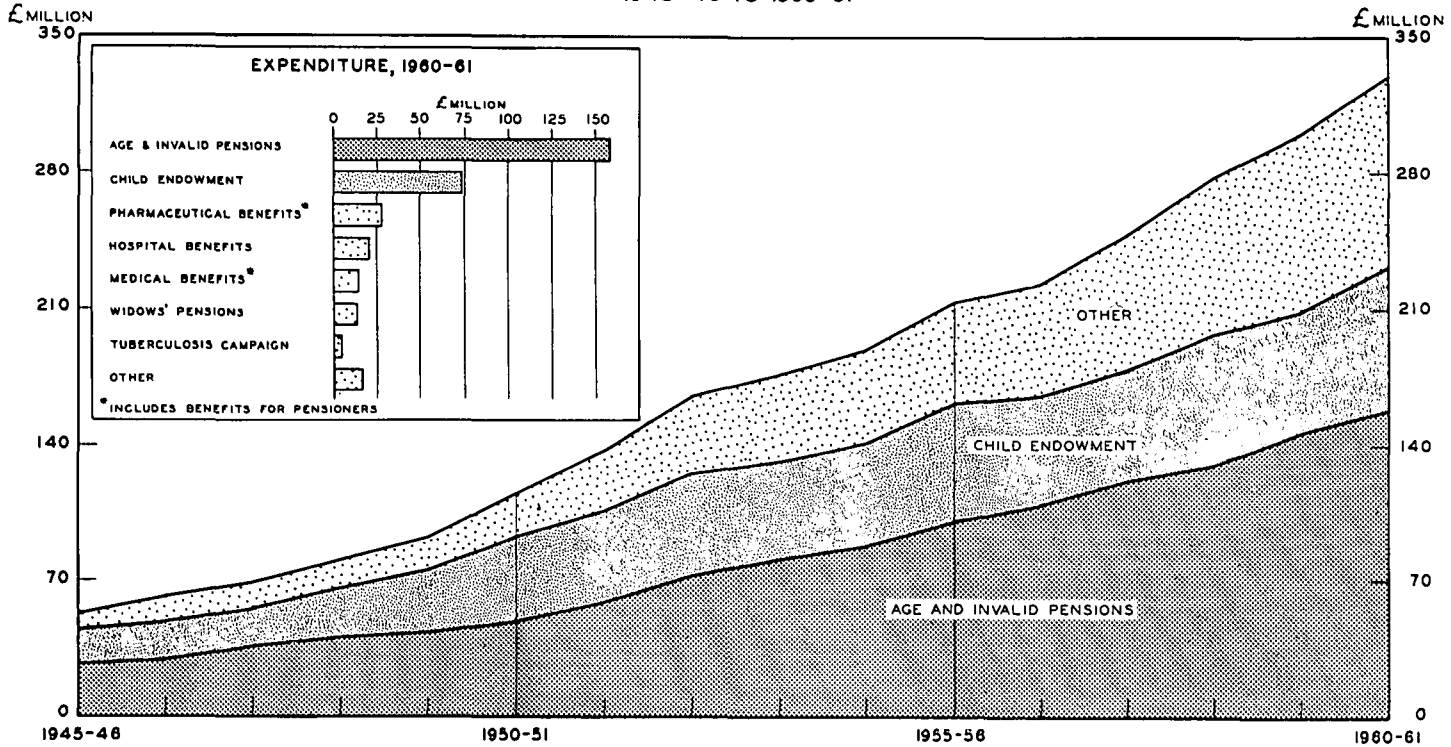
4. **The Aged Persons Homes Act.**—The Aged Persons Homes Act, which operated from 16th December, 1954, was amended in October, 1957. The purpose of the Act is to encourage the provision of homes in which aged persons may reside in conditions approaching normal domestic life.

To be eligible for assistance under this Act an organization must be—

- (a) carried on otherwise than for purposes of profit or gain to the individual members; and
- (b) a religious organization, an organization the principal objects or purposes of which are charitable or benevolent, an organization of former members of the defence forces established in every State or a State branch of such an organization, or an organization approved by the Governor-General for the purposes of this Act.

# COMMONWEALTH EXPENDITURE ON SOCIAL AND HEALTH SERVICES

1945-46 TO 1960-61



An organization conducted or controlled by, or by persons appointed by, the Government of the Commonwealth or of a State or a local governing body established under the law of a State, is not eligible for assistance under this Act.

The Director-General of Social Services may make a grant of money to an organization as assistance towards meeting the cost of the construction or purchase of a home, including land, to be used permanently for the accommodation of aged persons. The grant is made on a £2 for £1 basis with money raised by the organization, not counting money which the organization received from a governmental body or borrowed. Before a grant is made, the Director-General must be satisfied that the sum of the money expended and the money presently available for expenditure by the organization towards the capital cost of the home, together with the amount of the grant, will be not less than the capital cost of the home. Expenditure by the Commonwealth Government was £397,994 in 1955-56, £751,136 in 1956-57, £837,895 in 1957-58, £1,767,470 in 1958-59, £1,871,748 in 1959-60 and £2,153,551 in 1960-61.

## § 2. Orphanages, Industrial Schools, etc.

1. **General.**—The methods of caring for orphans and neglected children differ extensively, some being placed in orphanages and industrial schools, while others are boarded out with their mothers or female relatives or with approved foster-mothers. The children in orphanages and similar institutions may receive, in addition to primary education, some craft training. In all cases, employment is found for the children on their discharge from the institution, and they remain for some time under the supervision of the proper authorities. The conditions under which orphans, neglected children and children boarded out live are subject to frequent departmental inspections.

2. **Principal Institutions.**—Particulars concerning the principal institutions in each State were published in earlier issues of the Official Year Book (*see* No. 22, p. 486).

3. **Children under Government Authority.**—The following table shows the expenditure by State Departments during 1959-60 in connexion with children under their control or supervision. In addition to neglected children, the figures refer to uncontrollable and convicted children who are wards of a government authority, as well as poor children whose parents obtain assistance from the government without giving up the legal right of custody.

**CHILDREN UNDER GOVERNMENT AUTHORITY: COST OF MAINTENANCE, 1959-60.**  
(£.)

Particulars.	N.S.W.	Vic.(a)	Q'land.	S.Aust.	W.Aust.	Tas.	Aust.
Gross cost of children's relief .. ..	2,107,909	1,298,451	566,073	389,059	270,992	95,439	4,727,923
Receipts from parents' contributions, etc. . .	115,638	68,653	38,607	44,469	32,105	6,649	306,121
<i>Net Cost to State</i>	<i>1,992,271</i>	<i>1,229,798</i>	<i>527,466</i>	<i>344,590</i>	<i>238,887</i>	<i>88,790</i>	<i>4,421,802</i>

(a) Year ended 31st December, 1960.

The total expenditure on children's relief in the foregoing table shows considerable variation between the States, owing to the different methods of treating assistance to mothers with dependent children. In South Australia, Western Australia and Tasmania, large amounts have been excluded from the total expenditure on this account, owing to the difficulty of obtaining separate particulars for allowances made in respect of the dependent children only.



### § 3. Protection of Aborigines.

For the protection of the aboriginal Australian race, there are institutions, under the supervision of Aborigines Boards, where these people are housed and encouraged to work, the children receiving elementary education. The work is usually carried on at mission stations, but many of the natives are nomadic and receive food and clothing when they call, while others only rarely come near the stations. The aboriginal race is extinct in Tasmania. The expenditure from Consolidated Revenue in 1960–61 was as follows (figures in brackets are for the year 1959–60):—New South Wales, £250,658 (£239,541); Victoria, £25,000 (£25,000); Queensland, £770,013 (£695,773); South Australia, £428,021 (£357,169); Western Australia, £762,294 (£636,224); Northern Territory, £965,227 (£979,984); Australian Capital Territory, £5,485 (£5,102); Australia, £3,206,698 (£2,938,793).

### § 4. Lifesaving.

There are two life saving organizations in Australia, the Royal Life Saving Society—Australia, and the Surf Life Saving Association of Australia.

The objects of these organizations are the prevention of death from drowning and other forms of asphyxiation; the education of the general public in methods of life saving and resuscitation of the apparently drowned or asphyxiated; technical education in water safety; the encouragement of swimming and life saving in schools and other organizations; the encouragement of all aspects of swimming and aquatics which would assist in saving lives; and the initiation of research within the field of water safety and lifesaving.

The Royal Life Saving Society operates at lakes, rivers, bay and harbour beaches, and gives instruction to school pupils and members of other bodies throughout Australia except on surf beaches. The Surf Life Saving Association patrols surf beaches.

Numerous certificates and medallions of proficiency in various grades are awarded.

### § 5. Royal Humane Society.

The Royal Humane Society of Australasia has as its main object the granting of awards to all who with bravery, skill and perseverance risk their own lives in saving or attempting to save those of their fellow creatures. The classes of awards are (a) Gold Medal; (b) Silver Medal; (c) Bronze Medal; and (d) Certificate of Merit. The Clarke Medal is awarded for the outstanding case of the year, and the Rupert Wilks Trophy is awarded for the most outstanding bravery by a child under 13 years of age.

### § 6. The Order of St. John.

The Priory in Australia of the Most Venerable Order of the Hospital of St. John of Jerusalem is the governing body of the various activities of the Order which comprises the St. John Ambulance Association, the St. John Ambulance Brigade and the Hospitallers' Clubs in all States and Commonwealth Territories.

Members of the St. John Ambulance Association teach first aid, home nursing, hygiene and child welfare.

Members of the St. John Ambulance Brigade provide first aid at public functions.

The Hospitallers' Clubs in each State undertake the collection of funds for the St. John Ophthalmic Hospital in Jerusalem, and other duties which tend to bring together all persons interested in the work of the order.

The Order of St. John maintains ambulance transport services in some States, acts as an auxiliary to such services in other States, and provides technical reserves for the medical services of the Crown.

The Lifesaving Medal is awarded by the Order as warranted.

### § 7. Other Charitable Institutions.

Owing to the variety of names and functions of other charitable institutions, it has been found impracticable to give detailed particulars. The aid given in kind—food, clothing, tools of trade, etc.—is considerable, whilst the shelter and treatment afforded range from a bed for a night for casual callers in establishments ministering minor charity, to indoor treatment over long periods in those that exist for the relief of the aged and the infirm. The institutions not particularized include homes for the deaf, dumb and blind, infant homes, homes for the destitute and aged poor, industrial colonies, night shelters, crèches, rescue homes for females, free kindergartens, auxiliary medical charities, free dispensaries, benevolent societies and nursing systems, ambulance and health societies, boys' brigades, humane and animals' protection societies, prisoners' aid associations, shipwreck relief societies, bushfire, flood and mining accident relief funds.

## CHAPTER XIX.

## LOCAL GOVERNMENT.

## § 1. Introduction.

1. **Local Government Authorities.**—In each State of the Commonwealth, there exists a system of local government whose powers and responsibilities are in general similar, and cover such matters as the construction and maintenance of roads, streets and bridges, water, sewerage and drainage systems, and health and sanitary services, the supervision of building, and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local government authority either with or without the consent of the ratepayers or the Governor-in-Council. These include transport facilities, electricity, gas, and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, baths, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State legislatures to the local authorities, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers.

While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc., differ considerably.

The areas over which local government bodies exercise general control, numbering 903, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires;\* and in Tasmania as cities and municipalities. In New South Wales, some local government authorities in an area have combined to provide services such as electricity, water, sewerage and drainage—e.g., the county councils. Within shires, there are also some municipal units known as urban areas. Apart from the more thinly populated parts of New South Wales and South Australia, and the Commonwealth Territories, practically the whole of Australia comes within local government jurisdiction.

The financial statistics in § 2 following are classified under the headings of Ordinary Services and Business Undertakings. The former covers the obligatory and general functions referred to above. Business Undertakings include public utilities such as water supply, sewerage, electricity, gas, transport and hydraulic power undertakings, and other miscellaneous works such as abattoirs, quarries, ice works, cinemas, etc.

2. **Semi-Governmental Authorities.**—In addition to local government authorities, a large number of authorities have been set up to control specific activities, which are often identical with some of those performed by either, or both, of the other classes of public authority—central government and local government—and a complete picture of any field of activity for a State or Australia as a whole cannot be obtained without reference to each class operating in that particular field. These semi-governmental authorities differ primarily from local government authorities in that their operations are restricted to the specific activity for which they were constituted—e.g., roads and bridges, water and sewerage, electricity and irrigation, harbours, or tramways, etc.—i.e. each dispenses a specific service throughout an area as distinct from the general services of the local authority.

In §§ 3 to 7, which deal with debt, roads and bridges, water supply and sewerage, harbours, and fire brigades, particulars are included of the more important of these authorities which operate within the range covered by this chapter.

3. **Roads, Bridges, etc.**—The construction and maintenance of roads, bridges and ferries are generally part of the functions of local authorities, but in each State there exists a central road authority or a government department whose duties relate to the construction, reconstruction and maintenance of "main" and "developmental" roads, the distribution of funds to local bodies, and the supervision and co-ordination of road construction and policy throughout the State. Although roads and bridges constructed and maintained directly by the government or by the central road authority do not properly come under the heading of "Local Government", they have been included in this chapter for the

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\* Commencing 1st July, 1961—formerly known as cities, municipalities and road districts.

sake of convenience. Owing to difficulty in obtaining complete particulars of receipts and expenditure of the various local governing bodies in respect of roads under their control, the details of receipts and expenditure given in § 4 are those of central governments only, relating either to the supervisory board or commission in the State or to direct activities of a department. However, estimates of the aggregate net expenditure of all public authorities concerned with roads and bridges in Australia are given in paragraph 10 of that section. In § 2, some information is given of the revenue and expenditure of local government authorities in respect of roads.

4. **Water Supply and Sewerage.**—In the cities of Sydney and Melbourne, the control of water supply and sewerage is in the hands of special boards, while in Adelaide and Perth these services are under the direct supervision of government departments. In most of the other cities and towns, the municipal councils or, in some cases, water trusts, are the controlling bodies, which either construct the works out of their own resources or take them over after they have been constructed by the government.

5. **Harbours.**—The majority of the harbours in Australia are managed by boards, the members of which are either elected by persons interested, or appointed by the government. In some instances, however, they are directly controlled by the government.

6. **Fire Brigades.**—In all the States, the management of fire brigades is undertaken by boards. These boards usually comprise members elected by the councils of municipalities and insurance companies within the districts placed under their jurisdiction, and one or more members appointed by the government. Occasionally, volunteer or country fire brigades are represented.

7. **Other Local or Semi-Governmental Activity.**—The activities referred to above are not the only forms of local or semi-governmental undertakings. There are others, the most important being tramways and omnibus services, and electricity and gas undertakings, which are not dealt with in this chapter except to the extent that they are represented in the finances as shown in the following section. Chapter XIV., Transport and Communication, contains information on municipal transport services, and Chapter VII., Electric Power Generation and Distribution, deals with the various types of electricity undertakings in each State. In addition, particulars of municipal electricity and gas undertakings, although not shown separately, are included in the relevant sections in Chapter VI., Manufacturing Industry.

## § 2. Local Government Authorities.

1. **New South Wales.**—For purposes of local government, the whole of the Eastern and Central land divisions and a small portion of the sparsely populated Western division have been divided into cities, municipalities (most principal towns) and shires (mainly large rural areas, some of which embrace important towns). At the end of 1959, the area incorporated was 272,000 square miles, or nearly nine-tenths of the total area of the State.

All local government authorities in the State are subject to the general provisions of the Local Government Act.

Municipalities and shires may combine to form county councils for the establishment and conduct of services of joint benefit, e.g., electricity, water, sewerage. At 31st December, 1959, there were 54 county councils, including the Sydney County Council.

2. **Victoria.**—Local government is established throughout the State, the various divisions being termed cities, towns, boroughs or shires. The only unincorporated areas are French Island (42,000 acres) in Westernport Bay, Julia Percy Island (650 acres) off Port Fairy, and Tower Hill (1,460 acres) adjacent to the Borough of Kororoit. Melbourne and Geelong were incorporated under special statutes prior to the establishment of a general system of local government, but are now subject to several provisions of the Local Government Act.

3. **Queensland.**—The whole of the State (except certain islands along the coast, the Dawson Valley Irrigation Area and the Somerset Dam Area) is incorporated into cities, towns and shires under the Local Authorities Act 1902 and its amendments.

4. **South Australia.**—The settled portion of South Australia is incorporated, being mostly under municipal corporations in the larger cities and towns, and district councils in the agricultural areas.

5. Western Australia.—Local government is established throughout the State, the divisions since 1st July, 1961, being cities, towns and shires (formerly cities, municipalities and road districts).

6. Tasmania.—The whole State is divided into municipal districts, Hobart and Launceston being incorporated as cities under separate Acts.

7. Area, Population, Dwellings and Value of Ratable Property.—The area, population, dwellings and value of ratable property in the incorporated areas of each State are shown for the year 1959-60 in the following table. The valuations relate to ratable property only and exclude Government and other non-ratable property, whose value in the aggregate is considerable. In this table, particulars of dwellings are in accordance with the definition used in the 1954 Census, and are compiled from information collected on the Census Schedules. For the purpose of the Census, a dwelling was defined as any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building. The term has, therefore, a very wide meaning and includes, in addition to houses and flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution. Unoccupied dwellings include "week-end" and holiday dwellings and other dwellings temporarily unoccupied on the night of the Census. Dwellings being built are not included.

**LOCAL GOVERNMENT AUTHORITIES: AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1959-60.**

Local Bodies.	Number.	Area. '000 Acres.	Population. '000	Dwellings.		Value of Ratable Property.		
				Occupied.	Unoccupied.	Unimproved Capital Value. £'000.	Im- proved Capital Value. £'000.	Annual Value. £'000.
				No. (a)	No. (a)			
<b>NEW SOUTH WALES.(b)</b>								
Metropolitan—								
Capital City .. ..	1	7	183	52,763	1,099	161,644	469,705	25,170
Other .. ..	34	702	1,904	470,664	13,464	647,002	2,211,198	128,322
Outside Metropolitan Area	192	173,648	1,660	385,517	28,128	549,451	(c)	(c)
<i>Total</i> .. ..	<i>227</i>	<i>174,357</i>	<i>3,747</i>	<i>908,944</i>	<i>42,691</i>	<i>1,358,097</i>	(c)	(c)
<b>VICTORIA.(d)</b>								
Metropolitan—								
Capital City .. ..	1	8	88	22,348	455	(c)	245,939	12,297
Other .. ..	41	603	1,758	371,340	6,316	(c)	1,446,239	73,060
Outside Metropolitan Area(e)	164	55,500	1,032	267,089	20,713	(c)	1,062,263	53,756
<i>Total</i> .. ..	<i>206</i>	<i>56,111</i>	<i>2,878</i>	<i>660,777</i>	<i>27,484</i>	(c)	<i>2,754,441</i>	<i>139,113</i>
<b>QUEENSLAND.(f)</b>								
Capital City .. ..	1	246	578	133,064	3,948	69,910	(c)	(c)
Outside Metropolitan Area	131	425,980	909	205,598	17,436	204,096	(c)	(c)
<i>Total</i> .. ..	<i>132</i>	<i>426,226</i>	<i>1,487</i>	<i>338,662</i>	<i>21,384</i>	<i>274,006</i>	(c)	(c)
<b>SOUTH AUSTRALIA.(f)</b>								
Metropolitan—								
Capital City .. ..	1	4	28	7,454	211	40,761	110,000	5,500
Other .. ..	20	100	550	126,649	2,737	(c)	368,000	18,394
Outside Metropolitan Area	121	36,644	356	78,505	5,399	(c)	354,000	17,675
<i>Total</i> .. ..	<i>142</i>	<i>36,748</i>	<i>934</i>	<i>212,608</i>	<i>8,347</i>	(c)	<i>832,000</i>	<i>41,569</i>
<b>WESTERN AUSTRALIA.(g)</b>								
Metropolitan—								
Capital City .. ..	1	15	99	25,460	577	1,913	(c)	5,805
Other .. ..	19	107	296	65,281	1,262	43,310	(c)	2,784
Outside Metropolitan Area	127	624,466	336	72,082	4,775	59,741	(c)	1,705
<i>Total</i> .. ..	<i>147</i>	<i>624,588</i>	<i>731</i>	<i>162,823</i>	<i>6,614</i>	<i>104,964</i>	(c)	<i>10,294</i>

NOTE.—See next page for footnotes.

LOCAL GOVERNMENT AUTHORITIES: AREA, POPULATION, DWELLINGS  
AND VALUE OF RATABLE PROPERTY, 1959-60—*continued.*

Local Bodies.	Num-ber.	Area. '000 Acres.	Popula- tion. '000	Dwellings.		Value of Ratable Property.		
				Occu- pied.	Unoccu- pied.	Unim- proved Capital Value.	Im- proved Capital Value.	Annual Value.
				No. (a)	No. (a)	£'000.	£'000.	£'000.
<b>TASMANIA.(f)</b>								
Metropolitan—								
Capital City .. ..	1	18	55	14,624	375	22,050	62,342	4,254
Other .. ..	2	99	53	9,333	531	10,111	39,248	2,254
Outside Metropolitan Area	46	16,661	239	54,905	4,382	57,353	178,571	12,149
Total .. ..	49	16,778	347	78,862	5,288	89,514	280,161	18,657

(a) Particulars of dwellings are as at Census 30th June, 1954. (b) Year ended 31st December, 1959. (c) Not available. (d) Year ended 30th September, 1960. (e) Excludes Yallourn Works Area under the jurisdiction of the State Electricity Commission. (f) Year ended 30th June, 1960. (g) Municipalities—Year ended 31st October, 1960; Road Districts—Year ended 30th June, 1960.

8. Finances.—(i) *General.* The following tables show the latest available financial statistics for local government authorities. The figures relate to the year 1959-60, except for New South Wales, where they relate to the year 1959.

For further detail on local government finances see *Finance, Part I.—Public and Private Finance*, Bulletin No. 52, 1960-61, issued by this Bureau.

(ii) *Ordinary Services.* In the returns of revenue and expenditure for 1959-60 in the following tables, the proceeds from loans and expenditure thereof have been excluded. The financial operations of business undertakings controlled by the various local government authorities are given in the next paragraph. The profits resulting from the working of these undertakings, where taken into general revenue, have been included.

LOCAL GOVERNMENT AUTHORITIES: ORDINARY SERVICES—REVENUE AND  
EXPENDITURE, 1959-60.

Particulars.	N.S.W. (a)	Vic. (b)	Q'land. (c)	S. Aust. (c)	W. Aust. (d)	Tas. (c)	Total.
Number of Local Government Authorities .. ..	227	206	132	142	147	49	903

REVENUE (EXCLUDING LOAN RECEIPTS). (£'000.)

<b>Taxation—</b>							
Rates (net) .. ..	35,254	22,084	14,582	5,985	3,877	2,310	84,092
Penalties .. ..	297	83	..	78	73	29	380
Licences .. ..	667	169	145	..	..	..	1,161
Total .. ..	36,218	22,336	14,727	6,063	3,950	2,339	85,633
<b>Public Works and Services—</b>							
Sanitary and Garbage Services	3,645	1,608	2,367	52	495	98	8,265
Council Properties	3,285	(e) 4,382	736	482	1,125	272	10,282
Street Con-struction .. ..	1,876	1,542	..	(f) 837	359	25	4,639
Other .. ..	4,049	749	241	218	63	140	5,460
Total .. ..	12,855	8,281	3,344	1,589	2,042	535	28,646
<b>Government Grants—</b>							
Roads .. ..	10,597	270	2,088	2,672	1,348	319	17,294
Other .. ..	1,354	1,080	681	67	1,776	29	4,987
Total .. ..	11,951	1,350	2,769	2,739	3,124	348	22,281
<b>Profits from Business Undertakings .. ..</b>	..	356	..	..	52	..	408
<b>Fees and Fines .. ..</b>	..	219	..	120	56	..	395
<b>All Other .. ..</b>	..	322	(g) 4,753	156	213	182	5,626
<b>Total Revenue .. ..</b>	61,024	32,864	25,593	10,667	9,437	3,404	142,989

NOTE.—See next page for footnotes.

## LOCAL GOVERNMENT AUTHORITIES: ORDINARY SERVICES—REVENUE AND EXPENDITURE, 1959-60—continued.

Particulars.	N.S.W. (a)	Vic. (b)	Q'land. (c)	S. Aust. (c)	W. Aust. (d)	Tas. (c)	Total.
<b>EXPENDITURE (EXCLUDING LOAN EXPENDITURE). (£'000.)</b>							
General Administration ..	4,035	4,621	2,242	868	1,106	442	13,314
Debt Services (excluding Business Undertakings)—							
Interest ..	2,010	1,444	2,093	257	492	167	6,463
Redemption ..	3,929	1,793	2,838	544	915	261	10,280
Exchange ..	19	..	119	..	..	..	138
Other ..	..	37	12	..	..	..	49
Total ..	5,958	3,274	5,062	801	1,407	428	16,930
Public Works and Services—							
Roads, Streets and Bridges ..	27,715	10,687	8,118	6,668	2,562	1,457	57,207
Health Administration ..	1,186	397	2,734	151	266	81	13,933
Sanitary and Garbage Services ..	4,656	3,390		397	556	119	
Street Lighting ..	1,319	663	378	234	140	98	2,832
Council Properties ..	7,902	(h) 6,270	2,884	1,181	2,820	455	21,512
Other ..	2,342	568	237	276	76	83	3,582
Total ..	45,120	21,975	14,351	8,907	6,420	2,293	99,066
Grants—							
Fire Brigades ..	354	501	166	92	114	40	1,267
Hospitals and Ambulances ..	218	154	..	210	8	..	592
Other Charities ..				2			
Other ..	(i) 1,436	(j) 1,278	606	18	19	27	3,384
Total ..	2,008	1,933	772	322	141	67	5,243
All Other ..	1,390	492	(k) 3,204	..	290	180	5,556
Total Expenditure	58,511	32,295	25,631	10,898	9,364	3,410	140,109

(a) Figures for New South Wales relate to the year ended 31st December, 1959, and are on an income and expenditure basis as distinct from those of other States which are on a cash basis. (b) Year ended 30th September, 1960. (c) Year ended 30th June, 1960. (d) Municipalities—Year ended 31st October, 1960, Road Districts—Year ended 30th June, 1960. (e) Includes £2,000,000 plant hire. (f) Includes £80,000 reimbursement from Highways Department. (g) Includes the following reimbursements: £1,662,000 from Main Roads Department, £409,000 from other State Government Departments and £1,045,000 from other sources. (h) Includes £1,215,000 plant and equipment. (i) To Main Roads Department. (j) Includes £755,000 to Country Roads Board. (k) Includes expenditure on work done: for Main Roads Department £1,668,000; for other State Government Departments £397,000; Other £1,012,000.

The following table shows the revenue and expenditure (excluding loan) of local government authority ordinary services for the years 1955-56 to 1959-60.

## LOCAL GOVERNMENT AUTHORITIES: ORDINARY SERVICES—REVENUE AND EXPENDITURE. (£'000.)

Year ended 30th June.	N.S.W.(a)	Victoria.(b)	Q'land.	S. Aust.	W. Aust.(c)	Tas.	Total.
<b>REVENUE (EXCLUDING LOAN RECEIPTS).</b>							
1956 ..	41,135	21,624	(d)	7,565	6,559	2,360	(d)
1957 ..	45,570	24,840	19,623	8,694	7,404	2,721	108,852
1958 ..	52,440	26,742	21,654	9,313	7,966	2,848	120,963
1959 ..	55,946	29,456	23,618	9,977	8,544	3,147	130,688
1960 ..	61,024	32,864	25,593	10,667	9,437	3,404	142,989
<b>EXPENDITURE (EXCLUDING LOAN EXPENDITURE).</b>							
1956 ..	40,938	22,215	(d)	7,828	6,804	2,452	(d)
1957 ..	46,403	25,299	19,503	8,921	7,232	2,697	110,055
1958 ..	50,510	27,210	20,870	9,115	7,751	2,828	118,284
1959 ..	54,024	29,332	23,184	10,024	8,343	3,149	128,056
1960 ..	58,511	32,295	25,631	10,898	9,364	3,410	140,109

(a) Years ended previous 31st December. (b) Years ended 30th September. (c) Municipalities—Years ended 31st October; Road Districts—Years ended 30th June. (d) Not available.

(iii) *Business Undertakings.* The tables hereunder show, for 1959-60, particulars of the revenue and expenditure, other than loan, of business undertakings under the control of local government authorities. These particulars are not included in the foregoing tables.

**LOCAL GOVERNMENT AUTHORITIES: BUSINESS UNDERTAKINGS—REVENUE AND EXPENDITURE, 1959-60.**  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'lan.l.	S. Aust.	W. Aust.	Tas.	Total.
<b>REVENUE (EXCLUDING LOAN RECEIPTS).</b>							
<i>Water Supply and Sewerage—</i>							
Rates .. .. .	2,880	308	2,068	..	6	925	6,187
Charges for Services and Sales of Products ..	825	..	1,835	2	35	177	2,874
Other (including Grants) ..	(a) 857	6	417	..	3	175	1,458
<i>Total</i> .. .. .	4,562	314	4,320	2	44	1,277	10,519
<i>Electricity and Gas—</i>							
Rates .. .. .	361	..	6	1	..	..	368
Charges for Services and Sales of Products ..	62,170	15,093	6,676	462	722	..	85,123
Other (including Grants) ..	1,817	206	196	56	3	..	2,278
<i>Total</i> .. .. .	64,348	15,299	6,878	519	725	..	87,769
<i>Railways, Tramways and Omnibuses—</i>							
Rates .. .. .	..	..	..	..	..	..	..
Charges for Services and Sales of Products ..	..	..	3,660	..	..	..	3,660
Other (including Grants) ..	..	..	150	..	..	..	150
<i>Total</i> .. .. .	..	..	3,810	..	..	..	3,810
<i>Other—</i>	(b)	(c)	(d)	(e)	(f)	(g)	..
Rates .. .. .	11	..	11	..	52	..	74
Charges for Services and Sales of Products ..	3,823	875	294	77	54	207	5,330
Other (including Grants) ..	46	17	16	3	21	3	106
<i>Total</i> .. .. .	3,880	892	321	80	127	210	5,510
<b>Grand Total</b> .. .. .	<b>72,790</b>	<b>16,505</b>	<b>15,329</b>	<b>601</b>	<b>896</b>	<b>1,487</b>	<b>107,608</b>
<b>EXPENDITURE (EXCLUDING LOAN EXPENDITURE).</b>							
<i>Water Supply and Sewerage—</i>							
Working Expenses .. ..	2,067	238	1,963	4	24	601	4,897
Depreciation .. .. .	(h) 325	17	..	..	..	..	308
Debt Charges .. .. .	1,771	43	1,751	..	14	603	4,182
Other (including Transfers to General Revenue and Construction) ..	..	5	573	..	..	92	670
<i>Total</i> .. .. .	3,513	303	4,287	4	38	1,296	9,441
<i>Electricity and Gas—</i>							
Working Expenses .. ..	54,417	13,478	4,193	411	573	..	73,072
Depreciation .. .. .	(h) 1,363	443	..	..	60	..	1,866
Debt Charges .. .. .	6,625	454	1,962	41	65	..	9,147
Other (including Transfers to General Revenue and Construction) ..	..	591	499	81	31	..	1,202
<i>Total</i> .. .. .	62,405	14,966	6,654	533	729	..	85,287
<i>Railways, Tramways and Omnibuses—</i>							
Working Expenses .. ..	..	..	3,730	..	..	..	3,730
Depreciation .. .. .	..	..	..	..	..	..	..
Debt Charges .. .. .	..	..	439	..	..	..	439
Other (including Transfers to General Revenue and Construction) ..	..	..	155	..	..	..	155
<i>Total</i> .. .. .	..	..	4,324	..	..	..	4,324
<i>Other—</i>	(b)	(c)	(d)	(e)	(f)	(g)	..
Working Expenses .. ..	3,550	756	153	86	38	131	4,714
Depreciation .. .. .	25	33	..	..	..	..	58
Debt Charges .. .. .	135	69	39	..	1	..	262
Other (including Transfers to General Revenue and Construction) ..	..	75	24	2	79	26	206
<i>Total</i> .. .. .	3,710	933	216	88	118	175	5,240
<b>Grand Total</b> .. .. .	<b>69,628</b>	<b>16,202</b>	<b>15,481</b>	<b>625</b>	<b>885</b>	<b>1,471</b>	<b>104,292</b>

(a) Includes Government grant, £547,000, for part of cost of new works borne by Government.  
 (b) Abattoirs, and production of building materials. (c) Abattoirs, hydraulic power undertakings, quarries and iceworks. (d) Off-street car parking, municipal markets, amusement parks, hotels, and cinemas. (e) Quarries and hospitals. (f) Quarries, abattoirs and vermin control. (g) Abattoirs.  
 (h) Net balance after deducting charge for debt redemption. The full amount of charge for debt redemption is included under debt charges.

NOTE.—For years to which particulars relate, see following table. Minus sign (–) indicates an excess of credits.

The next table shows the revenue and expenditure, other than loan, of local government business undertakings for the years 1955-56 to 1959-60.

**LOCAL GOVERNMENT AUTHORITIES: BUSINESS UNDERTAKINGS—REVENUE AND EXPENDITURE.**  
(£'000.)

Year ended 30th June—	N.S.W.(a)	Victoria.(b)	Q'land.	S. Aust.	W. Aust.(c)	Tas.	Total.
<b>REVENUE (EXCLUDING LOAN RECEIPTS).</b>							
1956 ..	51,312	9,995	(d)	592	628	833	(d)
1957 ..	55,392	11,462	12,651	527	644	988	81,664
1958 ..	61,526	13,021	13,175	548	702	1,151	90,123
1959 ..	66,378	15,242	14,113	563	771	1,272	98,339
1960 ..	72,790	16,505	15,329	601	896	1,487	107,608

**EXPENDITURE (EXCLUDING LOAN EXPENDITURE).**

1956 ..	48,442	9,800	(d)	576	627	846	(d)
1957 ..	53,470	11,105	13,118	510	637	934	79,774
1958 ..	58,007	12,541	13,533	561	704	1,123	86,469
1959 ..	63,777	14,815	14,296	556	747	1,269	95,460
1960 ..	69,628	16,202	15,481	625	885	1,471	104,292

(a) Years ended previous 31st December. (b) Years ended 30th September. (c) Municipalities—Years ended 31st October; Road Districts—Years ended 30th June. (d) Not available.

(iv) *Loan Expenditure.* The tables below show particulars for 1959-60 of loan expenditure on works connected with the ordinary services and the business undertakings of local government authorities.

**LOCAL GOVERNMENT AUTHORITIES: LOAN EXPENDITURE, 1959-60.**  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<b>ORDINARY SERVICES.</b>							
Roads, Bridges, Streets, Footpaths, Drainage and Sewerage .. ..	3,469	2,846	6,331	933	982	586	15,147
Council Properties .. ..	(a) 2,612	(a) 912	} (a) 1,807	{ 125	(a) 488	(a) 385	} 7,586
Parks, Gardens and Recreational Reserves .. ..	466	368		{ 95	248	80	
Other .. ..	(b) 454	607	342	4	101	58	1,566
<b>Total .. ..</b>	<b>7,001</b>	<b>4,733</b>	<b>8,480</b>	<b>1,157</b>	<b>1,819</b>	<b>1,109</b>	<b>24,299</b>

**BUSINESS UNDERTAKINGS.**

Water Supply .. ..	1,379	189	3,832	..	.. 19	} 1,226	7,418
Sewerage .. ..	773	..	..	..	..		
Electricity and Gas .. ..	10,455	1,089	2,135	58	59	..	13,796
Railways, Tramways and Omnibuses .. ..	..	..	333	..	..	..	333
Abattoirs .. ..	169	36	..	..	..	..	205
Other .. ..	..	5	4	..	..	..	9
<b>Total .. ..</b>	<b>12,776</b>	<b>1,319</b>	<b>6,304</b>	<b>58</b>	<b>78</b>	<b>1,226</b>	<b>21,761</b>
<b>Grand Total .. ..</b>	<b>19,777</b>	<b>6,052</b>	<b>14,784</b>	<b>1,215</b>	<b>1,897</b>	<b>2,335</b>	<b>46,060</b>

(a) Includes plant. (b) Includes advances for homes, £106,000.

NOTE.—For years to which particulars relate. see following table.



The following table shows the loan expenditure on works connected with local government ordinary services and business undertakings during the years 1955–56 to 1959–60.

**LOCAL GOVERNMENT AUTHORITIES: LOAN EXPENDITURE.**  
(£'000.)

Year ended 30th June—	N.S.W.(a)	Victoria.(b)	Q'land.	S. Aust.	W. Aust.(c)	Tas.	Total.
<b>ORDINARY SERVICES.</b>							
1956 ..	6,100	3,088	(d)	1,112	1,486	477	(d)
1957 ..	5,857	3,711	4,596	924	1,334	580	17,002
1958 ..	5,644	4,215	5,673	1,077	1,580	455	18,644
1959 ..	5,941	4,313	6,225	1,313	2,093	812	20,697
1960 ..	7,001	4,733	8,480	1,157	1,819	1,109	24,299
<b>BUSINESS UNDERTAKINGS.</b>							
1956 ..	9,569	1,140	(d)	25	49	888	(d)
1957 ..	9,656	1,300	5,348	58	36	761	17,159
1958 ..	11,024	1,796	5,022	99	159	1,163	19,263
1959 ..	11,645	1,505	6,464	54	144	958	20,770
1960 ..	12,776	1,319	6,304	58	78	1,226	21,761

(a) Years ended previous 31st December. (b) Years ended 30th September. (c) Municipalities—Years ended 31st October; Road Districts—Years ended 30th June. (d) Not available.

### § 3. Local and Semi-Governmental Authorities' Debt.

1. **General.**—Statistics of local and semi-governmental debt for the years 1955–56 to 1959–60 are given in the following paragraph. The information covers all local government authorities and those semi-governmental authorities responsible for the provision of the following services.

*New South Wales.* Water Supply, Sewerage and Drainage, Electricity Supply, Fire Brigades, and Banking. County Councils are included among these authorities.

*Victoria.* Water Supply and Sewerage, Irrigation and Drainage, Harbours, Tramways, Electricity and Gas Supply, Fire Brigades, Marketing (Buying and Selling), Industry Assistance, Grain Elevators, Housing, and Miscellaneous.

*Queensland.* Water Supply and Sewerage, Irrigation and Drainage, Harbours, Electricity Supply, Fire Brigades, University, Hospitals and Ambulances, Marketing (Buying and Selling and Agency), and Industry Assistance.

*South Australia.* Irrigation and Drainage, Tramways, Electricity Supply, Fire Brigades, Hospitals and Ambulances, Marketing (Agency), Industry Assistance, Banking, Housing, and Miscellaneous.

*Western Australia.* Water Supply and Sewerage, Irrigation and Drainage, Harbours, Tramways, Electricity Supply, Fire Brigades, Hospitals and Ambulances, Marketing (Agency), Housing and University of Western Australia.

*Tasmania.* Harbours, Electricity Supply, Fire Brigades, Transport, and Housing.

A detailed list of the authorities included is shown in *Finance, Part I.—Public and Private Finance, Bulletin No. 52, 1960–61.*

2. **Local and Semi-Governmental Authorities' Debt.**—The following table provides a summary of new money loan raisings, provisions for debt redemption, debt outstanding and interest payable by local and semi-governmental authorities for the year ended 30th June, 1960. For greater detail, see *Finance, Part I.—Public and Private Finance, Bulletin No. 52, 1960–61.*

## LOCAL AND SEMI-GOVERNMENTAL AUTHORITIES: NEW MONEY LOAN RAISINGS, REDEMPTION, DEBT AND INTEREST PAYABLE, 1959-60.

(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<b>LOCAL GOVERNMENT AUTHORITIES.</b>							
<i>New Money Loan Raisings—</i>							
From Government ..	34	295	1,592	331	68	290	2,610
From Public ..	10,063	7,004	11,214	1,018	2,455	2,326	34,080
<i>Total</i> ..	<i>10,097</i>	<i>7,299</i>	<i>12,806</i>	<i>1,349</i>	<i>2,523</i>	<i>2,616</i>	<i>36,690</i>
<i>Funds Provided for Redemption—</i>							
Government Loans ..	53	77	998	333	49	24	1,534
Loans due to Public ..	4,786	2,431	4,262	253	933	527	13,192
<i>Total</i> ..	<i>4,839</i>	<i>2,508</i>	<i>5,260</i>	<i>586</i>	<i>982</i>	<i>551</i>	<i>14,726</i>
Accumulated Sinking Fund Balance ..	4,584	3,166	7,286	..	69	211	15,316
<i>Debt—</i>							
Due to Government ..	1,916	1,618	13,998	1,325	323	639	19,819
Due to Banks (Net Overdraft) ..	12	434	..	..	19	..	465
Due to Public Creditor(a) ..	73,667	41,000	89,382	5,365	11,180	12,933	233,527
<i>Total(a)</i> ..	<i>75,595</i>	<i>43,052</i>	<i>103,380</i>	<i>6,690</i>	<i>11,522</i>	<i>13,572</i>	<i>253,811</i>
Maturing Overseas(a)(b) ..	1,812	..	2,290	..	..	..	4,102
Annual Interest Payable(a) ..	(c)	2,099	4,869	301	585	668	(c)

## SEMI-GOVERNMENTAL AND PUBLIC AUTHORITIES.

<i>New Money Loan Raisings—</i>							
From Government ..	16,259	17,919	1,356	8,201	3,135	7,655	54,525
From Public ..	24,267	45,450	10,552	3,851	1,014	1,156	86,290
<i>Total</i> ..	<i>40,526</i>	<i>63,369</i>	<i>11,908</i>	<i>12,052</i>	<i>4,149</i>	<i>8,811</i>	<i>140,815</i>
<i>Funds Provided for Redemption—</i>							
Government Loans ..	1,700	2,099	489	1,054	1,245	694	7,281
Loans due to Public ..	6,880	5,438	4,504	18	307	392	17,539
<i>Total</i> ..	<i>8,580</i>	<i>7,537</i>	<i>4,993</i>	<i>1,072</i>	<i>1,552</i>	<i>1,086</i>	<i>24,820</i>
Accumulated Sinking Fund Balance ..	28,241	11,818	6,371	1,179	437	601	48,647
<i>Debt—</i>							
Due to Government ..	173,821	204,036	16,594	117,140	42,858	85,534	639,983
Due to Banks (Net Overdraft) ..	3,462	223	682	45	3	..	4,415
Due to Public Creditor(a) ..	266,555	429,547	76,103	32,379	18,480	15,201	838,265
<i>Total(a)</i> ..	<i>443,838</i>	<i>633,806</i>	<i>93,379</i>	<i>149,564</i>	<i>61,341</i>	<i>100,735</i>	<i>1,482,663</i>
Maturing Overseas(a)(b) ..	5,000	4,323	..	..	..	..	9,323
Annual Interest Payable(a) ..	(c)	28,112	4,511	6,272	2,821	4,274	(c)

(a) Includes debt or interest payable in London and New York. The former is expressed in United Kingdom currency, the latter is payable in dollars which have been converted at the rate of \$4.8665 to £1.  
 (b) Included in debt figures above. (c) Not available.

In this and the following tables, debt includes all liabilities for which arrangements have been made for repayment over a period of one year or more, and net overdrafts. Interest capitalized and amounts due for the capital cost of assets or for services rendered which are to be repaid over a period of one year or more are included. Current liabilities, such as interest accrued (but not capitalized), trade creditors, amounts held in trust and other debts which are to be repaid in less than one year are not included. Net overdraft is the gross overdraft of all funds less all bank credit balances (including fixed deposits) which do not form part of a sinking fund to repay a loan. New loans raised during the year include new loan liabilities incurred during the year, loans raised from the public to repay indebtedness to the Government, and interest capitalized. Loans raised and redeemed within the year, increases in overdrafts, and loans raised for conversion or redemption of existing debt are excluded. Funds provided for redemption include instalments of principal repaid and amounts credited to sinking funds established for the purpose of repaying the debt on maturity. Amounts provided for redemption from loans raised for that purpose are excluded.

In the following table, a summary is given of new money loan raisings, provisions for the redemption of debt and debt outstanding of local and semi-governmental authorities for the years 1955-56 to 1959-60.

**LOCAL AND SEMI-GOVERNMENTAL AUTHORITIES, AUSTRALIA: NEW MONEY LOAN RAISINGS, REDEMPTION AND DEBT.**  
(£'000.)

Particulars.	1955-56.	1956-57.	1957-58.	1958-59	1959-60.
<b>LOCAL GOVERNMENT AUTHORITIES.</b>					
<i>New Money Loan Raisings—</i>					
From Government .. .. .	2,233	1,624	1,775	1,993	2,610
From Public .. .. .	22,160	25,046	27,445	29,662	34,080
<i>Total</i> .. .. .	<u>24,393</u>	<u>26,670</u>	<u>29,220</u>	<u>31,655</u>	<u>36,690</u>
<i>Funds provided for Redemption—</i>					
Government Loans .. .. .	1,555	1,569	1,578	1,491	1,534
Loans due to Public .. .. .	8,597	9,222	9,120	11,403	13,192
<i>Total</i> .. .. .	<u>10,152</u>	<u>10,791</u>	<u>10,698</u>	<u>12,894</u>	<u>14,726</u>
Accumulated Sinking Fund Balance	11,955	12,865	13,710	14,106	15,316
<i>Debt—</i>					
Due to Government .. .. .	17,907	17,753	17,922	18,805	19,819
Due to Banks (Net Overdraft) .. .. .	948	637	448	686	465
Due to Public Creditor(a) .. .. .	169,891	182,834	195,190	211,540	233,527
<i>Total(a)</i> .. .. .	<u>188,746</u>	<u>201,224</u>	<u>213,560</u>	<u>231,031</u>	<u>253,811</u>
Maturing Overseas(a)(b) .. .. .	4,431	4,349	4,267	4,184	4,102
<b>SEMI-GOVERNMENTAL AND OTHER PUBLIC AUTHORITIES.</b>					
<i>New Money Loan Raisings—</i>					
From Government .. .. .	53,482	51,644	56,948	54,242	54,525
From Public .. .. .	58,674	62,777	73,924	73,689	86,290
<i>Total</i> .. .. .	<u>112,156</u>	<u>114,421</u>	<u>130,872</u>	<u>127,931</u>	<u>140,815</u>
<i>Funds provided for Redemption—</i>					
Government Loans .. .. .	6,866	3,978	6,829	8,244	7,281
Loans due to Public .. .. .	7,552	10,496	15,041	12,934	17,539
<i>Total</i> .. .. .	<u>14,418</u>	<u>14,474</u>	<u>21,870</u>	<u>21,178</u>	<u>24,820</u>
Accumulated Sinking Fund Balance	25,311	29,702	35,500	41,882	48,647
<i>Debt—</i>					
Due to Government .. .. .	446,112	492,929	542,817	592,436	639,983
Due to Banks (net Overdraft) .. .. .	9,994	6,402	5,900	6,410	4,415
Due to Public Creditor(a) .. .. .	560,074	623,744	695,574	762,611	838,265
<i>Total(a)</i> .. .. .	<u>1,016,180</u>	<u>1,123,075</u>	<u>1,244,291</u>	<u>1,361,457</u>	<u>1,482,663</u>
Maturing Overseas(a)(b) .. .. .	13,556	12,112	9,337	9,330	9,323

(a) Includes debt in London and New York. The former is expressed in United Kingdom currency, the latter is payable in dollars which have been converted at the rate of 4.8665 dollars to £1. (b) Included in debt figures above.

## § 4. Roads and Bridges.

1. Commonwealth Government Grants.—The following table shows the allocation to the States under the several Commonwealth Aid Roads Acts, for road construction, maintenance, repair and other works connected with transport for each of the years 1956–57 to 1960–61, and to the Commonwealth for expenditure on the construction and maintenance of strategic roads and for the promotion of road safety practices for each of the years 1956–57 to 1958–59. After 1st July, 1959, when the Commonwealth Aid Roads Act 1959 came into operation, the Commonwealth made separate provision for expenditure on strategic roads and the promotion of road safety practices. See also Chapter XXI.—Public Finance, and *Finance* bulletins.

ROAD CONSTRUCTION, MAINTENANCE, ETC.: GRANTS UNDER THE  
COMMONWEALTH AID ROAD ACTS.  
(£'000.)

Year ended 30th June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth. (a)	Total.
1957 ..	8,587	5,495	6,009	3,509	6,105	1,563	950	32,218
1958 ..	9,495	6,264	6,585	3,879	6,658	1,733	1,000	35,614
1959 ..	9,930	6,543	6,890	4,056	6,967	1,813	1,000	37,199
1960 ..	12,172	8,660	8,021	4,922	7,964	2,184	..	43,923
1961 ..	12,870	9,184	8,428	5,128	8,090	2,300	..	46,000

(a) In the years prior to 1959–60, allocations under the Commonwealth Aid Roads Act 1954–56 for expenditure on the construction and maintenance of strategic roads and the promotion of road safety practices.

2. New South Wales.—(i) *General.* A central road authority, known as the Main Roads Board, was created by legislation in 1925 for the purpose of providing improved and uniform standards of construction, reconstruction and maintenance of the principal roads of the State and to administer government subsidies for works on those roads. In 1932, the Main Roads administration was reorganized as a separate department under the control of a Commissioner. The activities of the Department of Main Roads embrace works on main and developmental roads throughout the State, all roads in the unincorporated portion of the Western Division, and certain associated works, principally bridges and vehicular ferries, constructed from government funds. The Department of Main Roads co-operates with the municipal and shire councils in the work of constructing and maintaining the main roads system.

Public roads, except those within the City of Sydney, may be proclaimed as main roads on the recommendation of the Commissioner for Main Roads, who takes into consideration the representations made by the councils concerned, availability of funds for construction and maintenance purposes, and the value of the roads as connecting links between centres of population or business. The classes of main roads are (i) the State highways, which form the principal avenues of road communication throughout the State and connect with similar avenues in other States; (ii) trunk roads, which, with the State highways, form the framework of a general system of intercommunication throughout the State; (iii) ordinary main roads, which provide a network of roads connecting towns and important centres of population with the State highways and trunk roads and with each other. In addition to the main roads, there are also (i) secondary roads (in the County of Cumberland), which carry a substantial volume of through traffic and thereby relieve neighbouring main roads of traffic and (ii) developmental roads, which help to develop country districts.

In the County of Cumberland, which for the purposes of the Main Roads Act is deemed to include the City of Blue Mountains and small sections of other councils' areas on the boundary of the County of Cumberland, the full cost of road and bridge construction is paid from the funds of the Department of Main Roads. The Councils contribute towards the cost at the rate of  $\frac{1}{4}$ d. in the £ on the unimproved value of ratable property. The rate payable in respect of lands used principally for primary production is one-half the rate levied on other lands. In country districts, the Department meets the full cost of road and bridge works on State highways, the full cost of bridge works and three-quarters of the cost of road works on trunk roads, and three-quarters of the cost of bridge works and two-thirds of the cost of road works on ordinary main roads. The cost of constructing developmental roads and works is borne in full by the Department of Main Roads, but local Councils are required to maintain them in a satisfactory condition. The Department of Main Roads meets half the cost of works on secondary roads.

(ii) *Length of Roads.* (a) *Proclaimed Roads.* The total length of proclaimed roads in New South Wales at 30th June, 1961, was 25,364 miles classified as:—State highways, 6,497 miles; trunk roads, 4,162 miles; ordinary main roads, 11,651 miles; secondary roads,

92 miles; and developmental roads, 2,962 miles. The length of proclaimed main roads was altered slightly because of the proclamation and re-routing of short lengths of road.

During 1960–61, 244 miles of new development roads were proclaimed and 149 miles were removed from the list of proclaimed developmental roads.

The length of main and secondary roads maintained by the Department of Main Roads at 30th June, 1961, was 5,085 miles (23 per cent.), while the length maintained by councils was 17,317 miles (77 per cent.). The proportions of main roads maintained by the Department and councils respectively were:—State highways, 62 per cent., 38 per cent; trunk and ordinary main roads, 7 per cent., 93 per cent. Secondary roads were maintained wholly by councils. In the County of Cumberland (the metropolis and adjoining areas), the Department maintained 56 per cent. of the roads (528 miles).

(b) *Surface of Roads.* In 1960, the total length of all roads in New South Wales was estimated at 129,752 miles. The lengths of roads, according to their surface, were as follows:—bitumen or concrete, 18,476 miles; gravel or stone, 46,775 miles; formed only, 26,966 miles; cleared only, 37,535 miles.

(iii) *Main Roads Department. (a) General.* Progress has continued with the implementation of the Department's plan for main roads development in the County of Cumberland. Most of the Department's proposals have been incorporated in the County of Cumberland Planning Scheme approved by Parliament under the Local Government (Amendment) Act 1951.

The Department's proposals for the development of the main roads system in Newcastle and the surrounding districts have been largely incorporated in the Northumberland County District Planning Scheme, and some sections of the system have been constructed.

With some modifications, the Department's proposals for the planning of the main roads in the Wollongong-Port Kembla district have been incorporated in the planning scheme prepared by the Illawarra Planning Authority.

During 1960–61, 50 new bridges were constructed. In addition, 63 concrete box culverts each having a waterway width of 20 feet or more were completed. Major bridge works under construction include steel and/or concrete bridges over the Cook's River at Tempe on the Prince's Highway (length 300 feet); over the Hastings River near Blackman's Point on the Pacific Highway (length 1,535 feet); over Ironbark Creek at Hexham (duplicate bridges each 320 feet long); over the Richmond River at Lismore (688 feet); over the Parramatta River at Gladesville (1,900 feet); over the Parramatta River at Silverwater (652 feet); over the Lane Cove River at Fig Tree (749 feet); over the Darling River at Tilpa (407 feet); and over the Hunter River at Maitland (Belmore Bridge, 643 feet).

(b) *Revenue and Expenditure.* The funds of the Department of Main Roads are derived principally from (1) motor vehicle taxation; (2) charges on heavy commercial goods vehicles under the Road Maintenance (Contribution) Act 1958; (3) grants under Commonwealth Aid Roads Acts (*see* para. 1 above and Chapter XXI.—Public Finance); (4) other grants from the State or Commonwealth Governments; and (5) proceeds of a levy on municipal and shire councils in the Country of Cumberland in accordance with the Main Roads Act 1924–1958. The State Government also makes repayable advances for Main Roads Department works.

Revenue and expenditure for the five years 1956–57 to 1960–61 are shown below.

**DEPARTMENT OF MAIN ROADS, NEW SOUTH WALES:  
REVENUE AND EXPENDITURE.**

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>REVENUE. (a)</b>					
Motor Vehicle Taxation, Registration and Licence Fees .. ..	7,944,583	8,444,589	10,727,126	11,850,477	12,432,316
Commonwealth Aid Roads Act ..	5,165,020	6,468,726	6,926,549	7,719,608	8,239,061
State and Commonwealth Grants ..	..	453,750	357,500	638,750	375,000
Contributions by Other Departments and Bodies .. ..	275,453	305,153	240,412	360,978	382,689
Councils' Contributions .. ..	971,198	1,119,731	1,384,927	1,649,122	1,858,878
Other .. ..	27,618	45,296	46,204	83,179	154,816
<b>Total .. ..</b>	<b>14,383,872</b>	<b>16,837,245</b>	<b>19,682,718</b>	<b>22,302,114</b>	<b>23,442,760</b>

NOTE.—See next page for footnotes.

DEPARTMENT OF MAIN ROADS, NEW SOUTH WALES: REVENUE AND EXPENDITURE—*continued.*

(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
EXPENDITURE.(b)					
Roads and Bridges—					
Construction .. .. .	7,834,998	9,464,733	10,508,109	13,883,723	17,731,562
Maintenance .. .. .	6,174,524	6,096,227	5,908,649	6,352,014	6,137,466
Administration .. .. .	562,056	614,098	705,745	824,203	912,675
Interest, Exchange, etc., on Debt ..	171,242	184,067	190,789	202,439	227,238
Other(c) .. .. .	106,124	202,179	212,895	351,394	542,127
<b>Total .. .. .</b>	<b>14,848,944</b>	<b>16,561,304</b>	<b>17,526,187</b>	<b>21,613,773</b>	<b>25,551,068</b>

(a) Excludes repayable advances by the State Government (£448,073 in 1956-57, £150,000 in 1957-58, £800,000 in 1959-60 and £575,000 in 1960-61) and transfer from Sydney Harbour Bridge Account for Expressway construction (£100,000 in 1958-59, £362,000 in 1959-60, and £768,000 in 1960-61). Expenditure from these amounts is fully reflected in Expenditure. (b) Excludes debt redemption £38,677 in 1956-57, £39,966 in 1957-58, £340,790 in 1958-59, £45,981 in 1959-60, and £448,816 in 1960-61. (c) Mainly purchase of assets not subject to annual depreciation charge. The purchase of other assets is omitted here because the depreciation charge for them is reflected each year in "Roads and Bridges".

The figures shown above represent the aggregate revenue and expenditure of five funds—the County of Cumberland Main Roads General and Special Purposes Funds, the Country Main Roads General and Special Purposes Funds, and the Developmental Roads Fund.

(c) *Sydney Harbour Bridge.* The Sydney Harbour Bridge was opened for traffic on 19th March, 1932. The main span is 1,650 feet and the clearance for shipping 170 feet from high water level. The deck, 160 feet wide, carries a roadway of eight traffic lanes and two railway tracks, and there is also a footway on each side. The capital cost of the bridge and associated roadways to 30th June, 1961, was £11,786,864, but this amount will be reduced slightly on completion of the disposal of the remaining surplus resumed property. The portion met from repayable loan funds, over £10,100,000, is repayable from toll income. The accumulated surpluses of the Bridge Account have been used to make transfers to a Reserve Account (£2,405,000) and from 1958-59 to 1960-61 to convert tram tracks to roadway (£759,879) and construct expressways (£685,000). The Account showed a deficiency of £590,274 at 30th June, 1961. In 1960-61, income amounted to £1,654,000, including road tolls, £1,470,760, railway passenger tolls, £141,149 and omnibus passenger tolls, £16,125. Expenditure amounted to £1,529,000, including interest, exchange, flotation expenses, etc., £883,530, sinking fund, £164,520, maintenance £252,900, and major improvements £24,778. Expenditure from accumulated surpluses on major improvements amounted to £765,748 in 1960-61, including £95,000 from the Harbour Bridge Reserve Account. During 1960-61, 28,387,000 road vehicles (excluding omnibuses and exempt vehicles), 25,097,000 rail travellers and 14,706,000 omnibus travellers crossed the bridge, contributing respectively 90 per cent., 9 per cent., and 1 per cent. of the total toll revenue.

3. *Victoria.*—(i) *General.* With the object of improving the main roads of the State, the Country Roads Board was established by legislation passed in 1912. The principal duties of the Board are to determine the main roads, State highways, tourists' roads, etc., to inquire into the State's resources in road materials and the most effective methods of road construction and maintenance, and to recommend deviations in existing roads or the construction of new roads in order to facilitate communication or to improve the conditions of traffic.

Following the preparation by the Melbourne and Metropolitan Board of Works of a Planning Scheme for the metropolitan area of Melbourne, and the appreciation of the general principle that where practicable it is desirable for the responsibility for the implementation of planning scheme proposals to be with the Planning Authority, the Melbourne and Metropolitan Board of Works Act was amended in June, 1956, making the Melbourne and Metropolitan Board of Works responsible for the construction and maintenance of such metropolitan highways and bridges as are declared for this purpose.

(ii) *Length of Roads.* (a) *Declared Roads.* The total length of declared roads in Victoria at 30th June, 1961, was 14,512 miles, classified as follows:—State highways, 4,502 miles; main roads, 9,111 miles; by-pass roads, 9 miles; tourist roads, 426 miles; forest roads, 464 miles. The length of the surface treated (black) or higher type of pavements included in the foregoing mileage was 11,012 miles or 76 per cent. of the total.

(b) *Surface of Roads.* It is estimated that, in addition to the 14,512 miles of classified roads as above, there were approximately 87,000 miles of unclassified roads at 30th June, 1961. The latest detailed estimate of the length of roads and streets in Victoria (as at 30th September, 1960) provides the following information:—bitumen or concrete, 19,426 miles; gravel or stone, 32,392 miles; formed only, 23,443 miles; cleared only, 26,190 miles; total, 101,451 miles.

(iii) *Country Roads Board.* (a) *General.* During 1960–61, 1,887 miles of declared roads under the Board's control were treated with bitumen. In addition, 797 miles of undeclared roads, for which the Board contributed funds, were similarly treated. The total length of bitumen treatment carried out in 1960–61 was 2,783 miles (including 99 miles for other authorities). Of the work on the roads under the Board's control in 1960–61, 746 miles related to State highways and by-pass roads.

During 1960–61, 211 bridge projects with a total value of £1,724,000 were initiated. Of these, 136, costing £864,000, were under municipal supervision.

(b) *Receipts and Payments.* The funds of the Country Roads Board are derived principally from motor registration fees, two thirds of all money received by way of owners' certificates, one half of drivers' licence fees, fines, payments by the Commonwealth Government under the Commonwealth Aid Roads Acts, road charges under the Commercial Goods Vehicles Act and repayments by municipalities. In addition, loans have been authorized from time to time under the Country Roads Acts for permanent works on main and developmental roads, State highways, tourists' roads and forest roads, while the State Government has provided, free of repayment, loan moneys for restoration of flood and bush fire damage. During the year ended 30th June, 1961, loan receipts and payments each amounted to £283,000, and expenditure included £966 for restoration of flood and bush fire damage. The total loan expenditure to 30th June, 1961, was £14,670,183. This figure does not include loan expenditure from the Developmental Roads Loan Account, a fund which was created for the purpose of constructing and maintaining subsidiary or developmental roads. Loan money raised on this account was exhausted at 30th June, 1937, the total expenditure at that date being £6,425,758.

Total receipts and payments during each of the years 1956–57 to 1960–61 are shown below.

#### COUNTRY ROADS BOARD, VICTORIA: RECEIPTS AND PAYMENTS.

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>RECEIPTS.</b>					
Motor Vehicle Registration Fees (a)	6,211,564	8,013,268	8,340,079	8,941,256	9,282,073
Drivers' Licence Fees(a) .. ..	207,892	219,342	(b)284,994	(b)452,324	(b)256,673
Drivers' Licence Testing Fees .. ..	..	..	..	..	38,969
Municipalities' Payments .. ..	530,418	560,092	685,773	723,803	788,663
Commonwealth Aid Roads Acts(c) ..	5,247,438	6,158,907	6,870,975	8,460,574	8,983,776
Loans from State Government .. ..	404,679	402,822	75,834	160,000	283,000
Commonwealth-State Contribution for restoration of flood damage ..	236,641	460,452	53,171	5,124	966
Road Charges—Commercial Goods Vehicles Act .. .. ..	1,314,784	1,529,236	1,873,424	2,117,494	2,254,421
Other .. .. ..	28,173	37,114	30,263	43,994	50,223
<b>Total .. .. ..</b>	<b>14,181,589</b>	<b>17,381,233</b>	<b>18,214,513</b>	<b>20,904,569</b>	<b>21,938,764</b>

NOTE.—See next page for footnotes.

COUNTRY ROADS BOARD, VICTORIA: RECEIPTS AND PAYMENTS—*continued.*  
(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>PAYMENTS.</b>					
Construction and Maintenance of Roads and Bridges—					
State Highways .. .. .	4,079,366	4,988,708	5,357,732	5,852,042	6,880,998
Main Roads .. .. .	3,921,041	5,428,679	5,536,431	6,259,203	5,919,265
By-pass Roads .. .. .	..	..	28,579	266,880	1,096,742
Tourist Roads .. .. .	285,127	457,735	453,877	551,088	600,132
Forest Roads .. .. .	116,388	127,775	190,652	192,060	275,365
Unclassified Roads .. .. .	2,508,782	3,615,378	3,371,433	3,974,049	4,228,144
Other .. .. .	72,895	107,469	82,899	124,589	88,612
Plant, Stores and Materials .. .. .	620,626	1,053,254	712,974	1,028,042	708,141
Interest, Debt Redemption, etc. .. .. .	792,321	831,077	862,583	875,034	888,244
Repayment of Advance .. .. .	500,000	..	..	..	..
Office Building, Kew—Capital Cost .. .. .	..	..	..	452,275	528,123
Statutory Payment to Tourists' Resorts Fund .. .. .	76,284	108,780	144,770	151,737	187,872
Administration and Other .. .. .	882,435	860,760	1,004,542	1,221,756	1,177,903
<b>Total .. .. .</b>	<b>13,855,265</b>	<b>17,579,615</b>	<b>17,746,472</b>	<b>20,948,755</b>	<b>22,579,541</b>

(a) After costs of collection. Since 1950, one half of the drivers' licence fees has been credited to the funds of the Country Roads Board while the remaining half has been credited to the Municipalities Assistance Fund. (b) Owing to the gradual change-over in currency of drivers' licences from one year to two and three years revenue from drivers' licences increased slightly in 1958-59, reached a peak in 1959-60 and declined to almost normal level in 1960-61. (c) Excludes portion of Commonwealth Aid Roads Acts advances drawn by the Public Works Department for expenditure on wharfs, jetties, etc.

(iv) *Melbourne and Metropolitan Board of Works.* Since assuming responsibility for carrying-out planning scheme proposals relating to metropolitan highways and bridges, a tentative £20,000,000 construction programme of urgent highway works throughout the metropolitan area of Melbourne has been adopted and is being progressively implemented by the Board of Works. Expenditure on these projects up to 30th June, 1961, was £1,181,550.

(v) *Level Crossings.* In 1954-55, the Level Crossings Fund was created under the Country Roads and Level Crossings Funds' Act 1954 to finance (a) the elimination of level crossings or the provision of alternative routes to enable road traffic to avoid level crossings, (b) the provision of lights, signs, and lighting at, and the improvement of approaches to, level crossings and (c) generally, the reduction of danger at level crossings. The Act provides for the payment into the Fund of one third of all moneys received by way of additional motor registration fees (owner's certificates) and money provided under any other Act. The amount available for expenditure in 1960-61 was £603,255, comprising receipts from owners' certificates, £296,151, and the balance brought forward from 1959-60, £307,104. Expenditure from the Fund amounted to £583,519, of which £388,328 was incurred by the Railways Department and the balance by the Country Roads Board.

4. *Queensland.*—(i) *General.* Under the Main Roads Act 1920, a Main Roads Board was constituted, consisting of three members appointed by the Governor-in-Council. In 1925, the Board was abolished and its powers conferred upon a single Commissioner. The Main Roads Commission was constituted a Department under the name of the Department of Main Roads in February, 1951, with the Commissioner of Main Roads as its permanent head. The duties of the Commissioner are to carry out surveys and investigations necessary to determine State highways, main, developmental, secondary, mining access, farmers' and tourist roads and tourist tracks, and the responsibility for building and maintaining these declared roads is largely that of the Commissioner. Roads of purely local importance are constructed and maintained by local authorities. In many cases, construction is financed by the State Government by means of Treasury loans. Other roads may be built by the Public Estate Improvement Branch of the Lands Department in order to open up areas of previously inaccessible or undeveloped country.



(ii) *Length of Roads.* (a) *Declared Roads.* The total length of declared roads in Queensland at 30th June, 1960, was 20,742 miles, comprising State highways, 8,252 miles; main roads, 10,460 miles; developmental roads, 230 miles; and secondary roads, 1,800 miles. By the amendments to the Main Roads Acts published in the Government Gazette of 6th April, 1959, mining access, farmers' and tourist roads became secondary roads, and the provisions relating to the declaration of tourist tracks were repealed.

(b) *Surface of Roads.* The total length of roads and streets in Queensland at 30th June, 1961, was:—bitumen or concrete, 10,141 miles; gravel or stone, 20,515 miles; formed only, 40,768 miles; cleared only, 49,072 miles; total, 120,496 miles.

(iii) *Department of Main Roads.* (a) *General.* During 1959–60, the Department completed 1,175 miles of roads, including new construction and stage construction. Bridges of all types to a length of 7,153 linear feet were constructed, bringing the total constructed by the Department at 30th June, 1960, to 209,549 feet. In addition, at 30th June, 1960, 5,388 feet were under construction.

(b) *Receipts and Payments.* The funds of the Department of Main Roads are obtained chiefly from motor vehicle registration and collections, fees, etc. under the Transport Acts, contributions under the Commonwealth Aid Roads Acts, and loans, grants and advances from the State Government. The total receipts and payments, including amounts for defence works, during each of the years 1955–56 to 1959–60 are shown below.

**DEPARTMENT OF MAIN ROADS, QUEENSLAND: RECEIPTS AND PAYMENTS.**  
(£.)

Item.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
<b>RECEIPTS.</b>					
Motor Vehicle Registration, Transport Acts Collections, Fees, etc. . .	4,342,483	4,608,807	4,797,882	5,036,414	5,404,547
Loans from State Government . .	380,000	..	125,000	621,865	..
Grants, Advances, Refunds, etc. from State Government . . . .	..	..	47,414	241,861	325,755
Commonwealth Aid Roads and Works Acts . . . . .	5,135,202	6,012,899	7,020,237	7,353,215	7,912,040
Maintenance Repayments—Local Authorities . . . . .	406,998	590,885	611,124	648,882	707,813
Hire, Rent, Sales of Plant, etc. . .	765,687	882,316	945,525	1,126,739	1,250,205
Other . . . . .	415,931	405,555	479,362	548,287	601,415
<b>Total . . . . .</b>	<b>11,446,301</b>	<b>12,500,462</b>	<b>14,026,544</b>	<b>15,577,263</b>	<b>16,201,775</b>
<b>PAYMENTS.</b>					
Permanent Road Works and Surveys	6,344,024	7,953,553	8,027,715	8,680,460	11,380,919
Maintenance of Roads . . . .	2,521,193	2,372,221	2,556,029	2,790,004	2,890,698
Plant, Machinery, Buildings, etc. (including Plant Maintenance) . .	1,070,648	1,287,443	1,239,085	1,000,793	1,345,167
Loans—Interest . . . . .	253,050	242,592	208,498	198,098	156,542
Redemption . . . . .	255,224	256,048	256,287	330,561	329,722
Administration and Other . . .	907,224	1,022,760	1,061,891	1,157,569	1,270,686
<b>Total . . . . .</b>	<b>11,351,363</b>	<b>13,134,617</b>	<b>13,349,505</b>	<b>14,157,485</b>	<b>17,373,734</b>

5. South Australia.—(i) *General.* The Highways and Local Government Department is administered by the Commissioner of Highways, who is empowered, subject to the approval of the Minister of Roads, to—

- (a) undertake the construction, maintenance and protection of the principal roads of the State,
- (b) allocate grants to councils for roadworks and supervise the expenditure of these grants,
- (c) assist Councils to purchase road-making plant and to defray the cost of roadworks.

In addition, the Commissioner advises Councils on technical questions concerning the construction, maintenance or repair of roads.

(ii) *Source of Funds.* Funds of the Department are derived mainly from—

- (a) *State Government*—the Highways Fund, into which are paid the proceeds from motor vehicle registration and drivers' licences (less cost of collection), appropriations from loan funds, repayments of advances made to Councils and contributions by the Municipal Tramways Trust.
- (b) *Commonwealth Government*—contributions under the Commonwealth Aid Roads Acts.

(iii) *Length of Roads.* In South Australia, there are only two classifications of roads. These are main roads proclaimed under the provisions of the Highways Act and all other roads, commonly designated district roads. At 30th June, 1961, there were 8,188 miles of proclaimed main roads and 54,350 miles of district roads, totalling 62,538 miles. Lengths of road classified by surface were as follows:—Bitumen or concrete, 5,333 miles; gravel or stone, 13,586 miles; formed only, 15,326 miles; cleared only, 28,293 miles.

(iv) *State Highways and Local Government Department, Receipts and Payments.* The following table shows particulars of receipts and payments, during the years 1956–57 to 1960–61, of funds controlled by the Highways and Local Government Department.

**HIGHWAYS AND LOCAL GOVERNMENT DEPARTMENT, SOUTH AUSTRALIA:  
RECEIPTS AND PAYMENTS.**

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>RECEIPTS.</b>					
Motor Vehicle Registration, Licences, Fees .. .. .	3,404,557	3,470,933	3,748,763	3,942,087	4,111,494
Commonwealth Aid Roads Acts .. .. .	3,447,075	3,907,129	4,361,892	4,923,122	5,128,065
Loans from State Government .. .. .	10,000	15,000	..	85,000	90,000
Other .. .. .	450,979	470,150	443,577	445,484	449,333
<b>Total .. .. .</b>	<b>7,312,611</b>	<b>7,863,212</b>	<b>8,554,232</b>	<b>9,395,693</b>	<b>9,778,892</b>
<b>PAYMENTS.</b>					
Construction and Reconstruction of Roads and Bridges .. .. .	3,571,052	3,738,544	5,096,450	6,113,227	6,465,892
Maintenance .. .. .	1,856,560	2,123,008	2,174,320	2,183,012	2,095,253
Recoups to Consolidated Revenue Fund—Interest, Debt Redemption and Exchange .. .. .	189,150	202,646	205,361	213,631	215,539
Advances to Local and Semi-Governmental Authorities .. .. .	263,705	293,349	464,723	301,929	702,718
Administration .. .. .	457,583	524,374	(a)	(a)	(a)
Stores, Plant, Machinery, Suspense Accounts, etc.	1,011,212	778,875	514,886	439,732	495,036
<b>Total .. .. .</b>	<b>7,349,262</b>	<b>7,660,796</b>	<b>8,455,740</b>	<b>9,251,531</b>	<b>9,974,438</b>

(a) Administrative Expenses, amounting to £596,876 in 1958–59, £735,738 in 1959–60, and £844,780 in 1960–61, have been charged to "Construction and Reconstruction of Roads and Bridges" and to "Maintenance".

The total expenditure, both revenue and loan, by State and local governments on roads, streets and bridges in South Australia during the years 1956–57 to 1959–60 was, respectively £9,228,000, £9,889,000, £10,556,000 and £12,277,000.

6. *Western Australia.*—(i) *General.* Work connected with road construction and maintenance and associated projects in Western Australia is undertaken by the State Government, through the Main Roads Department, and by local government authorities throughout the State.

Under the provisions of the Main Roads Act, the Main Roads Department was established in 1930 to replace the Main Roads Board originally constituted as a central road authority in 1926. The Department operates under the Main Roads Act 1930–1959, and is administered by a Commissioner of Main Roads responsible to the Minister for Works. The Act makes provision for public roads in the categories of “main” roads, “controlled-access” roads and “developmental” roads. An additional category, that of “important secondary” roads, is used by the Department in determining its works programme.

Main roads are those which provide communication between a large producing area, either actual or potential, and its market or nearest port or railway station; between two or more such areas; between large centres of population; or between the capital city and a large producing area or a large centre of population. Controlled-access roads do not permit direct access from abutting property and may be entered and departed from only at certain selected road connexions located at points which are considered to serve best the traffic for which the controlled access roads were designed. Developmental roads are those which serve to initiate or increase the development of an area. Important secondary roads are those which, though originally classified as developmental, have come to be used consistently by through traffic and therefore warrant a special allocation of funds by the Main Roads Department. The Act provides that, on the recommendation of the Commissioner, any road may be proclaimed a main road and any main road may cease to be a main road.

The construction and maintenance of main roads and controlled-access roads are the responsibility of the Main Roads Department. The Department also makes substantial financial provision for the construction and maintenance of important secondary roads and for the construction of developmental roads. The construction and maintenance of strategic roads and roads of access to Commonwealth property is undertaken for the Commonwealth Government by the Department.

Within its own district, each local government authority is responsible for the provision and upkeep of roads other than those provided by the Main Roads Department. In addition, the local authority is required by the Main Roads Act to maintain any developmental road situated in its district.

(ii) *Length and Surface of Roads.* (a) *General.* The total length of roads and streets in Western Australia at 30th June, 1961, was made up as follows:—bitumen or concrete, 9,148 miles; gravel or stone, 19,622 miles; formed only, 40,583 miles; cleared only, 23,375 miles; total, 92,728 miles.

(b) *Roads under Main Roads Act.* The total length of roads for which financial provision was made by the Main Roads Department at the 30th June, 1961, was:—Declared main roads, 3,471 miles including 5 miles of controlled-access roads; important secondary roads, 7,538 miles; and developmental roads, 22,099 miles.

(iii) *Main Roads Department.* (a) *General.* During the year 1960–61, the activities of the Department included clearing, 2,163 miles; forming, 2,486 miles; gravelling, 1,610 miles; reconditioning, 5,044 miles; and stabilizing, 403 miles. In addition, 1,474 miles were primed and sealed (including widening) and 29 bridges constructed.

(b) *Receipts and Payments.* The funds of the Main Roads Department are derived principally from allocations made under the Commonwealth Aid Roads Act 1959. Other sources of income include one-half of the net amount of traffic fees collected in the Metropolitan Traffic Area and an allocation of Transport Board funds. (Outside the Metropolitan Traffic Area, motor vehicle licence fees are collected and retained by the local authorities.) Receipts and payments for the years 1956–57 to 1960–61 are shown below.

**MAIN ROADS DEPARTMENT, WESTERN AUSTRALIA:  
RECEIPTS AND PAYMENTS.**

(£.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
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**RECEIPTS.**

Motor Vehicle Registration, Licences, Fees, etc.	278,646	489,443	488,386	539,459	486,948
Central Trust Fund .. .. .				(a)351,604	(a)707,569
Commonwealth Aid Roads Acts .. .. .	6,031,988	6,741,558	7,555,565	7,687,130	7,428,808
Commonwealth Aid Roads Acts—Matching Grants .. .. .				(a)351,591	(a)703,533
Recoups from Other Authorities .. .. .	154,661	165,987	152,754	183,106	217,196
Other .. .. .	103,522	14,355	5,254	4,777	3,179
<b>Total .. .. .</b>	<b>6,568,817</b>	<b>7,411,343</b>	<b>8,201,959</b>	<b>9,117,667</b>	<b>9,547,233</b>

**PAYMENTS.**

Construction and Reconstruction of Roads and Bridges(b) .. .. .	5,021,270	5,341,743	5,763,882	6,434,690	5,447,028
Maintenance of Roads and Bridges(b) .. .. .	582,816	528,300	570,054	910,846	974,053
Grants to Local Authorities, etc. .. .. .	916,283	936,622	1,078,395	1,182,255	1,263,722
Payments to Local Authorities from Central Road Trust Fund and Commonwealth Matching Grants .. .. .					403,799
Transfer to State Consolidated Revenue .. .. .	70,000	70,000	70,000	70,000	70,000
Plant, Machinery, etc. .. .. .	580,880	456,041	222,864	160,749	368,760
Other(b) .. .. .	207,991	242,489	288,608	221,817	243,896
<b>Total .. .. .</b>	<b>7,379,240</b>	<b>7,575,195</b>	<b>7,993,803</b>	<b>8,980,357</b>	<b>8,771,258</b>

(a) Includes amounts to be distributed to metropolitan and country local authorities early in the following year. (b) Includes administration and expenditure on hire and maintenance of road construction plant, etc., and on purchase of materials.

7. Tasmania.—(i) *General.* Under the Road Construction (Transfer of Functions) Act 1951, which came into operation on 1st July, 1951, the control of the construction and maintenance of roads and certain road making plant was vested in the Minister for Lands and Works. Works authorized by the Minister in respect of roads classified as State highways, tourist, and developmental roads are constructed by the Department of Public Works and financed from the State Highways Trust Fund, into which are paid the proceeds from Commonwealth Aid Roads grants, motor vehicle registration fees and taxes, licence fees for drivers and public transport, and other moneys made available by Parliament. In addition, provision was made under the Road Construction (Transfer of Functions) Act for certain works authorized by the Transport Commission to be carried out and constructed by the Department. The expenditure by the Public Works Department during 1959-60 on the construction of roads, tracks and bridges amounted to £4,517,000, of which £3,216,000 was charged to road funds, £38,000 to revenue, £1,242,000 to loan and £21,000 to other funds. Except in special cases, municipal councils bear the cost of maintaining country roads and a proportion of the cost of main and secondary roads.

(ii) *Length of Roads.* (a) *Classified Roads.* The mileages of classified roads in Tasmania at 30th June, 1961, were as follows:—State highways, 1,160 miles; main roads, 666 miles; secondary roads, 196 miles; tourist roads, 46 miles; developmental roads, 16 miles; other roads, 135 miles; total, 2,219 miles. Country roads totalled 9,496 miles. The mileages of sealed roads, and their proportions to the respective totals, were:—State highways, 691 miles (60 per cent.); main roads, 351 miles (53 per cent.); secondary and other roads, 48 miles (12 per cent.); total, 1,090 miles (49 per cent. of all classified roads, and 9 per cent. of all roads in Tasmania).

(b) *Surface of Roads.* The length of all roads in Tasmania, including those with surfaces of lower grade, at 30th June, 1961, was as follows:—bitumen or concrete, 1,879 miles; gravel or stone, 8,404 miles; formed only and cleared only, 1,432 miles; total, 11,715 miles.

(iii) *Receipts and Payments—Combined Road Funds.* The table below shows particulars of the receipts and payments of the combined Road Funds for the years 1956–57 to 1960–61.

## ROAD FUNDS, TASMANIA: RECEIPTS AND PAYMENTS.

(£.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
RECEIPTS.					
Motor Vehicle Taxation and Registration, Licences, Fees, Fines, etc.	840,724	1,023,055	1,049,463	1,112,674	1,162,869
Commonwealth Aid Roads and Works Acts .. .. .	1,535,719	1,745,888	1,948,491	2,183,461	2,299,992
Recoups from Local Authorities, etc.	10,469	9,192	9,641	9,384	8,555
State Loan Fund .. .. .	679,099	600,083	705,630	1,168,558	2,461,289
Hire of Plant .. .. .	912,089	1,076,810	1,181,032	1,273,535	1,393,102
Other .. .. .	31,046	52,310	89,219	107,803	376,795
<b>Total .. .. .</b>	<b>4,009,146</b>	<b>4,507,338</b>	<b>4,983,476</b>	<b>5,855,415</b>	<b>7,702,602</b>

## PAYMENTS.

Construction and Reconstruction of Roads and Bridges .. .. .	1,945,053	1,763,457	2,571,412	3,052,787	4,565,047
Maintenance .. .. .	1,150,714	1,204,243	1,190,902	1,325,329	1,306,922
Other works connected with Transport .. .. .	7,105	2,935	14,659	18,028	36,162
Grants to Local Authorities, etc. ..	7,346	12,755	9,657	9,195	14,265
Purchase, Hire and Maintenance of Plant .. .. .	1,068,202	1,080,554	1,232,912	1,388,877	1,528,885
Other .. .. .	93,717	92,885	61,427	313,189	365,194
<b>Total .. .. .</b>	<b>4,272,137</b>	<b>4,156,829</b>	<b>5,080,969</b>	<b>6,107,405</b>	<b>7,816,475</b>

8. *Territories.*—Information relating to the construction of roads and length and composition of roads in the Northern Territory and the Australian Capital Territory may be found in Chapter V.—Territories, of this Year Book (*see pp.* 113 and 118).

9. *Summary of Roads used for General Traffic.*—(i) *Proclaimed or Declared Roads.* The table hereunder is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30th June, 1961. The central road authority in each State assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points:—availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes, e.g., insufficiency of funds, man-power or materials, etc., construction or maintenance may not keep pace with gazettals of mileages, and, therefore, the condition of a road may not match its status.

## PROCLAIMED OR DECLARED ROADS: LENGTHS, 30th JUNE, 1961.

(Miles.)

Class of Road.	N.S.W.	Vic.	Q'land. (a)	S. Aust.	W. Aust.	Tas.	Total.
State highways .. .. .	6,497	4,502	8,252	} 8,188	3,471	} 1,160	} 68,120
Trunk roads .. .. .	4,162	} 9,111	10,460				
Ordinary main roads .. .. .	11,651						
<b>Total Main Roads .. .. .</b>	<b>22,310</b>	<b>13,613</b>	<b>18,712</b>	<b>8,188</b>	<b>3,471</b>	<b>1,826</b>	<b>68,120</b>
Secondary roads .. .. .	(b) 92	..	(c) 1,800	..	(d) 7,538	196	9,626
Developmental roads .. .. .	2,962	..	230	..	22,099	16	25,307
Tourist roads .. .. .	..	426	..	..	..	46	472
Other roads .. .. .	..	(e) 473	..	..	..	(f) 135	608
<b>Total Other Roads .. .. .</b>	<b>3,054</b>	<b>899</b>	<b>2,030</b>	<b>..</b>	<b>29,637</b>	<b>393</b>	<b>36,013</b>
<b>Grand Total .. .. .</b>	<b>25,364</b>	<b>14,512</b>	<b>20,742</b>	<b>8,188</b>	<b>33,108</b>	<b>2,219</b>	<b>104,133</b>

(a) As at 30th June, 1960. (b) Metropolitan only. (c) Includes mining access roads, farmers' roads and tourist tracks. (d) Though financed by the Main Roads Department, these roads are under the control of local authorities. (e) Forest roads and by-pass roads. (f) Subsidized roads.

(ii) *Surface of Roads.* The following table represents an attempt to classify all the roads used for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

For details of any particular State, see the respective paragraphs in the preceding pages.

## ALL ROADS USED FOR GENERAL TRAFFIC: LENGTHS.

(Miles.)

Surface of Roads.	N.S.W. 30th June, 1960.	Vic. 30th Sept., 1960.	Q'land. 30th June, 1961.	S. Aust. 30th June, 1961.	W. Aust. 30th June, 1961.	Tas. 30th June, 1961.	N. Terr. 30th June, 1961.	A.C.T. 30th June, 1961.	Total.
Bitumen or concrete .. .. .	18,476	19,426	10,141	5,333	9,148	1,879	1,386	324	66,113
Gravel, crushed stone or other improved surface .. .. .	46,775	32,392	20,515	13,586	19,622	8,404	207	143	141,644
Formed only .. .. .	26,966	23,443	40,768	15,326	40,583	} 1,432	{ 1,698	125	} 324,559
Cleared only .. .. .	37,535	26,190	49,072	28,293	23,375				
<b>Total .. .. .</b>	<b>129,752</b>	<b>101,451</b>	<b>120,496</b>	<b>62,538</b>	<b>92,728</b>	<b>11,715</b>	<b>12,942</b>	<b>594</b>	<b>532,216</b>

10. *Aggregate Net Expenditure on Roads and Bridges in Australia.*—In most States there are three classes of authorities concerned with roads and bridges, the State Government, the central road authority and numerous local government bodies. The Commonwealth Government, in addition to the grants it makes to the States for road purposes, is also concerned with roads in the Northern Territory and the Australian Capital Territory and roads of access to Commonwealth property in the various States. Some information relating to Commonwealth grants to the States for road purposes and particulars of the expenditure on roads and bridges by local government bodies and the central road authorities are given in preceding sections of this chapter.

Most of these authorities may expend money directly on road construction or indirectly by means of grants and payments to other authorities. These indirect payments, which, if included, would duplicate expenditure, together with the fact that some authorities are unable to supply separate information concerning their road expenditure, make it difficult to compile precise statistics of aggregate expenditure on roads and bridges.

The information in the following table, which is partly estimated and which excludes the main indirect payments, provides an approximate measure of the aggregate net expenditure by all public authorities on roads and bridges in Australia during each of the years ended 30th June, 1957 to 1961. The figures cover expenditure from revenue and loan funds on the construction, reconstruction and maintenance of roads and bridges, and direct administration but not debt charges. Because of the difficulties associated with the indirect payments mentioned above, it is not possible to give separate net details for each authority.

**PUBLIC AUTHORITY NET EXPENDITURE ON ROADS AND BRIDGES.**  
(£ million.)

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Northern Territory and A.C.T.	Aust.
1957 ..	36	22	16	10	8	4	1	97
1958 ..	39	28	18	10	9	4	1	109
1959 ..	42	29	17	11	9	5	2	115
1960 ..	42	34	23	12	11	6	2	130
1961 ..	50	37	24	13	10	8	2	144

### § 5. Water Supply, Sewerage and Drainage.

NOTE.—See also Chapter VIII.—Water Conservation and Irrigation.

1. **New South Wales.**—(i) *General.* The two largest domestic water supply and sewerage systems are controlled by statutory boards, each consisting of a president and a vice-president appointed by the State Government and five members elected by local councils. These are (a) the Metropolitan Water, Sewerage and Drainage Board, which administers the systems in the County of Cumberland, i.e., in Sydney and in the surrounding districts, and, in addition, has jurisdiction over territory extending along the South Coast beyond Wollongong to Lake Illawarra and Shellharbour, and (b) the Hunter District Water Board serving the Newcastle-Maitland-Cessnock areas. At Broken Hill, a similar board includes a representative of the mining companies. Other systems, apart from irrigation projects and water storage systems administered by the State Government, are controlled by county, municipal or shire councils.

(ii) *Water Supply—to 30th June, 1961.* (a) *Metropolitan.* The storage reservoirs of the metropolitan system, with a combined available capacity of 577.122 million gallons, drain catchment areas of 3,788 square miles (Warragamba, 3,412 square miles, Upper Nepean, 347 square miles, and Woronora, 29 square miles). The development of a water supply system on the Warragamba River was completed with the official opening of the Warragamba Dam in October, 1960. This dam, constructed in concrete, has a storage capacity of 452,505 million gallons. Its safe net draught is estimated to be 285 million gallons a day. A hydro-electric power station at the dam generates 50,000 kWh a day. At 30th June, 1961, there were 135 service reservoirs in use with a combined capacity of 590 million gallons. Rating for water for 1960-61 was 9½d. in the £1 of assessed annual value and the charge for water measured by meters 2s. 6d. per 1,000 gallons.

(b) *Hunter District.* The water supply is drawn from two sources (1) the Chichester Reservoir, with a storage capacity of about 5,000 million gallons and draining a catchment of 76 square miles, and (2) the Tomago Sandbeds, which extend northerly along the coast towards Port Stephens. Service reservoirs and tanks distributed throughout the Water Supply District have a total storage capacity of 113 million gallons. Water rating for 1960-61 was 1s. 5½d. in the £1 on assessed annual value for occupied properties and 1s. 2½d. in the £1 for unoccupied properties. The price of water to domestic and industrial consumers is 2s. 6d. per 1,000 gallons.

(c) *Water Supplied, etc.* The following tables show, for the Metropolitan and Hunter District systems, the number of properties, the estimated population supplied, and other details for the years 1956-57 to 1960-61.

## WATER SUPPLY, METROPOLITAN(a): SERVICES.

Year.	Improved Properties for which Water Mains available.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for the Year.	Average Daily Consumption.		Length of Mains.	Number of Meters.
					Per Property.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1956-57 ..	545,992	2,096,000	196.0	71,530	364	94.1	5,904	326,173
1957-58 ..	561,934	2,148,000	183.6	67,016	331	86.1	6,055	340,364
1958-59 ..	579,900	2,212,000	198.9	72,624	348	91.3	6,246	362,130
1959-60 ..	598,893	2,264,000	200.9	73,329	335	88.7	6,450	382,180
1960-61 ..	620,944	2,341,000	219.1	79,988	353	93.6	6,664	411,731

(a) County of Cumberland, City of Greater Wollongong and Shellharbour Municipality.

## WATER SUPPLY, HUNTER DISTRICT(a): SERVICES.

Year.	Properties Supplied.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for Year.	Average Daily Consumption.		Length of Mains.
					Per Property.	Per Head of Estimated Population.	
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.
1956-57.. ..	77,380	309,520	29.5	10,768	381	95.3	1,369
1957-58.. ..	78,954	315,816	29.5	10,753	373	93.3	1,410
1958-59.. ..	81,398	325,592	28.2	10,281	346	86.5	1,439
1959-60.. ..	84,497	337,988	28.6	10,474	339	84.7	1,460
1960-61.. ..	86,032	344,128	29.7	10,854	346	86.4	1,483

(a) Newcastle, Maitland and Cessnock areas.

(iii) *Sewerage and Drainage—*to 30th June, 1961. (a) *Metropolitan.* Sydney and suburbs are served by three major sewerage systems and seven minor systems, consisting of six outfalls discharging directly into the Pacific Ocean, and four treatment works. In addition, five centres outside the metropolitan area (Camden, Campbelltown, St. Mary's, Port Kembla and Wollongong) are served by local treatment works.

Stormwater drainage channels under the control of the Metropolitan Water, Sewerage and Drainage Board at 30th June, 1961, were 180 miles long. Sewerage rating for 1960-61 was 9d. in the £1 of assessed annual value, and drainage rating 1½d. in the £1.

(b) *Hunter District.* The main sewerage system serves the City of Newcastle and discharges into the Pacific Ocean at Merewether Gulf. There are also local treatment works at Maitland, Cessnock and some of the outlying districts.

Sewerage rates for 1960-61 were 1s. 0½d. in the £1 of assessed annual value of occupied lands and 9½d. in the £1 for unoccupied lands, and drainage rates (on certain areas served) 1½d. in the £1.



(c) *Particulars of Services.* The following table gives, for the Metropolitan system, details of sewerage services and stormwater drains as at 30th June, 1957 to 1961.

**SEWERAGE AND DRAINAGE, METROPOLITAN(a): SERVICES.**

At 30th June—				Improved Properties for which Sewerage Available.	Estimated Population Served.	Lengths of Sewers.	Length of Stormwater Channels.
						Miles.	Miles.
1957..	..	..	..	353,800	1,457,000	3,462	175
1958..	..	..	..	364,712	1,483,000	3,628	180
1959..	..	..	..	379,069	1,520,000	3,791	180
1960..	..	..	..	395,869	1,560,000	4,021	180
1961..	..	..	..	412,034	1,620,000	4,231	180

(a) County of Cumberland, City of Greater Wollongong and Shellharbour Municipality.

At 30th June, 1961, 58,631 premises had been connected to the Hunter District Water Board's sewerage system (Newcastle-Maitland-Cessnock areas). The total length of sewers under the Board's control was 805 miles, and the length of drains was 50 miles.

(iv) *Finances, Metropolitan and Hunter District Systems.* The following table shows the debt, revenue and expenditure of the Metropolitan Water, Sewerage and Drainage Board and the Hunter District Water Board for each of the services of water supply, sewerage and drainage during 1960-61, and for the three services combined during the years 1956-57 to 1959-60.

**WATER SUPPLY, SEWERAGE AND DRAINAGE, METROPOLITAN AND HUNTER DISTRICT: FINANCES.**

(£.)

Year.	Capital Debt at 30th June.	Revenue.	Expenditure.				Surplus (+) or Deficit (-).
			Working Expenses. (a)	Interest and Exchange.	Debt Redemption.	Total.	
<b>METROPOLITAN.(b)</b>							
1960-61—							
Water ..	108,891,960	10,817,327	4,315,800	4,674,367	1,821,336	10,811,503	+ 5,824
Sewerage ..	44,815,510	6,053,475	3,481,413	1,843,714	727,118	6,052,245	+ 1,230
Drainage ..	1,414,758 <sup>1</sup>	376,598	296,957	54,874	19,866	371,697	+ 4,901
Total 1960-61	155,122,228	17,247,400	8,094,170	6,572,955	2,568,320	17,235,445	+ 11,955
1959-60	140,992,864	15,662,131	7,739,582	5,721,738	2,194,286	15,655,606	+ 6,525
1958-59	127,090,931	14,243,408	7,219,250	5,107,248	1,904,612	14,231,110	+ 12,298
1957-58	116,624,719	13,071,578	6,841,455	4,534,653	1,680,320	13,056,428	+ 15,150
1956-57	105,627,704	11,299,363	5,853,765	3,899,087	1,540,412	11,293,264	+ 6,099
<b>HUNTER DISTRICT.(c)</b>							
1960-61—							
Water ..	19,379,458	1,643,692	817,888	638,169	184,997	1,641,054	+ 2,638
Sewerage ..	5,708,538	683,774	415,657	217,997	49,320	682,974	+ 800
Drainage ..	248,788	51,394	32,378	10,580	2,115	45,073	+ 6,321
Total 1960-61	25,336,784	2,378,860	1,265,923	866,746	236,432	2,369,101	+ 9,759
1959-60	22,638,498	2,287,793	1,197,373	738,436	343,128	2,278,937	+ 8,856
1958-59	20,053,737	2,133,500	1,179,652	671,151	246,480	2,097,283	+ 36,217
1957-58	16,999,335	1,961,696	1,138,593	599,457	217,907	1,955,957	+ 5,739
1956-57	14,602,234	1,709,861	989,870	521,212	194,718	1,705,800	+ 4,061

(a) Includes provision for renewals, long service leave, loss on exchange, etc. (b) County of Cumberland, City of Greater Wollongong, Shellharbour Municipality. (c) Newcastle-Maitland Cessnock areas.

(v) *Country Water Supply and Sewerage Systems.* (a) *Local Government.* At 31st December, 1959, country water supply services were conducted or under construction by 54 municipalities, 78 shires and 5 county councils, and country sewerage services by 53 municipalities and 28 shires. The capital indebtedness of these schemes was £26,856,626 at 31st December, 1959, namely, £18,198,539 for water and £8,658,087 for sewerage. Debt of the municipalities amounted to £15,307,765, shires to £7,451,804 and county councils to £4,097,057. Government advances amounting to £488,638 are included in these figures. Aggregate income and expenditure amounted to £4,561,902 and £3,513,229, respectively, in 1959.

(b) *Other.* The water supply and sewerage services for Broken Hill are operated by a statutory board, the Broken Hill Water Board. Its capital indebtedness at 31st December, 1960, was £3,237,326. In 1960, income (excluding subsidies, State Government £102,604 and Mining Companies £301,978) amounted to £271,222 and expenditure (excluding debt redemption £213,195) amounted to £461,824.

The following country water supply systems—South-West Tablelands, Junee and Fish River—are administered by the Department of Public Works. These supply water in bulk to municipalities and shires, the Railways Department, and other large consumers. Only a small quantity is sold direct to private consumers. The capital indebtedness of these systems was £6,011,169 at 31st December, 1960.

The Mulwala Water Supply and Sewerage Service was constructed as an urgent war-time work for the Commonwealth, and the Bethungra Water Supply System is administered by the Department of Public Works in conjunction with the Junee supply.

2. *Victoria.*—(i) *Melbourne and Metropolitan Board of Works.* (a) *General.* The Board was established by Act of Parliament on 20th December, 1890. Since June, 1959, the Board has consisted of a Chairman and 51 Commissioners elected to represent the municipalities which lie wholly or partly within the metropolitan area. The Chairman is elected by the Commissioners for a four-year term. The principal functions of the Board until 1954 were to control and manage the metropolitan water supply system; to provide the metropolitan area with an efficient main and general sewerage system; to deal with main drains and main drainage works; and to control and manage the rivers, creeks and watercourses within the metropolitan area. The Board has carried out since December, 1954, the additional functions of a permanent planning authority, and in June, 1956, it became the authority directly responsible for certain metropolitan main highways, bridges, parks and foreshores.

(b) *Water Supply.* There are six storage reservoirs serving the metropolitan area—Yan Yean, 7,233 million gallons (available for consumption, 6,649 million gallons); Toorourong, 60 million gallons; Maroondah, 6,289 million gallons (4,870 million gallons); O'Shannassy, 930 million gallons; Silvan, 8,853 million gallons (8,823 million gallons); and Upper Yarra, 45,400 million gallons (44,120 million gallons); total 68,765 million gallons (65,452 million gallons). Service reservoirs number 37, with a total capacity of 370 million gallons.

The water rate levied by the Board in 1959–60 was 8d. in the £1 on the net annual value of the properties served. The charge for water consumed in excess of the quantity which, at 1s. 6d. per 1,000 gallons, would equal the assessed water rates on each property, was 1s. 6d. per 1,000 gallons. The following table shows particulars of Melbourne metropolitan water supply services for the years 1956–57 to 1960–61.

## WATER SUPPLY, MELBOURNE: SERVICES.

Year.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for the Year.	Average Daily Consumption.		Length of Aque-ducts, etc., Mains and Reticulation.	Number of Meters.
					Per House.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1956-57 ..	440,159	1,585,000	119.6	43,652	271	75.4	4.478	299,676
1957-58 ..	454,853	1,637,000	128.8	47,006	283	78.7	4.721	317,670
1958-59 ..	483,410	1,740,000	134.0	48,917	277	77.0	4.942	344,702
1959-60 ..	496,841	1,789,000	145.3	53,169	292	81.2	5.109	366,905
1960-61 ..	510,078	1,836,000	152.9	55,822	300	83.3	5,245	392,396

(c) *Sewerage and Drainage.* Particulars of sewerage and drainage services for 1956-57 to 1960-61 are shown below. The rate levied in 1960-61 in respect of sewerage was 1s. 2d. in the £1 on the net annual value of the property served. The drainage rate was 2d. in the £1.

## SEWERAGE AND DRAINAGE, MELBOURNE: SERVICES.

Year.	Number of Houses for which Sewers are Provided.	Estimated Population for which Sewers are Provided.	Average Daily Pumping.	Total Sewage Pumped for the Year.	Average Daily Pumping.		Length of Sewers, etc.	Length of Main Drains.
					Per House.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	Miles.
1956-57 ..	366,507	1,319,000	74.5	27,181	203.2	56.5	3.180	161
1957-58 ..	373,019	1,343,000	75.0	27,379	201.1	55.8	3.256	169
1958-59 ..	378,738	1,363,000	78.7	28,716	207.8	57.7	3.350	176
1959-60 ..	384,844	1,385,000	83.2	30,459	216.2	60.1	3.458	181
1960-61 ..	395,109	1,422,000	88.1	32,159	223.0	62.0	3,550	193

The metropolitan sewerage system consists of the main system (serving an area of 80,823 acres) and four subsidiary systems—the Sunshine system (serving an area of 2,033 acres), the Laverton system (serving an area of 108 acres), the Kew system (serving an area of 112 acres) and the South-eastern system (serving an area of 2,815 acres in Cheltenham, Parkdale, Mentone and Mordialloc). The Metropolitan Sewage Farm, 26,811 acres in extent and situated about 24 miles south-west of Melbourne beyond the township of Werribee, serves to purify and dispose of approximately 98 per cent. of the sewage flow of the metropolis before its discharge into Port Philip Bay. The total capital cost (less depreciation) of the Farm to 30th June, 1961, was £3,994,914. Revenue during 1960-61 amounted to £224,589, cost of sewage disposal to £239,176, trading expenses to £123,955, interest to £197,863, and net cost of sewerage purification to £336,405. These financial particulars are included in the sewerage items of the summary below.

(d) *Finances.* The following table provides for the year 1960-61 a summary of the financial operations of the water supply, sewerage and drainage services conducted by the Melbourne and Metropolitan Board of Works.

## MELBOURNE AND METROPOLITAN BOARD OF WORKS: FINANCES, 1960-61.

(£.)

Service, etc.	Capital Cost of Works and Buildings at 30th June.(a)	Revenue.	Expenditure.				Surplus(+) or Deficit(-).
			Working Expenses.	Interest and Exchange.	Debt Redemption.	Total.	
Water ..	51,937,868	4,106,083	1,544,299	2,494,236	..	4,038,535	+ 67,548
Sewerage ..	41,410,482	4,379,165	1,513,390	1,898,154	..	3,411,544	+ 967,621
Drainage ..	8,911,526	672,492	431,217	332,418	..	763,635	+ 91,143
General(b) ..	4,408,069	..	532,602	..	530,679	1,063,281	- 1,063,281
<b>Total ..</b>	<b>106,667,945</b>	<b>9,157,740</b>	<b>4,021,508</b>	<b>4,724,808</b>	<b>530,679</b>	<b>9,276,995</b>	<b>- 119,255</b>

(a) Total loan indebtedness—1960-61, £94,799,845.

(b) Statutory and general expenditure not distributed over Services.

The following table shows the financial operations of the water supply, sewerage and drainage services of the Melbourne and Metropolitan Board of Works for the years 1956-57 to 1960-61.

## MELBOURNE AND METROPOLITAN BOARD OF WORKS: FINANCES.

(£.)

Year.	Capital Cost of Works and Buildings at 30th June.	Revenue.	Expenditure.				Surplus(+) or Deficit(-).
			Working Expenses.	Interest and Exchange.	Debt Redemption.	Total.	
1956-57 ..	72,071,790	6,241,514	3,224,087	2,851,191	149,139	6,224,417	+ 17,097
1957-58 ..	79,439,722	6,962,750	3,485,745	3,287,070	170,507	6,943,322	+ 19,428
1958-59 ..	88,466,516	7,564,879	3,471,915	3,681,159	402,969	7,556,043	+ 8,836
1959-60 ..	98,098,322	8,463,843	3,845,137	4,221,253	526,802	8,593,192	- 129,349
1960-61 ..	106,667,945	9,157,740	4,021,508	4,724,808	530,679	9,276,995	- 119,255

(ii) *State Rivers and Water Supply Commission.* (a) *General.* Water supply and conservation throughout Victoria (except for the area controlled by the Melbourne and Metropolitan Board of Works) is the responsibility of the State Rivers and Water Supply Commission. The events leading to the establishment of the Commission and its works in the spheres of irrigation, domestic and stock water supply to farms, drainage, flood protection and river improvement, have already been described in Chapter VIII.; this section is therefore confined to the Commission's functions in connexion with urban water supply and sewerage.

(b) *Water Supply.* At 30th June, 1961, the Commission provided a reticulated water supply from its own works to 131 cities and towns having a combined population of 200,000 persons.

The principal systems operated by the Commission serve part of the Mornington Peninsula—Dandenong area (about 85,000 people supplied); Bendigo, Castlemaine, etc. (58,000); and about 8,000 people in the Western District. In addition, 10,000 persons in a number of towns in the Bellarine Peninsula receive supply through a Commission-operated distributary system from headworks controlled by the Geelong Waterworks and Sewerage Trust.

Outside these areas, the Commission supplies mainly small towns in the north of the State, in areas where it also supplies farms with water for irrigation or domestic and stock purposes.

Capital expenditure at 30th June, 1961, net of redemption payments, was divided up as follows between the several systems:—Mornington Peninsula, £7,650,000; Bendigo, Castlemaine, £3,950,000; Bellarine Peninsula, £825,000; Otway System (Western District), £700,000; Other, £1,025,000; Total, £14,150,000.

In addition to the towns supplied by the Commission, there are approximately 550,000 people in 187 cities and towns throughout the State who get a reticulated water supply from works operated by local authorities.

All these authorities operate under the supervision of the State Rivers and Water Supply Commission, largely because the Government subsidizes their capital expenditure. Most new works are financed from Government loan funds, but in recent years some local authorities have been able to borrow money privately. In most cases, the local authority controls both headworks and distribution system, but a few large towns—serving about 50,000 people—draw their water from the State Rivers and Water Supply Commission and are concerned only with reticulation of the water. Together, therefore, the Commission and local authorities supply 318 urban centres containing about 750,000 people. Very few towns of any importance are now without a reticulated water supply.

The following table presents the financial position in respect of town water supply at 30th June, 1961.

**TOWN WATER SUPPLY, VICTORIA: CAPITAL LIABILITY, 30TH JUNE, 1961.**  
(£'000.)

Particulars.	Water supply provided by—		
	Local Authorities.	State Rivers and Water Supply Commission.	Total.
Government advances .. .. .	18,100	14,825	32,925
Private loans .. .. .	1,500	..	1,500
<i>Total Expenditure</i> .. .. .	<i>19,600</i>	<i>14,825</i>	<i>34,425</i>
Redemption and repayments .. .. .	1,400	675	2,075
<i>Loan Expenditure Outstanding</i> .. .. .	<i>18,200</i>	<i>14,150</i>	<i>32,350</i>
Borne by State .. .. .	4,000	6,950	10,950
Borne locally .. .. .	14,200	7,200	21,400

The proportion of loan capital borne by the State is much higher in the case of Commission undertakings than for towns supplied by local authorities. This is because most Commission undertakings have been developmental in nature. Besides interest on capital borne by it, the State pays the difference between 3 per cent. and the actual rate paid on practically all of the capital carried locally. The total annual subsidy on country town water supply is currently about £750,000.

(c) *Sewerage.* With the exception of the town of Eildon whose sewerage system is controlled directly by the State Rivers and Water Supply Commission, the construction and management of sewerage works in Victoria's country cities and towns are the responsibility of local authorities supervised by the Commission. Except for the Geelong Waterworks and Sewerage Trust and the Latrobe Valley Water and Sewerage Board which have special Acts dealing with their activities, all sewerage authorities operate under the Sewerage Districts Act.

At 30th June, 1961, there were 39 cities and towns with sewerage systems in operation. These contained about 400,000 persons, approximately a third of the total number of residents outside the metropolitan area.

Expenditure on sewerage in Victorian country towns at 30th June, 1961, was a little over £15,500,000, of which approximately £12,000,000 had been advanced by private lenders. The annual State subsidy on country sewerage in Victoria is currently about £200,000, mainly provided in the form of subsidies on interest rates paid, along the same lines as for town water supply. Comparatively little capital is borne directly by the State.

(iii) *Geelong Waterworks and Sewerage Trust.* (a) *General.* The Geelong Waterworks and Sewerage Trust was constituted in 1908 and reconstituted under the Geelong Waterworks and Sewerage Act in 1910. It was further reconstituted in September, 1950, to include a government nominee (Chairman) and provision was made for a commissioner to be elected by the ratepayers of the Shire of Corio, making a total of seven commissioners. The amount of loan money which may be raised is limited to £6,500,000 for water supply undertakings, and £5,000,000 for sewerage undertakings. The population supplied is estimated by the Trust at 98,650 persons. This and other general information relates to 30th June, 1961.

(b) *Water Supply.* The Trust operates two systems for gathering and storing water, one on the Moorabool River with works extending beyond Ballan to Spargo Creek and the other on the Barwon River with works extending to Forrest. In both systems, water is brought over fifty miles to Geelong. There are seven storage reservoirs and eleven service basins whose total storage capacity is 8,640 million gallons. The length of water mains and reticulation is 501 miles. The total expenditure on water supply to 30th June, 1961, was £4,293,190. General fund expenditure for 1960-61 comprised £145,559 for working expenses and £273,429 for interest, redemption and reserves, while revenue amounted to £423,446. The sinking fund appropriations at June, 1961, amounted to £337,008. The replacement and contingencies reserve amounted to £291,802. There is a water rate of 1s. 7d. in the £1 (with minima of 10s. for vacant land and £1 for tenements) on the net annual value of ratable properties.

(c) *Sewerage Works.* The sewerage scheme consists of a main outfall sewer to the ocean at Black Rock, about 9 miles from Geelong, and 234.7 miles of main and reticulation sewers. The sewerage area is 10,559 acres, and the number of buildings connected within the sewered areas is 20,606. The total expenditure on sewerage works to 30th June, 1961, was £1,988,368. The revenue in 1960-61 amounted to £206,251 and the general fund expenditure comprised £84,514 on working expenses and £119,868 on interest, redemption and reserves. Sinking fund appropriations at June, 1961, were £178,632. Replacement and contingencies reserve amounted to £337,266. A general rate of 1s. 4d. in the £1 is levied on the net annual value of ratable properties.

(iv) *The Ballarat Water Commissioners and the Ballarat Sewerage Authority.* (a) *General.* The body known as the Ballarat Water Commissioners was constituted on 1st July, 1880, and the Ballarat Sewerage Authority on 30th November, 1920. The members of the Water Commissioners constitute the Sewerage Authority. The Commissioners number nine, three (one of whom is chairman) being appointed by the Government, four being elected by the Council of the City of Ballarat, one being elected by the Councils of the Borough of Sebastopol and the Shires of Buninyong and Grenville and one being elected by the Councils of the Shires of Bungaree and Ballarat. General and financial information given herein relates to the year ended 31st December, 1961.

(b) *Water Supply.* The water supply district embraces an area of about 65 square miles, containing a population of about 58,000. The total storage capacity of the seven reservoirs is 5,606 million gallons and the catchment area is 24,182 acres.

The capital cost of construction of the waterworks was £2,641,780 to 31st December, 1961. The liabilities amounted to £1,577,031 at 31st December, 1961, including loans due to the Government totalling £1,442,738. The revenue for the year 1961 was £173,925. Working expenses during 1961 amounted to £96,010 and interest and other charges to £77,752. A water rate of 1s. 1d. in the £1 on the net annual valuation is levied, with a minimum charge of £1 10s. per annum on any ratable property.

(c) *Sewerage.* The Ballarat sewerage district embraces the City of Ballarat and parts of the Shires of Ballarat, Bungaree and Grenville and the Borough of Sebastopol. Work was commenced in 1922 and up to 31st December, 1961, the Authority had constructed two disposal works, a nightsoil depot, an ejector station and more than 161 miles of sewers. The capital cost of sewerage construction works to 31st December, 1961, was £1,525,611. The method of sewage disposal is by sedimentation, oxidation and sludge digestion. Two hundred and six sewered areas had been declared as at 31st December, 1961. Assessments in the sewerage district numbered 17,982, while those in sewered areas numbered 14,454. There were 12,483 buildings connected.

The scheme is financed by debenture-issue loans from various financial institutions. The liabilities on account of loans secured for construction at 31st December, 1961, amounted to £1,261,787; redemption payments at that date totalled £314,787. An expenditure of £157,122 was incurred for house connexions, the whole of which has been redeemed. Revenue during 1961 amounted to £132,910, and expenditure, which included £61,589 on interest and redemption, was £126,808.

A sewerage rate of 1s. 4d. in the £1 on the net annual valuation is levied, with a minimum charge of £3 on any ratable property.

(v) *Latrobe Valley Water and Sewerage Board.* (a) *General.* The Latrobe Valley Water and Sewerage Board was constituted on 1st July, 1954. The Board consists of seven members, namely:—two Government nominees (one of whom is Manager and also Board Chairman), three members elected by water supply, sewerage and river improvement authorities within the Latrobe Valley, and one representative each of the State Electricity Commission of Victoria and the Gas and Fuel Corporation of Victoria.

(b) *Water Supply.* The Board is empowered to construct water supply works within the Latrobe Valley, but at present its main construction activities are confined to the central industrialized areas, particularly around the towns of Morwell and Traralgon. At 30th June, 1961, a pumped water supply scheme from the Tyers River had been constructed and work was proceeding on a reservoir with a capacity of 7,000 million gallons on the Upper Tyers River and a 60-inch diameter pipeline connecting that reservoir to the existing distribution mains. The capital cost of construction of the water works was £3,642,439 to 30th June, 1961. Liabilities amounted to £4,020,129 including loans due to the Government totalling £3,915,059. Revenue for the year was £128,121. Working expenses during 1960-61 amounted to £57,135 and interest and other charges to £50,811. The Board does not strike a rate but supplies consumers, including local water supply authorities, by measure. The quantity supplied during the year ended 30th June, 1961, was 3,076 million gallons.

(c) *Sewerage.* The sewerage system consists of a main outfall sewer, about 50 miles in length, to the Dutson Downs Disposal Farm. Wastes conveyed consist mainly of industrial wastes, such as paper wastes and gasification wastes, together with small quantities of domestic sewage. The capital cost of the sewerage construction works to 30th June, 1961, was £2,342,921. Liabilities amounted to £2,651,626 including loans due to the Government totalling £2,482,557. Revenue in 1960-61 was £109,693, and expenditure comprised £53,178 working expenses and £69,355 interest and other charges. No sewerage rate is levied but a charge is made by measure for wastes both from industries and public authorities. The quantities of effluent admitted to the outfall system during 1960-61 averaged 4.73 million gallons a day.

(vi) *Other Sewerage Authorities.* At 30th June, 1961, 64 other sewerage authorities had been constituted under the provisions of the Sewerage Districts Acts and systems were in operation in 36 districts.

3. *Queensland.*—(i) *Brisbane City Council—to 30th June, 1961.* (a) *General.* This organization conducts the water supply and sewerage systems of the City of Brisbane. Prior to 1928, water and sewerage activities had been controlled by the Metropolitan Water and Sewerage Board, but were then absorbed by the Brisbane City Council, which also supplies, in bulk, the whole of the water used by the City of Ipswich and the major portion of that used by the City of Redcliffe. Since September, 1960, Redcliffe has supplemented its supply from that of the Pine Rivers Shire Council.

(b) *Water Supply.* Water storage facilities comprise the following (available capacities are shown in parentheses):—Somerset Reservoir, 200,000 million gallons (55,000 million gallons); Lake Manchester, 5,806 million gallons (5,720 million gallons); Brisbane River, 543 million gallons (484 million gallons); Pure Water Reservoir, Holt's Hill, 8.3 million gallons (8.3 million gallons); Enoggera Reservoir, 1,000 million gallons (600 million gallons); Gold Creek Reservoir, 407 million gallons (400 million gallons). There are 16 service reservoirs with a capacity of approximately 41 million gallons. The Somerset reservoir is a dual purpose project with a designed total holding capacity of 200,000 million gallons, 55,000 million gallons to be for water storage and 145,000 million gallons for flood mitigation. Water rating at 30th June, 1961, was 4½d. in the £1 of unimproved capital value for improved properties, and 3½d. in the £1 for vacant lands, with a minimum charge of £7 and £6 10s. respectively. The following table is a summary of operations of the complete Brisbane City Council system (Brisbane, Ipswich and Redcliffe) for the years 1956-57 to 1960-61.

WATER SUPPLY, BRISBANE(a): SERVICES.

Year.	Services Connected.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for the Year.	Average Daily Consumption.		Length of Trunk and Reticulation Mains.	Number of Meters.
					Per Service.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1956-57 ..	153,035	560,000	41.1	15,012	269	73.5	1,959	(b)
1957-58 ..	157,750	575,212	41.0	14,970	260	71.3	1,995	(b)
1958-59 ..	163,336	594,124	41.4	15,127	254	69.7	2,059	(b)
1959-60 ..	168,687	615,293	44.3	16,214	272	73.1	2,137	(b)
1960-61 ..	171,820	626,470	46.8	17,100	273	74.8	2,196	(b)

(a) Includes Ipswich and Redcliffe.

(b) Not available.

(c) *Sewerage.* The sewage treatment works is situated at **Luggage Point** at the entrance to the Brisbane River. An activated sludge system of treatment was originally planned but since the commencement of pumping operations a sedimentation plant only has been used. Sewerage rating at 30th June, 1961, was 3½d. in the £1 of unimproved capital value for improved properties, and 2½d. in the £1 for vacant lands, with a minimum charge of £7 10s. and £7 respectively. The following table is a summary of operations of the Brisbane sewerage scheme for the years 1956-57 to 1960-61.

**SEWERAGE, BRISBANE: SERVICES.**

Year.	Premises Connected.	Estimated Population Served.	Total Sewage Pumped for the Year.	Length of Main, Branch, Reticulation etc., Sewers.
			Mill. Galls.	Miles.
1956-57 .. .. .	54,300	201,000	4,837	712
1957-58 .. .. .	55,846	206,630	5,316	731
1958-59 .. .. .	58,616	216,879	6,043	757
1959-60 .. .. .	58,942	218,185	5,626	803
1960-61 .. .. .	62,781	232,290	5,222	853

(d) *Finances.* The following table shows particulars of the finances of the water supply and sewerage undertakings of the Brisbane City Council for the years 1956-57 to 1960-61.

**WATER SUPPLY AND SEWERAGE, BRISBANE: FINANCES.**

(£.)

Service and Year.	Gross Capital Cost to 30th June.	Revenue.	Expenditure.			Surplus(+) or Deficit(-).
			Working Expenses.	Interest, Redemption, etc., Charges.	Total. (a)	
<b>Water Supply—</b>						
1956-57 ..	13,159,492	1,634,624	810,150	564,708	1,610,117	+ 24,507
1957-58 ..	13,560,777	1,728,751	875,248	569,267	1,577,222	+ 151,529
1958-59 ..	14,688,559	1,786,978	907,186	629,422	1,736,230	+ 50,748
1959-60 ..	16,369,241	2,149,216	984,213	793,263	2,115,298	+ 33,918
1960-61 ..	18,437,170	2,315,102	1,044,524	879,712	2,308,682	+ 6,420
<b>Sewerage—</b>						
1956-57 ..	13,475,340	757,507	245,035	414,315	744,755	+ 12,752
1957-58 ..	13,874,524	773,337	244,774	421,004	761,118	+ 12,219
1958-59 ..	14,434,390	807,399	254,445	444,562	806,862	+ 537
1959-60 ..	15,556,266	907,148	252,211	460,896	839,761	+ 67,387
1960-61 ..	16,837,552	982,345	282,035	489,597	964,578	+ 17,767

(a) Total, including other expenditure.

(ii) *Country Towns.* (a) *Water Supply.* In addition to the City of Brisbane, there were, at 30th June, 1960, 153 cities and towns in Queensland provided with water supply systems controlled by municipal and shire councils.

(b) *Sewerage Systems.* At 30th June, 1960, there were 23 cities and towns in addition to Brisbane with sewerage systems. These were—Barcaldine, Blackall, Bundaberg, Charleville, Cunnamulla, Goondiwindi, Hughenden, Ipswich, Kingaroy, Longreach, Mackay, Maryborough, Monte, Mt. Isa, Quilpie, Rockhampton, Redcliffe, Roma, Surat, Toowoomba, Townsville, Warwick and Winton.

Sewerage schemes were in course of construction at Bowen, Cairns, Gordonvale, Richmond and St. George.



(c) *Finances.* The receipts (other than loan and loan subsidy) of water undertakings controlled by the cities and towns referred to above amounted to £2,171,282 in 1959–60. Expenditure amounted to £2,171,734, including £943,924 for debt charges. In addition, expenditure from loans and loan subsidy amounted to £2,449,506.

Finances of sewerage undertakings are incorporated in council general funds and are not available separately.

4. *South Australia.*—(i) *General.* The water supply and sewerage systems in this State were constructed mainly and are maintained by the Engineering and Water Supply Department, under the control of the Minister of Works. Works controlled by the Department are the Adelaide, Barossa, Beetaloo, Bundaleer, Moorook, Tod River, Warren, Yorke Peninsula and other country water districts systems, the Morgan–Whyalla water supply system, the Adelaide metropolitan sewerage system, the Metropolitan Flood Waters Scheme, works on the River Murray constructed under the River Murray Waters Agreement, and sewerage schemes at Naracoorte and Port Lincoln. The Salisbury–Elizabeth Sewerage Scheme was incorporated in the Metropolitan system during 1960–61. Several water supply schemes on the Murray River are operated by the Department of Lands in conjunction with its irrigation works, and supplies to Woomera and Leigh Creek coalfield are controlled by the operating authorities.

(ii) *South Australian Waterworks.* (a) *Services.* The table below shows particulars of the area, capacity, etc., of combined metropolitan and country waterworks for the years 1956–57 to 1960–61.

#### WATERWORKS, SOUTH AUSTRALIA: SERVICES.

Year.	Assessments.(a)		Area of Districts Supplied. (a)	Capacity of Reservoirs, Tanks, etc.	Length of Mains.	Number of Meters.
	Number.	Annual Value.				
		£	Acres.	Mill. gals.	Miles.	
1956–57..	250,306	22,687,480	12,860,508	24,015	7,916	166,350
1957–58..	262,430	26,810,750	12,983,539	33,949	8,260	180,815
1958–59..	269,825	28,361,294	13,003,305	33,954	8,537	197,914
1959–60..	289,235	31,617,930	13,037,312	33,957	9,016	213,024
1960–61..	319,108	40,593,447	13,118,635	35,405	9,292	232,072

(a) Excludes Morgan–Whyalla Water Supply—water sold by measure.

(b) *Finances.* Figures for 1956–57 to 1960–61 are shown in the following table.

#### WATERWORKS, SOUTH AUSTRALIA: FINANCES.

(£.)

Year.	Invested Capital to 30th June.	Revenue.	Expenditure.			Deficit.
			Working Expenses. (a)	Interest.	Total.	
1956–57	45,239,197	2,318,072	2,295,444	1,485,486	3,780,930	1,462,858
1957–58	49,161,026	3,028,193	2,944,648	1,740,157	4,684,805	1,656,612
1958–59	54,301,234	3,106,348	2,768,406	1,933,850	4,702,256	1,595,908
1959–60	59,636,914	3,386,221	3,391,892	2,205,764	5,597,656	2,211,435
1960–61	65,183,386	4,284,394	3,188,385	2,373,567	5,561,952	1,277,558

(a) Includes debt redemption.

(iii) *Adelaide Waterworks.* At 30th June, 1961, the Adelaide waterworks supplied a district of 191,434 acres. The capacity of its five reservoirs and storage tanks was 14,500 million gallons and there were 2,403 miles of mains. Water is also drawn from the 11,300 million gallon reservoir at South Para in the Barossa Water District and additional storage capacity is becoming available at the new Myponga Reservoir (5,994 million gallons) and at Mt. Bold Reservoir, where raising the dam is adding 5,000 million gallons capacity.

The Mannum-Adelaide pipeline conveys water from the River Murray to Adelaide at a rate of 53 (currently being raised to 65) million gallons per day. Water is delivered to the River Torrens or, by further pumping, to the River Onkaparinga. With further development, the main will operate as a closed system connected to the metropolitan reticulation. The pipeline supplements the Warren system and other country areas.

Particulars of finances for the years 1956-57 to 1960-61 are shown below.

**ADELAIDE WATERWORKS: FINANCES.**

(£.)

Year.	Invested Capital to 30th June.	Revenue.	Expenditure.			Surplus (+) or Deficit (-).
			Working Expenses. (a)	Interest.	Total.	
1956-57.. ..	23,115,689	1,492,610	1,218,285	759,012	1,977,297	- 484,687
1957-58.. ..	25,900,153	2,045,625	1,612,284	915,721	2,528,005	- 482,380
1958-59.. ..	28,719,570	2,101,768	1,437,861	1,032,464	2,470,325	- 368,557
1959-60.. ..	32,074,743	2,311,402	1,919,538	1,136,373	3,055,911	- 744,509
1960-61.. ..	35,078,981	2,958,675	1,731,561	1,218,096	2,949,657	+ 9,018

(a) Includes debt redemption.

(iv) *Adelaide Metropolitan Sewerage.* The Adelaide metropolitan sewerage system, comprising the Adelaide, Glenelg, Port Adelaide and Salisbury-Elizabeth areas of 172 square miles in all, includes a sewage farm, and treatment works at Glenelg and Port Adelaide. Work is starting on a new large treatment works at Bolivar. Financial and other particulars for 1956-57 to 1960-61 are shown hereunder.

**ADELAIDE METROPOLITAN SEWERAGE: SUMMARY.**

Year.	Length of Sewers.	Number of Connexions.	Invested Capital to 30th June.	Revenue.	Expenditure.			Surplus (+) or Deficit (-)
					Working Expenses. (a)	Interest.	Total.	
	Miles.		£	£	£	£	£	£
1956-57 ..	1,370	143,743	8,273,936	1,167,508	648,999	263,270	912,269	+ 255,239
1957-58 ..	1,411	149,104	9,213,112	1,393,260	653,810	309,145	962,955	+ 430,305
1958-59 ..	1,444	154,636	10,437,696	1,471,067	685,104	349,312	1,034,416	+ 436,651
1959-60 ..	1,471	160,407	11,305,495	1,576,769	676,660	401,009	1,077,669	+ 499,100
1960-61 ..	(b) 1,598	173,753	13,376,362	2,060,534	887,921	479,011	1,366,932	+ 693,602

(a) Includes debt redemption.

(b) Includes 93 miles of sewers in the Salisbury-Elizabeth area.

(v) *Country Sewerage Schemes.* Sewerage schemes are operating at Port Lincoln and Naracoorte. At Port Lincoln, there are 16 miles of sewer with an ocean outfall. At June, 1961, there were 238 connexions. The Naracoorte system has a treatment works, covers 2.43 square miles, and comprises 23 miles of sewer with 350 connexions.

(vi) *Country Water Supply.* Water district systems at 30th June, 1961, comprised an area of 12,927,201 acres. Supply came from reservoirs having a total capacity of 20,861 million gallons, from the River Murray and from underground sources.

Apart from local supplies, water from the River Murray comes from branches of the Mannum-Adelaide main and from the Morgan-Whyalla main.

The principal areas of underground supplies are in the south-east of the State where water from the Murray Basin can be had at moderate depths and from sand beds on Eyre Peninsula. The Uley-Wanilla sub-artesian basin has been used to augment Tod River District supplies since 1947 by up to 600 million gallons a year and the Lincoln Basin is now being developed.

The following table gives financial information on country waterworks for 1956-57 to 1960-61.

COUNTRY WATERWORKS, SOUTH AUSTRALIA: FINANCES.

(£.)

Year.	Invested Capital to 30th June.	Revenue.	Expenditure.			Deficit.
			Working Expenses. (a)	Interest.	Total.	
1956-57.. ..	22,123,508	825,462	1,077,159	726,474	1,803,633	978,171
1957-58.. ..	23,260,873	982,568	1,332,364	824,436	2,156,800	1,174,232
1958-59.. ..	25,581,664	1,004,580	1,330,545	901,386	2,231,931	1,227,351
1959-60.. ..	27,562,171	1,074,819	1,472,354	1,069,391	2,541,745	1,466,926
1960-61.. ..	30,104,405	1,325,719	1,456,824	1,155,471	2,612,295	1,286,576

(a) Includes debt redemption.

(vii) *Morgan-Whyalla Water Supply Scheme.* This scheme, which has 223 miles of main, was officially opened on 31st March, 1944, the capital invested to 30th June, 1961 being £2,687,707. Particulars of the scheme, where applicable, are included in the tables of the combined waterworks in (ii) above. Apart from supplying Whyalla, the main has been used to allow expansion of reservoir supplies in the northern agricultural area of the State, and to meet new demands caused by industrial growth at Whyalla, duplication of the main has commenced. During 1960-61, water used from the scheme amounted to 1,936 million gallons. Revenue was £337,753, working expenses £235,251, interest charges £131,981 and deficit £29,479.

5. *Western Australia.*—(i) *General.* The water supply, sewerage and drainage systems of Western Australia are principally under the management of two State Government Departments, namely, the Metropolitan Water Supply, Sewerage and Drainage Department, having as its territory the metropolitan area centred on Perth and extending to Kwinana and Serpentine in the south, Sorrento in the north and Greenmount on the east, and the Public Works and Country Water Supply Department, which controls the Comprehensive Water Supply Scheme (covering the Goldfields and Agricultural Areas Water Supply and the Great Southern Towns Water Supply) as well as supplies, from local sources, to 57 country towns not included in the scheme. Both Departments are administered under the portfolio of the Minister for Works and Water Supplies. (See also Chapter VIII.—Water Conservation and Irrigation, of this Year Book, pp. 278-281.)

(ii) *Metropolitan Water Supply, Sewerage and Drainage.* (a) *General.* The sources of the metropolitan water supply are the Serpentine Dam, the Canning Dam, the Churchman Brook Reservoir, the Victoria Reservoir and the Wungong Brook Diversion Weir. The

supply from these sources is supplemented as necessary from a number of artesian bores and from a pipeline link with Mundaring Weir. The largest reservoir, the Serpentine Dam, has a capacity of 39,000 million gallons.

The sewage treatment works of Perth and suburbs consist of primary sedimentation with separate sludge digestion and discharge of all effluent directly to the ocean. Plant for secondary treatment at Subiaco is now being provided. Fremantle treatment works consist of septic tanks with ocean outfall for effluent. There are three treatment works, situated at West Subiaco, Swanbourne and Fremantle.

(b) *Water Supply.* The following table shows particulars of water supply services for 1956-57 to 1960-61.

**METROPOLITAN WATER SUPPLY, WESTERN AUSTRALIA: SERVICES.**

Year.	Number of Services.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for Year.	Average Daily Consumption.		Length of Mains.	Number of Meters.
					Per Service.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1956-57 ..	118,230	393,596	41.0	14,982	355	106.2	1,792	83,151
1957-58 ..	122,159	407,376	47.5	17,337	394	118.4	1,891	85,896
1958-59 ..	125,761	410,000	49.5	18,061	399	122.5	1,991	92,495
1959-60 ..	129,956	417,260	(a) 33.7	(a) 12,335	(a) 263	(a) 81.5	2,072	97,002
1960-61 ..	133,647	424,500	49.3	18,015	374	117.2	2,137	103,969

(a) Water restrictions in force for 180 days.

Water rating for 1960-61 was 1s. 6d. in the £1 on annual valuation.

(c) *Sewerage and Main Drainage.* Some particulars of the metropolitan sewerage and main drainage services for 1956-57 to 1960-61 are shown below.

**METROPOLITAN SEWERAGE AND MAIN DRAINAGE, WESTERN AUSTRALIA: SERVICES.**

Year.	Houses Connected.	Estimated Population Served.	Length of Sewers.	Length of Main Drains.
			Miles.	Miles.
1956-57 .. ..	62,282	246,900	709	37
1957-58 .. ..	63,969	253,800	713	66
1958-59 .. ..	64,944	257,500	714	67
1959-60 .. ..	65,781	260,600	719	69
1960-61 .. ..	66,664	264,000	724	72

Sewerage rating for 1960-61 was 1s. 9d. in the £1 on annual valuation, while metropolitan main drainage rating was 4d. in the £1.

(d) *Finances.* The following table shows particulars of the finances of the Western Australian Metropolitan Water Supply, Sewerage and Drainage Department for the years 1956-57 to 1960-61.

**METROPOLITAN WATER SUPPLY, SEWERAGE AND MAIN DRAINAGE,  
WESTERN AUSTRALIA: FINANCES.  
(£.)**

Service and Year.	Capital Cost to 30th June.	Revenue.	Expenditure.			Surplus(+) or Deficit(-).
			Working Expenses.	Interest and Debt Redem- ption.	Total.	
<b>Water Supply—</b>						
1956-57 ..	13,672,321	1,153,737	548,832	598,101	1,146,933	+ 6,804
1957-58 ..	15,283,093	1,260,873	617,754	658,876	1,276,630	+ 15,757
1958-59 ..	17,123,762	1,338,917	634,427	744,624	1,379,051	- 40,134
1959-60 ..	18,715,358	1,206,823	671,009	794,160	1,465,169	- 258,346
1960-61 ..	20,256,673	1,730,433	839,876	879,902	1,719,778	+ 10,655
<b>Sewerage—</b>						
1956-57 ..	5,834,419	644,568	309,690	300,531	610,221	+ 34,347
1957-58 ..	6,108,598	698,734	333,039	306,545	639,584	+ 59,150
1958-59 ..	6,453,517	735,244	401,175	310,450	711,625	+ 23,619
1959-60 ..	6,915,604	772,012	420,391	319,817	740,208	+ 31,804
1960-61 ..	7,643,368	934,190	505,425	361,706	867,131	+ 67,059
<b>Main Drainage—</b>						
1956-57 ..	1,009,399	69,255	26,594	39,133	65,727	+ 3,528
1957-58 ..	1,104,103	80,431	29,325	49,467	78,792	+ 1,639
1958-59 ..	1,350,083	88,846	40,684	55,090	95,774	- 6,928
1959-60 ..	1,616,772	93,013	48,867	69,831	118,698	- 25,685
1960-61 ..	1,771,641	113,805	49,970	78,822	128,792	- 14,987

(iii) *Country Water Supplies.* Information concerning country water supplies is included in Chapter VIII.—Water Conservation and Irrigation, of this Year Book (*see p. 280*).

6. *Tasmania.*—(i) *Waterworks.* At the end of 1959-60, there were 95 municipally operated waterworks in Tasmania. The capacity of the reservoirs was 1,750 million gallons, the estimated population served was 250,000 and the number of tenements served was 63,000. In addition, two regional schemes operated by the State Government were serving an estimated population of 35,000 in 9,000 tenements.

(ii) *Sewerage.* At the end of 1959-60, there were 12 municipal sewerage schemes in operation in Tasmania. They served an estimated population of 165,000 and the number of tenements served was 41,600.

7. *Northern Territory.*—Information relating to water supply in the Northern Territory may be found in Chapter VIII.—Water Conservation and Irrigation (*see p. 282*).

## § 6. Harbour Boards and Trusts.

NOTE.—The number and net tonnage of vessels which entered the major ports in each State during the years 1959-60 and 1960-61 are shown in Chapter XIV.—Transport and Communication (*see p. 520*). Particulars of oversea and interstate cargo discharged and shipped during 1960-61 are shown on page 522 of the same chapter.

1. *New South Wales.*—(i) *Maritime Services Board of New South Wales.* (a) *General.* The Maritime Services Board of New South Wales is a corporate body of seven Commissioners comprising three full-time members and four part-time members representing shipping and other interests. The Board was constituted on 1st February, 1936, under the Maritime Services Act 1935, to co-ordinate the port and navigation services of the State, which had previously been administered by the Sydney Harbour Trust and by the State Department of Navigation.

The Board exercises general control over intra-state shipping, including the survey and certification of vessels, the licensing of harbour craft, and the examination and issue of certificates to officers. It is responsible for the provision of pilotage services, lights, beacons, buoys and other port facilities, imposes and collects rates and charges on goods and vessels, and is vested with the general control and management of the navigable waters and ports within the State.

At the Ports of Sydney, Newcastle, and Botany Bay, the Board is also responsible for the provision of adequate wharfage and channels, and carries out all construction, maintenance and dredging work. At other ports of New South Wales, such work is undertaken by the Department of Public Works.

(b) *Port of Sydney.* The entrance to Sydney Harbour, the principal port of New South Wales, is nearly a mile wide, and the depth of its navigable channel is not less than 80 feet. Between the entrance, known as "The Heads", and the Harbour proper, a distance of four miles, there are two separate channels, each 700 feet wide, the Western Channel not less than 42 feet deep (low water ordinary spring tide) and the Eastern Channel 41 feet deep. The foreshores, which have been reduced by reclamations, are 152 miles in length, and the total area of the port is 13,600 acres, or 21 square miles, of which about one-half has a depth of 30 feet or more at low water ordinary spring tide. The mean range of tides is 3 feet 6 inches.

The wharves are situated in close proximity to the business centre of the city, about four or five miles from the Heads. At present, there are three dolphin berths each 550 feet long, and 100 effective commercial cargo berths with a total length of 47,463 feet controlled by the Board. Accommodation for harbour craft amounts to 3,465 feet, while the length of other berths including oil and private wharves totals 28,511 feet. Depth of water at wharves is up to 40 feet. Special facilities for the storage and handling of staple products such as wheat, wool, etc., are provided, and modern plant has been installed for replenishing ships' bunkers with oil or coal.

Docking facilities are available for the largest vessel afloat. The Captain Cook Graving Dock ranks amongst the largest graving docks in the world, being 1,139 feet by 147 feet 7½ inches with a depth of 45 feet 2 inches over the sill at high water. There are also several smaller dry docks and floating docks in the port.

The following table shows particulars of the finances of the Board in respect of the Port of Sydney for 1956-57 to 1959-60.

#### MARITIME SERVICES BOARD: FINANCES OF THE PORT OF SYDNEY.

(£.)

Year.	Total Capital Debt at 30th June.	Revenue.			Expenditure.			Surplus (+) or Deficit (-).
		Wharfage and Transhipment Rates.	Tonnage Rates and Berthing Charges.	Total.	Administration and Maintenance.	Interest, Debt Redemption, Exchange, etc.	Total. (a)	
1956-57	14,041,252	1,725,590	385,006	2,887,506	1,857,539	722,373	2,869,912	+ 17,594
1957-58	14,546,035	1,822,587	378,284	2,899,795	1,964,830	789,230	2,999,060	- 99,265
1958-59	15,322,219	1,871,384	403,342	2,995,160	1,830,589	843,580	2,924,169	+ 70,991
1959-60	16,400,513	2,138,724	414,071	3,326,944	1,870,595	903,590	3,274,185	+ 52,759

(a) Excludes capital expenditure but includes transfers to the Renewals Fund Reserve Account, 1956-57, £290,000; 1957-58, £245,000; 1958-59, £250,000; and 1959-60, £500,000.

The implementation of the Maritime Services (Amendment) Act 1960, as from 1st May, 1961, resulted in some marked changes in the Board's accounting system. The amendment to the Act provided for a new fund known as the Maritime Services Board Fund to be established to replace the Sydney Harbour Trust Fund. All revenue earned by the Board at the Ports of Sydney, Newcastle and Botany Bay, with the exception of that earned from pilotage and navigational services, is now credited to the Maritime Services Board Fund and all revenue expenditure incurred at the three ports is drawn from that Fund.

**MARITIME SERVICES BOARD FUND: FINANCES OF THE PORTS OF SYDNEY,  
NEWCASTLE AND BOTANY BAY.**

Year.	Total Capital Debt at 30th June.	Revenue.			Expenditure.			Surplus(+) or Deficit(-).
		Wharfage and Transhipment Rates.	Tonnage Rates and Berthing Charges.	Total.	Administration and Maintenance.	Interest, Debt Redemption, Exchange, etc.	Total. (a)	
1960-61	(b)	3,130,441	631,432	4,689,602	2,565,141	2,081,110	4,646,251	+ 43,351

(a) Excludes capital expenditure but includes transfer to the Renewals Fund Reserve Account £1,025,000.  
(b) Not available.

(c) *Port of Newcastle.* As from 1st May, 1961, the Maritime Services Board of New South Wales became the single authority for the Port of Newcastle. This was brought about by the implementation of the Maritime Services (Amendment) Act 1960, which resulted in the Board's jurisdiction being extended to include the operation of the coal loading equipment formerly vested in the Department of Railways and the dredging, together with the maintenance and construction of wharves and other port facilities, which had been the responsibility of the Department of Public Works.

An Advisory Committee consisting of eight members, appointed by the Governor, assists the Board in matters associated with the operation of the port. It is primarily a coal-loading port, and the proximity to the coal fields has led to the establishment of important industries, including iron and steel works, in the district. Facilities are available for the shipment of wool, wheat and frozen meat, and a wharf is available for timber.

The area used by shipping is about 570 acres, excluding the entrance to the harbour and the inner basin, which together cover an area of 162 acres. The width of the harbour at the entrance is 1,500 feet, and the navigable channel, with a depth of 25 feet 6 inches at low water, is 350 feet wide. Wharfage accommodation amounts to approximately 13,700 feet, including about 2,700 feet of privately owned wharfage. There are also several dolphin berths available for tie-up purposes. A floating dock of 15,000 tons capacity is available at the port.

(d) *Port Kembla.* As from 3rd May, 1948, the Maritime Services Board assumed the administration and navigational control of Port Kembla, which had previously been administered by the New South Wales Department of Public Works. The Department, however, continues to be the constructing authority in respect of works, dredging and maintenance. An Advisory Committee consisting of eight members appointed by the Governor has been formed to assist the Board in the operation of the port. It has an area of approximately 330 acres, with depths ranging from 20 to 50 feet (low water ordinary spring tide), and wharfage accommodation totalling 6,800 feet has been provided for large ocean-going vessels. No cargo sheds are available, as the nature of trade at the port does not call for the provision of sheltered storage accommodation at the berths. It is the port of the southern coalfields and for the expanding industrial area in and about Wollongong. The developmental programme for Port Kembla includes the construction of an inner harbour to provide wharfage for the steelworks in addition to a modern fast loading coal berth and general cargo berths.

The first stage of the inner harbour basin was opened to shipping on 28th November, 1960. Present accommodation is 1,175 feet of wharfage, with 36 feet (low water ordinary spring tide) of water, alongside. Width in the entrance to the inner harbour basin is 400 feet.

(e) *Botany Bay.* The Maritime Services Board of New South Wales is the administrative and controlling authority. The port is primarily a discharging centre for the oil refinery at Kurnell and two berths are available as well as tanker mooring buoys. The entrance to the Bay is approximately 1½ miles wide, with a minimum depth of about 36 feet in the dredged swinging basin.

(f) *Other Ports.* In addition to the ports of Sydney, Newcastle, Port Kembla and Botany Bay, the Board controls 29 outports along the coastline of 609 miles. The shipping trade of these outports is relatively small.

(ii) *Port Charges.* The port charges payable in respect of shipping and ships' cargoes in New South Wales are imposed by the Commonwealth Government in terms of the Lighthouses Act and the Navigation Act, and by the State authorities under the Navigation Act of New South Wales, the Harbour and Tonnage Rates Act, and the Sydney Harbour Trust Act. Since 1st February, 1936, the State enactments have been administered by the Maritime Services Board. The gross collections by the State authorities amounted to £8,057,254 in 1960-61. This figure includes the revenue for the ports of Sydney, Newcastle and Botany Bay (see table on p. 754) and State navigation service collections (£3,367,652 in 1960-61). Commonwealth Government revenue from light dues and navigation receipts, for the whole of Australia, amounted to £710,205 in 1960-61.

2. Victoria.—(i) *Melbourne Harbor Trust.* (a) *General.* Information regarding the origin and constitution of this Trust, which controls the Port of Melbourne, appears in Official Year Book No. 12, pages 970-2. Following an amendment to the Melbourne Harbour Act, the Board of Commissioners had a change in representation in 1960. A part-time Commissioner representing the Trades Hall Council replaced the representative of the waterside workers. The number of Commissioners remains at five. At 31st December, 1960, the sheds available for wharfage accommodation had a length of 24,912 feet, covering an area of 1,940,942 square feet. The area of water in Port Philip Bay and the River Yarra under the control of the Trust is approximately 5,327 acres, and the total length of wharves, piers and jetties in the port is 61,890 feet, giving an area of over 60½ acres of wharfage, and 57,150 feet of effective berthing space. During 1960, work was continued on the new berths at Appleton Dock, Victoria Docks, South Wharf, Port Melbourne and Williamstown. The depth of water (low water ordinary spring tide) from the main channels to the principal wharves is 31 to 37 feet.

(b) *Finances.* The following table shows particulars of the financial operations of the Trust during the years 1956 to 1960.

## MELBOURNE HARBOR TRUST: FINANCES.

(£.)

Year.	Gross Loan Indebtedness at 31st December.	Revenue.		Expenditure.				Surplus (+) or Deficit (-)
		Wharfage and Tonnage Rates.	Total.	Administration and Maintenance.	Interest, Debt Redemption, Exchange, etc.	Depreciation, Renewals and Insurance Account.	Total. (a)	
1956 ..	11,296,811	1,841,176	2,676,698	1,649,047	483,905	145,825	2,662,047	+ 14,651
1957 ..	12,175,428	1,882,501	2,746,513	1,557,933	520,223	250,938	2,718,159	+ 28,354
1958 ..	12,907,279	2,043,848	3,020,913	1,310,119	603,899	631,988	2,958,686	+ 62,227
1959 ..	13,833,011	2,100,924	3,292,329	1,634,513	766,909	376,397	3,201,943	+ 90,386
1960 ..	14,199,060	2,492,139	3,948,187	1,962,110	766,532	641,175	3,872,264	+ 75,923

(a) Includes statutory payments to Consolidated Revenue and Geelong Harbour Trust:—1956, £383,270; 1957, £389,065; 1958, £412,680; 1959, £424,124; 1960, £502,447. Excludes capital expenditure:—1956, £1,609,928; 1957, £1,054,236; 1958, £1,658,589; 1959, £1,458,499; 1960, £1,280,529.

(ii) *Geelong Harbor Trust.* The Geelong Harbor Trust, constituted in 1905, is under the control of three Commissioners appointed from time to time by the Governor-in-Council. One of these, the chairman, is on a full time basis.

At the end of 1960, there were 17 effective berths in the port, while two extra berths at Refinery Pier were under construction and a further berth for general cargo is in the course of planning. Four berths have a depth of 36 feet at low water and all others (except Yarra Pier 29 feet) have a depth of 32 feet at low water.



Total trade for 1960 amounted to 5,470,466 tons, imports being 3,520,366 tons and exports 1,950,100 tons. During 1960, 551 vessels with a total gross tonnage of 5,003,358 tons entered the port.

Revenue for the year 1960 was £1,150,310 and expenditure from revenue totalled £682,359. At 31st December, 1960, the value of the Trust's fixed assets was £7,827,378 and loans outstanding amounted to £2,894,762.

(iii) *Portland Harbor Trust.* Construction of an all weather deep-sea port of three berths with a low water depth of 36 feet was commenced following the proclamation of the Portland Harbor Trust Act on 18th May, 1951. This was completed to operational standards in 1960.

Operating revenue for the year ended 30th June, 1960, was £54,522 and revenue expenditure was £31,411. The value of the Trust's fixed assets, less depreciation, was £5,605,014 at 30th June, 1960, and loans and advances outstanding amounted to £5,765,560.

During the year ended 30th June, 1960, total trade of the port was 183,765 tons which was carried in 88 vessels of a total gross tonnage of 632,490.

(iv) *Other Victorian Ports.* There are no other Victorian ports of more than minor importance.

3. *Queensland.*—(i) *General.* The ports of Queensland, except Brisbane and certain minor ports, are administered by Harbour Boards with members representing the towns and districts served by the ports. Brisbane and the minor ports are controlled by the State Treasury through the Department of Harbours and Marine, which supervises the engineering activities of the other ports.

(ii) *Brisbane.* Brisbane accommodates comfortably, in its dredged and improved river, the largest vessels in the Australian trade. The main centres for shipping, although further downstream than formerly because of the increasing size of vessels, are still within easy access of the city. Adequate dry-docking facilities are available. The finances of Brisbane Harbour for the years 1955-56 to 1959-60 are shown below.

#### BRISBANE HARBOUR: FINANCES.

(£'000.)

Year.	Loan Indebtedness at 30th June.	Receipts.		Payments.	
		Harbour Dues.	Total.	Working Expenses.(a)	Total.
1955-56 .. ..	2,899	701	817	582	772
1956-57 .. ..	3,011	671	918	843	1,048
1957-58 .. ..	3,042	696	938	731	944
1958-59 .. ..	2,702	709	1,097	664	883
1959-60 .. ..	2,512	772	1,059	731	953

(a) Excludes Interest and Redemption included in Total.

In addition to Brisbane Harbour, the Department of Harbours and Marine also controls the Brisbane Dry Dock, the Cairncross Dock, and nine smaller harbours not administered by harbour boards.

(iii) *Harbour Boards.* Harbour boards control the ports of Bowen, Bundaberg, Cairns, Gladstone, Mackay, Rockhampton and Townsville. Finances for each port for the year ended 30th June, 1960, are shown below, together with a summary for the years ended 30th June, 1956 to 1960.

## HARBOUR BOARDS, QUEENSLAND: FINANCES.

(£.)

Harbour Board.	Loan Indebtedness at 30th June.	Revenue.		Expenditure (excluding Loan).		Surplus(+) or Deficit(-).
		Wharfage and Harbour Dues.	Total.	Working Expenses.	Total (including Interest and Redemption). (a)	
Bowen .. ..	275,327	12,533	61,411	9,827	15,191	+ 46,220
Bundaberg .. ..	2,213,569	115,782	318,521	8,714	192,263	+ 126,258
Cairns .. ..	256,354	198,159	290,790	182,870	261,348	+ 29,442
Gladstone .. ..	667,940	49,785	97,124	28,665	100,380	- 3,256
Mackay .. ..	1,310,496	208,273	395,559	111,824	372,627	+ 22,932
Rockhampton .. ..	630,303	45,483	62,674	38,326	61,846	+ 828
Townsville .. ..	3,076,448	278,896	580,962	181,199	523,115	+ 57,847
Total, 1959-60 ..	8,430,437	908,911	1,807,041	561,425	1,526,770	+ 280,271
„ 1958-59 .. ..	7,099,197	898,822	1,602,409	602,391	1,696,390	- 93,981
„ 1957-58 .. ..	5,435,172	775,436	1,226,581	603,081	1,190,356	+ 36,225
„ 1956-57 .. ..	3,567,335	757,778	1,005,986	578,259	1,170,528	- 164,542
„ 1955-56 .. ..	2,885,528	720,642	955,846	512,776	1,361,568	- 405,722

(a) Includes expenditure on capital works from accumulated revenue.

4. South Australia.—*The South Australian Harbors Board.* All South Australian harbours are controlled by the South Australian Harbors Board, which consists of three Commissioners appointed by the Governor for a period of five years and eligible for re-appointment. The Board is responsible to the Minister of Marine for the discharge of its duties and functions. The most important ports are the five deep sea ports of Port Adelaide, Port Pirie, Wallaroo, Port Lincoln and Thevenard. At a few ports, the wharves or jetties are privately controlled, the principal of these being at Whyalla, Ardrossan and Rapid Bay, all of which are controlled by the Broken Hill Pty. Co. Ltd. Port Augusta is controlled by the Commonwealth Railways on behalf of the Commonwealth Government. Maximum depths of water (low water) at the wharves of the main ports range from 24 feet at Port Pirie to 35 feet at Port Adelaide (Outer Harbour). The following table shows the finances of the Board for 1956-57 to 1960-61.

## THE SOUTH AUSTRALIAN HARBORS BOARD: FINANCES.

(£.)

Year.	Capital at 30th June. (a)	Revenue.	Expenditure from Revenue.			Surplus (+) or Deficit (-)
			Working Expenses.	Interest.	Total.	
1956-57.. ..	13,232,185	2,112,718	1,427,882	434,042	1,861,924	+ 250,794
1957-58.. ..	14,189,715	2,119,826	1,487,014	505,322	1,992,336	+ 127,490
1958-59.. ..	15,325,443	2,156,669	1,464,006	550,364	2,014,370	+ 142,299
1959-60.. ..	16,324,529	2,314,999	1,574,774	612,711	2,187,485	+ 127,514
1960-61.. ..	17,432,015	2,714,743	1,684,618	658,269	2,342,887	+ 371,856

(a) State Treasurer's Funds and Reserve employed.

5. Western Australia.—(i) *Fremantle Harbour Trust.* The Port of Fremantle is operated and controlled by the Fremantle Harbour Trust, a body corporate administered by a Board of five Commissioners appointed triennially by the Governor. The port covers an extensive water area of some 180 square miles and comprises an inner and an outer harbour. The inner harbour includes 18 deep water land-backed berths, providing more than 690,000 sq. ft. of covered storage space and 11,148 feet of wharf berth accommodation. All inner harbour berths are dredged to a depth of 36 feet. The outer harbour

includes three main anchorages, Gage Roads, Owen Anchorage and Cockburn Sound. Deep water jetties are available in the outer harbour including the oil refinery jetties in Cockburn Sound. Ocean going deep draft ships enter the Sound by means of channels dredged through Success and Parmelia Banks to a low water depth of 38 feet and a bottom width of 500 feet. The depth of water at the refinery jetties is a minimum of 44 feet.

Gross earnings for the year 1960–61 amounted to £3,081,154, working expenses to £2,485,039, interest charges to £256,791, debt redemption to £73,477 and renewals fund to £2,000. Special loan redemptions were £295,312 and net capital totalled £7,598,832.

(ii) *Albany Harbour Board.* The Albany Harbour is controlled by a board of five members appointed by the Government. The depth of water in the entrance channel is 33 feet, at one arm of the jetty 31 feet and at the other arm 34 feet. On approaches to wharf berths, the depth is 30 feet and dredging to accomplish a depth of 34 feet is being carried out. Wharf accommodation consists of 1,115 feet, and in addition the Deepwater Jetty has 2,500 feet of accommodation. Gross earnings for the year 1960–61 amounted to £143,195, working expenses £48,043, interest and sinking fund charges, £86,100, and amounts debited to loan capital account, £1,803,990.

(iii) *Bunbury Harbour Board.* The Bunbury Harbour is controlled by a board of five members appointed by the Government. The depth of water in the harbour is 30 feet and berthing accommodation is 3,700 feet. Gross earnings for the year 1960–61 amounted to £146,841, working expenses £99,928, interest and sinking fund charges £81,827, and amounts debited to loan capital account, £1,954,964.

(iv) *Other Ports.* The following ports are controlled by the State Government Harbour and Lights Department:—Geraldton, Yampi, Port Hedland, Carnarvon, Wyndham, Derby, Point Samson, Busselton, Onslow and Broome. The Port of Esperance is under the control of the Railways Commission.

6. *Tasmania.*—There are eight marine boards and two harbour trusts in Tasmania. The marine boards control the ports of Hobart, Launceston, Stanley (Circular Head), Burnie and Wynyard (Table Cape), Devonport, Strahan, Currie (King Island), and White-mark (Flinders Island), and the harbour trusts those of Smithton and Ulverstone. Aggregate receipts of revenue accounts of all these authorities during the year 1959–60 were £1,489,325, and expenditures £1,290,793 including loan charges £280,484. The total receipts of the Hobart Marine Board during 1959–60 were £557,188, loan charges amounted to £100,684 and total expenditure to £499,630. Launceston Marine Board receipts during 1959–60 amounted to £350,318, loan charges to £33,358 and total expenditure to £296,390. Loan indebtedness of all marine boards and trusts at 30th June, 1960, was £4,019,481, of which £1,228,245 was in respect of Hobart (including Port Huon Wharf) and £460,281 in respect of Launceston.

Hobart, Launceston, Burnie and Devonport are the principal ports of Tasmania. In addition to their interstate and intra-state traffic, there is also considerable oversea shipping. Depths of water at wharves vary, in general, between 16 and 34 feet (low water ordinary spring tide), but at Hobart there is a depth of water of from 30 to 52 feet.

## § 7. Fire Brigades.

1. *New South Wales.*—A Board of Fire Commissioners, consisting of five members, one appointed by the State Government (President) and one each representing insurance companies, local government authorities, volunteer firemen, and permanent firemen, operates under the Fire Brigades Act 1909–1958, and 155 fire districts had been constituted at the end of 1960. The cost of maintenance of fire brigades is borne in proportions of local councils and the Government each one-eighth, and the insurance companies three-quarters. The Board's borrowing power is limited to £1,000,000.

At 31st December, 1960, the authorized strength of the Fire Brigade throughout the fire districts of New South Wales was 395 officers and 1,131 permanent and 2,564 volunteer firemen. Corresponding figures for the Sydney Fire District were 325, 1,027 and 322. The revenue for the year 1960 was £2,926,907, made up as follows:—from the Government,

£362,323; municipal and shires, £352,323; fire insurance companies and firms, £2,173,938, and from other sources, £28,323. The disbursements for the year were £3,110,511. The Board of Fire Commissioners provides the fire protection services for Canberra, in the Australian Capital Territory, and the cost of these services is reimbursed by the Commonwealth Government.

Under the Bush Fires Act 1949–1958, a Bush Fire Fighting Fund exists from which finance is provided for the prevention and fighting of bush fires. Contributions to the Fund by the Government, councils and insurance companies are in the proportion of one quarter, one quarter and one-half, respectively. At 30th June, 1961, Volunteer Brigades, equipped by means of this fund, numbered 2,500 with an active membership in excess of 60,000 persons. Up to 30th June, 1961, expenditure from the Fund for equipment amounted to £1,579,555.

2. Victoria.—(i) *General*. In Victoria, fire brigades are controlled by the Metropolitan Fire Brigades Board consisting of ten members, including an employees' representative, and the Country Fire Authority also consisting of ten members.

(ii) *Metropolitan Fire Brigades Board*. The Metropolitan Fire Brigades Board receives contributions from the municipalities and the insurance companies in the proportion of one-third and two-thirds respectively. On 30th June, 1961, the Board had under its control 45 stations, 924 permanent staff, 221 special service and clerical, etc., staff, and 20 part-time firemen. The total receipts for 1960–61 were £1,927,423 comprising contributions, £1,616,440, receipts for services, £193,131 and interest and sundries, £117,882. The expenditure was £1,784,581.

(iii) *Country Fire Authority*. This authority is responsible for the prevention and suppression of fires in the "country area of Victoria", which embraces the whole of the State outside the metropolitan fire district, excluding State forests and certain crown lands. The country area has been divided into 24 fire control regions, three of which (Ballarat, Bendigo and Geelong) are wholly urban and the remainder mixed urban and rural. The Country Fire Authority receives contributions in the proportion of two-thirds from insurance companies and one-third from the Treasury. At 30th June, 1961, the Country Fire Authority Act applied to 202 insurance companies, 206 urban and 1,035 rural fire brigades. The effective registered strength of the brigades was 102,620 members.

Income for the year 1960–61 amounted to £626,448. Total expenditure other than loan amounted to £555,721.

3. Queensland.—(i) *General*. Fire Districts are constituted under the Acts of 1920–1956. For each district, there must be a Fire Brigades Board consisting of seven members, and the cost of maintenance of each brigade is proportioned as follows:—Treasury one-seventh, insurance companies five-sevenths, and local authorities one-seventh. The insurance companies' contribution is paid to the State Government and thence to Fire Brigades.

(ii) *Fire Brigade Boards*. At 30th June, 1960, there were 78 Fire Brigade Boards. The total number of stations was 142 and full-time staff numbered 789, including 23 administrative, 163 officers and 603 firemen. Volunteers numbered 110. Part-time staff numbered 1,099 including 77 administrative, 111 officers, and 911 firemen. The total revenue for the year 1959–60 was £1,206,434, received mainly from the following sources:—Government £164,778, local authorities £164,778, insurance companies £823,890. Loan receipts (Government and other) were £125,496. The total expenditure for the year was £1,168,358, the chief items being salaries and wages £881,386, and interest and redemption of loans £85,951.

4. South Australia.—The Fire Brigades Act 1936–1958 provides for a board of five members, and the expenses and maintenance of brigades are defrayed in the proportion of two-ninths by the Treasury, five-ninths by insurance companies, and two-ninths by the municipalities concerned. When the Treasury proportion exceeds £10,000, the excess is borne five-sevenths by insurance companies and two-sevenths by the municipalities. At 30th June, 1961, there were altogether 35 fire brigade stations, of which 12 were metropolitan and 23 country.

The strength of the permanent staff at 31st December, 1961, was 391, including 272 officers and men, 89 country auxiliary firemen and 30 other employees (including maintenance workers). The total revenue for the year 1960–61 was £494,155, including contributions of £416,268 made up as follows:—insurance companies £250,621, Treasury £65,398 and municipalities £100,249. The Treasury contribution includes an additional grant of £52,986.

5. **Western Australia.**—In 1942, certain municipal and road board districts were constituted fire districts under the control of the Western Australian Fire Brigades Board. There were 42 fire districts at 30th September, 1961. The contribution to the Board is made in the proportion of two-ninths from the Government, two-ninths from local government authorities, and five-ninths from insurance companies. The number of local government authorities and insurance companies who contributed numbered 58 and 161 respectively. The brigades, throughout the State, controlled by the Western Australian Fire Brigades Board at 30th September, 1961, numbered 60, with a staff of 1,376 including 274 permanent officers and firemen and 1,102 volunteer brigade officers and firemen. The revenue for the year ended 30th September, 1961, was £565,398 and the expenditure £565,619.

Under the Bush Fires Act, a Bush Fires Board, consisting of ten members, five of whom are nominated by the Country Shire Councils Association, was set up to advise the Minister for Lands on bush fire control. The Act also provides for the registration of bush fire control officers, who numbered 1,660 at 30th June, 1961, and the establishment of bush fire brigades, 761 at 30th June, 1961. Many individual brigades are large organizations with numerous self-contained sections.

6. **Tasmania.**—The Fire Brigades Act 1945 provided for the creation of the Fire Brigades Commission of Tasmania to co-ordinate the activities of existing fire brigades boards, while leaving the responsibility for individual control and management with the boards. The Commission consists of two persons nominated by the Minister, one person elected by the City or Municipal Councils representatives and three persons elected by the insurance representatives of the Fire Brigades Boards. Contributions towards the cost of operations are on the basis of one quarter each from the Treasury and the municipalities and one half from the insurance companies concerned. The cost for the year 1959–60 amounted to £158,000. There were, at 30th June, 1960, 23 brigades controlling 36 stations, and their aggregate staffs numbered 552, including 101 permanent officers, 369 part-time firemen, including officers, and 82 volunteers.

## CHAPTER XX.

## PRIVATE FINANCE.

NOTE.—Further information on the subjects dealt with in this chapter is contained in the annual bulletin *Finance, Part I.—Public and Private Finance* published by this Bureau. Current information is contained in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics* (monthly), and the monthly mimeograph statements *Australian Banking Statistics* (bulletin and preliminary statement), *Australian Savings Bank Statistics* (bulletin and preliminary statement) and *Australian Life Insurance Statistics* (bulletin). The annual mimeograph bulletin *Australian Fire, Marine and General Insurance Statistics* contains the most recent information available on this subject. Other relevant mimeograph statements are:—*Instalment Credit for Retail Sales*, and *Unit Trusts, Land Trusts, and Mutual Funds, Australia* (quarterly), *New Capital Raisings by Companies in Australia* (quarterly) and *Capital and Maintenance Expenditure by Private Businesses in Australia* (half-yearly). Preliminary monthly statements *Instalment Credit for Retail Sales* are issued also.

## A. CURRENCY.

## § 1. General.

The Australian monetary system is based on the British system, of which the unit is the pound (£) divided into 20 shillings (s.) each of 12 pence (d.). When the Australian currency was introduced in 1909 the Australian pound was specified as equivalent to 123.27447 grains of gold  $11\frac{1}{12}$ ths fine or 113.002 grains of fine gold and, until the depression in 1930, was identical with the pound sterling. There was a gradual depreciation of the Australian pound in terms of sterling from the beginning of 1930 until 3rd December, 1931, when it was stabilized at the rate of £125 Australian = £100 sterling. This relationship has been maintained until the present time. Following the depreciation, no action was taken to define the value of the Australian pound in terms of gold until 5th August, 1947, when the Australian Government advised the International Monetary Fund, in terms of the membership agreement, that the par value of the Australian pound was 2.86507 grammes (44.2148 grains) of fine gold. From 18th September, 1949, this was reduced to 1.99062 grammes (30.720 grains) of fine gold.

When the Commonwealth was established in 1901, the currency in Australia consisted of United Kingdom gold, silver and bronze coins, notes issued by the banks, and Queensland Treasury notes. Queensland Treasury notes were in circulation in Queensland only, having superseded bank notes in that State after the 1893 crisis. Under the Commonwealth Constitution, the control of currency, coinage and legal tender and the issue of paper money was vested in the Commonwealth. The Commonwealth assumed these powers by enacting the Coinage Act 1909 and the Australian Notes Act 1910.

Australian notes are legal tender in Australia for any amount. Australian silver coins are legal tender for any amount not exceeding forty shillings and Australian bronze coins are legal tender for any amount not exceeding one shilling.

## § 2. Coinage.

1. Coins in Circulation.—Brief historical notes relating to the Australian coinage are given in Official Year Book No. 37, pages 557 and 558. For weight, metal, composition, etc., of Australian coins in circulation see Official Year Book No. 39, page 697.

The silver coins issued prior to July, 1947, have a millesimal fineness of 925 (thirty-seven fortieths silver and three fortieths copper) and those issued since 1st July, 1947, (dated 1946 and later) have a millesimal fineness of 500 (one-half silver and one-half other metals).

From 1910 to 1916, Australian coins were minted in England by the Royal Mint, London, and the Mint, Birmingham Ltd., and in 1916 and 1917 by the Indian Mints. The minting of Australian coins was undertaken by the Australian Mints in 1916, and coins have been minted at the Melbourne branch of the Royal Mint from 1916 to the present time, at the Sydney branch from 1919 until that Mint closed in 1926, and at the Perth branch in 1922 and from 1940 to the present time.

During the 1939–45 War, the two Australian Mints were unable to meet the demand for Australian coins, and some coins were minted in the United States of America and India. In 1951–52 and 1952–53, some coins were minted at the Royal Mint, London, to meet the heavy demand for coins. Details of Australian coins obtained from each mint to 30th June, 1961, are as follows:—Melbourne, £49,809,000; Perth, £1,707,000; Sydney, £488,000; United Kingdom Mints, £3,016,000; United States Mints, £6,000,000; Indian Mints, £169,000; Total, £61,189,000.

2. **Issues of Australian Coins.**—The net issues of Australian silver and bronze coin from 1910 to 30th June, 1961, were:—Crown (5s.), £276,000; Florin (2s.), £20,206,000; Shilling (1s.) £8,453,000; Sixpence (6d.), £6,031,000; Threepence (3d.), £6,316,000; Total silver coin, £41,224,000; Penny (1d.), £2,575,000, Half-penny (½d.), £770,000; Total bronze coin, £3,345,000. Except in the total, no allowance has been made for £58,000 worth of damaged silver coin, for which denominations are not available, withdrawn since 1910.

3. **Profits on Coinage of Silver and Bronze.**—Australian silver and bronze coins are token coins and, as the face value of the coins is greater than the value of the bullion they contain, a profit is made from their issue. This profit forms part of the Commonwealth Consolidated Revenue. In the following table, details are given of the value of coins issued, the cost of bullion, the cost of minting and sundry expenses connected with the issue, and the profits made on the issue of coins during the years 1956–57 to 1960–61.

**AUSTRALIAN SILVER AND BRONZE COINS: PROFITS FROM ISSUE.**  
(£.)

Year..	Face Value of Coin Issued: (a)	Cost of Bullion.	Gross Profit.	Cost of Minting and Sundry Charges.	Net Profit.
<b>SILVER COIN.</b>					
1956–57 .. ..	1,932,962	1,101,740	831,222	245,241	585,981
1957–58 .. ..	1,509,885	1,032,098	477,787	205,916	271,871
1958–59 .. ..	1,304,682	933,065	371,617	139,948	231,669
1959–60 .. ..	2,157,682	1,505,128	652,554	182,558	469,996
1960–61 .. ..	2,262,622	1,591,878	670,744	258,002	412,742
<b>BRONZE COIN.</b>					
1956–57 .. ..	51,560	61,957	– 10,397	58,788	– 69,185
1957–58 .. ..	67,785	59,987	7,798	56,985	– 49,187
1958–59 .. ..	78,906	61,786	17,120	100,252	– 83,132
1959–60 .. ..	121,354	87,422	33,932	88,988	– 55,056
1960–61 .. ..	145,125	110,101	35,024	126,598	– 91,574
<b>TOTAL.</b>					
1956–57 .. ..	1,984,522	1,163,697	820,825	304,029	516,796
1957–58 .. ..	1,577,670	1,092,085	485,585	262,901	222,684
1958–59 .. ..	1,383,588	994,851	388,737	240,200	148,537
1959–60 .. ..	2,279,036	1,592,550	686,486	271,546	414,940
1960–61 .. ..	2,407,747	1,701,979	705,768	384,600	321,168

(a) Includes selected and proof pieces.

NOTE.—Minus sign (–) denotes a loss.

4. **Australian Mints.**—(i) *General.* Soon after the discovery of gold in Australia, a branch of the Royal Mint was established in Sydney. The formal opening took place on 14th May, 1855. The Melbourne branch was opened on 12th June, 1872, and the Perth Branch on 20th June, 1899. The States of New South Wales, Victoria and Western Australia provided an annual endowment in return for which the mint receipts were paid to the respective State Treasuries. Owing to losses incurred in its operations, the Sydney branch was closed at the end of 1926.

Since their establishment, the Australian branches of the Royal Mint have been primarily concerned with the refining of gold, minting of Imperial gold coins and the production of bars and ingots of gold bullion for export. The minting of Imperial gold coins was discontinued in September, 1931. In 1916, the Melbourne branch took over the minting of Australian silver and bronze coins from the Royal Mint, London. Australian coins were also minted at the Sydney Mint from 1919 to 1926 and at the Perth Mint in 1922 and from 1940 to the present time. The Melbourne branch has also minted token coins for the Territory of New Guinea and for New Zealand.

(ii) *Gold Receipts and Issues.* (a) *Receipts.* The receipts of gold at Australian mints during 1960 and 1961 amounted to 972,963 and 984,517 fine ounces respectively (Melbourne, 115,491 and 118,318 fine ounces respectively; Perth, 857,472 and 866,199 fine ounces respectively).

(b) *Issues.* The Australian mints issue gold bullion for the use of local manufacturers (jewellers, dentists, etc.) and for export. Since September, 1931, when the United Kingdom departed from the gold standard, the minting and issue of gold coins by Australian mints has ceased. Australian exports of gold are mainly in the form of 400-oz. ingots, but in earlier years a considerable amount of gold was shipped to India in 10-oz. bars. Since early in the 1939-45 War, all gold has been acquired by the Reserve Bank, and the export and use of gold have been subject to regulation by the Commonwealth Government. From December, 1951, export of a proportion of newly-mined gold for sale on premium markets overseas was permitted. The issues from Australian mints during 1960 and 1961 amounted to 976,410 and 983,500 fine ounces respectively (Melbourne, 118,631 and 117,097 fine ounces respectively; Perth, 857,779 and 866,403 fine ounces respectively).

5. *Price of Gold.*—The following table shows the average prices of gold and the average values of the sovereign in London and Australia for the years 1956-57 to 1960-61. The average price of gold in Australia is based on the Reserve Bank's buying price for gold lodged with the mints.

PRICE OF GOLD: LONDON AND AUSTRALIA.

Period.	London.		Australia.			
	Average price per fine oz.	Average value of Sovereign.	Average price per fine oz.	Sovereign.		Equivalent to a premium of—
				Average value.		
	£Stg. s. d.	£Stg. s. d.	£A. s. d.	£A. s. d.	%	
1956-57..	12 10 8	2 18 10	15 12 6	3 12 6	267.8	
1957-58..	12 9 10	2 18 10	15 12 6	3 12 6	267.8	
1958-59..	12 9 11	2 18 10	15 12 6	3 12 6	267.8	
1959-60..	12 10 3	2 18 10	15 12 6	3 12 6	267.8	
1960-61..	12 11 9	2 18 10	15 12 6	3 12 6	267.8	

In December, 1951, arrangements were made whereby producers could sell a proportion of newly-mined gold for industrial purposes on overseas premium markets. Under these arrangements, gold is acquired by the Reserve Bank in the usual manner and sold, at the Bank's buying price, to an association representing gold producers participating in the scheme. The association pays the Bank's handling charges and the costs of preparation of the gold and makes arrangements for export and sale. The gold can be sold only against payment in United States dollars. Profits earned by the association after meeting administrative expenses are distributed to members in proportion to the quantity of gold delivered to the Reserve Bank. Until August, 1952, when permission was given for the export of fine gold, gold exported under this arrangement was not to exceed a fineness of 22 carats ( $1\frac{1}{2}$ ths).

The average prices per fine ounce in Australian currency (f.o.b.) obtained for gold exported under this scheme for each month during 1960-61 for which there were sales were:—October, £15 14s. 1d.; November, £15 16s. 7d.; December, £15 15s. 6d.; January, £15 17s. 2d.; March, £15 13s. 3d.; April and May, £15 13s. 5d.; and June, £15 13s. 9d.

### § 3. Notes.

1. *General.*—Brief historical notes relating to the circulation and issue of notes in Australia are given in Official Year Book No. 37, pages 561 and 562. The issue of notes intended for circulation as money other than by the Reserve Bank is prohibited.



2. **The Australian Note Issue.**—(i) *General.* Notes in circulation in Australia are issued by the Reserve Bank through the Note Issue Department. The Bank is authorized to issue Australian notes in denominations of 5s., 10s., £1, £5, £10 and any multiple of £10. The Reserve Bank is not required to hold a specific reserve in gold against the note issue, but the assets of the Note Issue Department must be held or invested in gold, on deposit with any bank, or in securities of the Government of the United Kingdom, the Commonwealth, or a State. Under the Reserve Bank Act 1959, the profits of the Note Issue Department are paid to the Commonwealth.

Australian notes are legal tender to any amount within Australia and have been issued in denominations of 10s., £1, £5, £10, £20, £50, £100 and £1,000. Notes of denominations higher than £10, however, have not been issued to the public since 1945.

(ii) *Australian Notes in Circulation.* Particulars of the average values of notes in circulation for the years 1956-57 to 1960-61 are given in the following table.

**AUSTRALIAN NOTE ISSUE.**  
(£'000.)

Denomination.	Average of monthly statements(a) for year—				
	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
10s. .. .. .	10,867	11,170	11,507	11,919	12,236
£1 .. .. .	72,384	69,704	68,919	69,638	69,983
£5 .. .. .	171,067	174,430	177,931	186,144	192,789
£10 .. .. .	131,569	135,967	139,205	146,393	152,302
£20 .. .. .	4	4	3	3	2
£50 .. .. .	44	42	37	34	32
£100 .. .. .	49	47	42	38	37
£1,000 .. .. .	901	601	634	2,330	2,856
<i>Held by Banks</i> .. .. .	44,433	45,490	46,777	53,084	57,111
<i>Held by Public</i> .. .. .	342,452	346,475	351,501	363,415	373,126
<b>Total</b> .. .. .	<b>386,885</b>	<b>391,965</b>	<b>398,278</b>	<b>416,499</b>	<b>430,237</b>

(a) Last Wednesday in month.

(iii) *Reserve Bank—Note Issue Department.* The following statement shows particulars of liabilities and assets of the Note Issue Department of the Reserve Bank as at 30th June, 1960 and 1961.

**RESERVE BANK OF AUSTRALIA: NOTE ISSUE DEPARTMENT—**  
**LIABILITIES AND ASSETS, 30th JUNE.**  
(£'000.)

Liabilities.	1960.	1961.	Assets.	1960.	1961.
Notes on Issue(a) ..	419,112	415,783	Gold and Balances held abroad (including money at short call)	198,457	175,379
Special Reserve— Premium on gold sold .. .. .	4,755	4,755	Government Securities (including Commonwealth Treasury Bills)	235,033	255,428
Other Liabilities(a) ..	9,683	10,328	Other Assets .. .. .	60	59
<b>Total</b> .. .. .	<b>433,550</b>	<b>430,866</b>	<b>Total</b> .. .. .	<b>433,550</b>	<b>430,866</b>

(a) Notes of a denomination not exceeding one pound which have been on issue for more than 20 years, and notes of a denomination exceeding one pound which have been on issue for more than 40 years are not included in the item "Notes on Issue" but are included in the item "Other Liabilities".

In 1960-61, the net profits of the Note Issue Department amounted to £12,930,000 and were paid to the Commonwealth of Australia.

## B. BANKING.

## § 1. Cheque-Paying Banks.

1. **Royal Commission on Monetary and Banking Systems.**—A Royal Commission was appointed by the Commonwealth Government in November, 1935, to inquire into the monetary and banking systems in operation in Australia and to report whether any, and if so what, alterations were desirable in the interests of the people of Australia as a whole, and the manner in which any such alterations should be effected. The Commission presented its report on 15th July, 1937, and a summary of the recommendations appears in Official Year Book No. 31, page 1010.

2. **Banking Legislation.**—(i) *Commonwealth Legislation.* Under Section 51 of the Commonwealth Constitution, the Commonwealth Parliament has power to legislate with respect to "Banking, other than State banking; also State banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money." The principal Commonwealth Acts at present in force relating to Banking are—

- (a) *The Reserve Bank Act 1959*, which provides for the constitution and management of the Reserve Bank of Australia and the management of the Australian note issue;
- (b) *The Commonwealth Banks Act 1959*, which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia and Commonwealth Development Bank of Australia; and
- (c) *The Banking Act 1959*, which provides for the regulation of banking and for the protection of the currency and the public credit of the Commonwealth.

The Banking Act 1959, which replaced the Banking Act 1945–1953, was assented to on 23rd April, 1959, and came into operation on 14th January, 1960. It applies to all banks, except State banks trading in their own State, operating in Australia or the Territories of the Commonwealth. The objects of the Act are:—(a) to provide a legal framework, uniform throughout Australia, for regulating the banking system; (b) to safeguard depositors of the banks from loss; (c) to provide for the co-ordination of banking policy under the direction of the Reserve Bank; (d) to control the volume of credit in circulation and bank interest rates; (e) to mobilize and to provide machinery for the control of the foreign exchange and gold resources of the Australian economy. A summary of the main provisions of the Act is given in Official Year Book No. 46, pages 759 and 760.

(ii) *State Legislation.* State banking legislation relates to the incorporation of banks and the constitution and management of State banks. The Acts under which the various banks are incorporated differ. While some of the older banks were incorporated by special Act or Charter, e.g., the Bank of New South Wales by Act of Council 1817, the Bank of Adelaide by Act of the South Australian Parliament, and the Bank of New Zealand by Act of the General Assembly of New Zealand, most of the banks are incorporated under a *Companies Act of the States or the United Kingdom*. This is also the case with those banks which were reconstructed after the crisis of 1893. State banks, constituted under State Acts, transacting general banking business, are The Rural Bank of New South Wales, the State Bank of South Australia and The Rural and Industries Bank of Western Australia.

3. **Presentation of Banking Statistics.**—Because of the different purposes they serve in the Australian financial system, Australian banks have been divided for statistical purposes into the following five groups and a separate series is presented for each.

- (a) *The Reserve Bank of Australia.* Formerly the Commonwealth Bank, this bank is the Central Bank. It also provides special banking facilities through the Rural Credits Department. Statistics of the Central Banking Business (including the Note Issue Department) and of the Rural Credits Department are presented in separate series.
- (b) *The Commonwealth Development Bank of Australia.* This bank, which commenced operations on 14th January, 1960, under the control of the Commonwealth Banking Corporation, an organization entirely separate from the Reserve Bank, was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank. Its prime purpose is to assist in the development of worth-while enterprises in the field of both primary and secondary industries which would otherwise be unable to obtain the necessary finance on reasonable and suitable terms and conditions.

- (c) *The Commonwealth Trading Bank of Australia.* This bank commenced operations on 3rd December, 1953. On that date, under the provisions of the Commonwealth Bank Act 1953, it took over the business of the General Banking Division of the Commonwealth Bank. On 14th January, 1960, under the provisions of the Commonwealth Banks Act 1959, it came under the control of the Commonwealth Banking Corporation.
- (d) *Private Trading Banks.* This group was formerly known as the Nine Trading Banks, but the number of banks included has been reduced to seven by amalgamations. With the Commonwealth Trading Bank, these banks provide the major part of the general banking facilities in Australia. The banks included in this group are—the Australia and New Zealand Bank Ltd. (an amalgamation of the Bank of Australasia Ltd. and the Union Bank of Australia Ltd.), The Bank of Adelaide, the Bank of New South Wales, The Commercial Bank of Australia Ltd., The Commercial Banking Company of Sydney Ltd., The English, Scottish and Australian Bank Ltd. and The National Bank of Australasia Ltd. (which has absorbed The Queensland National Bank Ltd. and The Ballarat Banking Co. Ltd.).
- (e) *Other Banks.* This group consists of (i) three State Government Banks—The Rural Bank of New South Wales, the State Bank of South Australia and The Rural and Industries Bank of Western Australia. (ii) one joint stock bank—The Brisbane Permanent Building and Banking Co. Ltd., which has specialized business in one district only, and (iii) branches of three overseas banks—the Bank of New Zealand, Comptoir National d'Escompte de Paris and the Bank of China, which transact limited business in Australia and are mainly concerned with financing trade, etc., between Australia and overseas countries.

In addition to the series mentioned above, a series for all cheque-paying banks is presented. This series covers the Commonwealth Trading Bank, the Private Trading Banks, and the other cheque-paying banks included in the fifth group.

Unless otherwise stated, the statistics presented are averages of weekly returns. Averages of liabilities and assets are the averages of the liabilities and assets of the banks on the weekly balance days during the period concerned. Averages of bank clearings and debits to customers' accounts are the averages of transactions for weeks ended on the balance days during the period.

4. *Banks Transacting Business in Australia.*—(i) *Number of Branches.* At 30th June, 1961, the 15 banks operating in Australia transacted all classes of banking business at 3,852 branches and 1,555 agencies. The Commonwealth Trading Bank and the Private Trading Banks have branches throughout the Commonwealth. The Rural Bank of New South Wales, the State Bank of South Australia and The Rural and Industries Bank of Western Australia, being State Government banks, have branches only in their respective States. The Brisbane Permanent Building and Banking Co. Ltd. transacts business in Brisbane only. The remaining three banks are branches of overseas banks.

**CHEQUE-PAYING BANKS: NUMBER OF BRANCHES<sup>(a)</sup> AT 30th JUNE, 1961.**

Banks.	New South Wales.	Victoria.	Q'land.	South Aust.	West. Aust.	Tasmania.	Nor. Terr.	Aust. Cap. Terr.	Australia.
Commonwealth Trading Bank of Australia ..	295	85	83	26	51	11	2	3	556
Private Trading Banks ..	1,022	927	502	296	238	74	9	12	3,080
Other Cheque-paying Banks	138	2	1	35	40	..	..	..	216
All Cheque-paying Banks—									
Metropolitan areas ..	615	517	149	134	139	20	..	..	1,574
Elsewhere ..	840	497	437	223	190	65	11	15	2,278
<b>Total .. ..</b>	<b>1,455</b>	<b>1,014</b>	<b>586</b>	<b>357</b>	<b>329</b>	<b>85</b>	<b>11</b>	<b>15</b>	<b>3,852</b>

(a) Includes Head Offices. Excludes 1,555 agencies.

(ii) *Capital Resources, Profits and Dividends.* The paid-up capital of cheque-paying banks (excluding the three oversea banks, the Bank of New Zealand, the Bank of China and the Comptoir National d'Escompte de Paris), together with their reserve funds, their profits and the amount of their last dividends, are shown in the two following tables. The information relates to the balance-sheet last preceding 31st October, 1961. All amounts are expressed in Australian currency.

**CHEQUE-PAYING BANKS(a): CAPITAL RESOURCES, PROFITS AND DIVIDENDS, 1961.**

(£'000.)

Bank.	Paid-up Capital. (b)	Reserve Funds.	Balance of Profit and Loss Account. (c)	Total Shareholders' Funds. (d)	Reserve Liability of Shareholders. (e)	Net Profit for year. (f)	Net Dividends. (g)
<i>Commonwealth Trading Bank of Australia</i> .. .. .	7,429	3,875	..	11,304	..	794	..
<i>Private Trading Banks—</i>							
<i>Australia and New Zealand Bank Ltd.</i> .. .. .	12,801	9,412	2,238	24,451	10,668	1,106	941
<i>The Bank of Adelaide</i> .. .. .	1,750	2,000	143	3,893	1,750	218	175
<i>Bank of New South Wales</i> .. .. .	21,950	15,000	1,588	38,538	21,950	2,681	1,976
<i>The Commercial Bank of Australia Ltd.</i> .. .. .	6,223	3,610	607	10,440	..	607	495
<i>The Commercial Banking Co. of Sydney Ltd.</i> .. .. .	7,200	6,700	649	14,549	7,200	817	648
<i>The English, Scottish and Australian Bank Ltd.</i> .. .. .	6,275	3,765	856	10,896	..	447	346
<i>The National Bank of Australasia Ltd.</i> .. .. .	10,089	7,500	1,244	18,833	2,700	1,075	908
<i>The Queensland National Bank Ltd. (in vol. liq.) (h)</i> .. .. .	..	1	130	131	..	..	..
<i>The Ballarat Banking Co. Ltd. (in vol. liq.) (h)</i> .. .. .	..	..	15	15	..	..	..
<i>Total Private Trading Banks</i>	66,288	47,988	7,470	121,746	44,268	6,951	5,489
<i>Other Cheque-paying Banks—</i>							
<i>The Brisbane Permanent Building and Banking Co. Ltd.</i> .. .. .	1,000	325	83	1,408	..	105	80
<i>The Rural Bank of New South Wales</i> .. .. .	13,730	11,737	..	25,467	..	130	..
<i>State Bank of South Australia</i> .. .. .	9,880	1,742	..	11,622	..	133	..
<i>The Rural and Industries Bank of Western Australia</i> .. .. .	8,765	441	..	9,206	..	76	..
<i>Total Other Cheque-paying Banks</i> .. .. .	33,375	14,245	83	47,703	..	444	80
<b>Grand Total</b> .. .. .	107,092	66,108	7,553	180,753	44,268	8,189	5,569

(a) At various balance sheet dates during 1961. (b) For the Commonwealth Trading Bank, the amount shown in this column is the amount specified as capital in the Commonwealth Banks Act 1959. For the State Bank of South Australia and The Rural and Industries Bank of Western Australia, the amounts shown in this column are capital funds provided by the respective State Governments. Capital of The Rural Bank of New South Wales consists of Inscribed Stock and Debentures issued by the Bank for capital purposes. (c) Includes dividends declared but not paid at date of balance-sheet. (d) For the Commonwealth Trading Bank and the State Banks, the amount shown in this column is total capital and reserves. (See footnote (b).) (e) Includes uncalled capital. (f) For the State Government Banks, the net profit is the profit after writing off bank premises and payment of interest on capital. For the other Banks, the net profit is the profit before writing off bank premises. (g) Dividends paid and payable out of profits earned during 1960-61. (h) These banks are in process of liquidation consequent upon the amalgamation of their business with the National Bank of Australasia Ltd.

5. *The Reserve Bank of Australia.*—(i) *General.* The Reserve Bank of Australia, established under the Reserve Bank Act 1959, which came into operation on 14th January, 1960, continued in existence the body corporate known as the Commonwealth Bank of Australia. An account of the progress and development of that Bank is given in earlier issues of the Official Year Book (see No. 37, pp. 570 to 573, and No. 45, pp. 735 to 737).

The general functions of the Reserve Bank are set out in Section 10 of the Reserve Bank Act 1959 which states:—

“ It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the Banking Act 1959, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to,

- (a) the stability of the currency of Australia;
- (b) the maintenance of full employment in Australia; and
- (c) the economic prosperity and welfare of the people of Australia.”

In addition to its functions as a Central Bank, the Bank controls the Australian note issue through a Note Issue Department, provides special banking facilities through the Rural Credits Department, and acts as banker to the Commonwealth and some of the States.

Prior to its reconstitution as the Reserve Bank, the Commonwealth Bank also provided general banking facilities through a General Banking Division up to 3rd December, 1953, when that business was taken over by the Commonwealth Trading Bank, and special banking facilities through the Mortgage Bank and Industrial Finance Departments. In addition, the Board of the Commonwealth Bank was responsible for the policy and administration of the Commonwealth Trading Bank and Commonwealth Savings Bank. On 14th January, 1960, on its reconstitution as the Reserve Bank, the Mortgage Bank and Industrial Finance Departments were amalgamated to form the Commonwealth Development Bank, and that institution, together with the Commonwealth Trading Bank and the Commonwealth Savings Bank, was placed under the control of the Commonwealth Banking Corporation, an organization established under the Commonwealth Banks Act 1959 and entirely separate from the Reserve Bank.

(ii) *Management.* Under the Commonwealth Bank Act 1911, the Commonwealth Bank was managed by a Governor. From 1924 to August, 1945, it was controlled by a Board of Directors. Under the Commonwealth Bank Act 1945, control was vested in a Governor, assisted by an Advisory Council. From August, 1951, under the Commonwealth Bank Act 1951, it was controlled by a Board of Directors.

Under the provisions of the Reserve Bank Act 1959, the policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The bank is managed by the Governor, who acts in accordance with the policy of the Board and with any directions of the Board. The Bank is required to inform the Government of the monetary and banking policy of the Board. In the event of a disagreement between the Government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

(iii) *Central Banking Business.* Under the powers it possessed under the Commonwealth Bank Act 1911–1943 and under its war-time powers under the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III. of the Commonwealth Bank Act 1945 formally constituted the Bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, and these powers were carried through into the present Act constituting the Reserve Bank. Under the provisions of the Reserve Bank Act 1959, the capital for the Central Banking Business is the capital of the Commonwealth Bank for Central Banking purposes immediately prior to 14th January, 1960, and such other sums as are transferred from the Reserve Bank Reserve Fund. The profits of the Bank are distributed as follows: (a) such sums as the Treasurer, after consultation with the Bank, determines shall be placed to the credit of the Reserve Bank Reserve Fund and (b) the remainder shall be paid to the Commonwealth.

(iv) *Note Issue Department.* The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the Reserve Bank Act 1959. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes. Under the Reserve Bank Act 1959, the profits of the Note Issue Department are paid to the Commonwealth.

(v) *Rural Credits Department.* The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the Reserve Bank Act 1959. The Reserve Bank may, through this Department, make advances upon the security of primary produce placed under the legal control of the bank, or other security associated with the production or marketing of primary produce, to co-operative associations or marketing boards formed under the laws of the Commonwealth or a State or Territory of the Commonwealth or other bodies specified by proclamation. The period of the advance shall not exceed one year. Under the provisions of the Reserve Bank Act 1959, the capital of the Rural Credits Department is the capital of the Rural Credits Department of the Commonwealth Bank immediately prior to 14th January, 1960, and £2,000,000 provided by the Reserve Bank. The profits of the Rural Credits Department are dealt with as follows: (a) one half shall be placed to the credit of the Rural Credits Department Reserve Fund and (b) one half shall be placed to the credit of the Rural Credits Development Fund.

(vi) *Liabilities and Assets—All Departments.* Liabilities and assets of each Department of the Reserve Bank at 30th June, 1961, are shown in the following table.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS, 30th JUNE, 1961.

(£'000.)

Particulars.	Central Banking Business.	Note Issue Department.	Rural Credits Department.	Total (a)
<b>LIABILITIES.</b>				
Capital .. .. .	4,000	..	4,714	8,714
Reserve funds .. .. .	17,915	..	1,708	19,623
Special reserve—Premium on gold sold .. .. .	..	4,755	..	4,755
Development Fund .. .. .	..	..	246	246
Notes on issue .. .. .	..	415,783	..	415,783
Deposits, bills payable and other liabilities—				
Statutory reserve deposit accounts of trading banks ..	233,053	..	..	233,053
Other deposits of trading banks .. .. .	38,989	..	..	38,989
Deposits of savings banks .. .. .	138,572	..	..	138,572
Deposits of oversea institutions .. .. .	87,674	..	..	87,674
Other (including provision for contingencies) ..	134,421	10,328	75,525	(a) 149,913
<b>Total .. .. .</b>	<b>654,624</b>	<b>430,866</b>	<b>82,193</b>	<b>a1,097,322</b>

ASSETS.

Gold and balances held abroad (including money at short call and treasury bills) .. .. .	289,171	175,379	..	464,550
Other oversea securities .. .. .	17,956	15,997	..	33,953
Australian notes and coin and cash balances .. .. .	4,123	..	..	4,123
Australian Government securities (including treasury bills) .. .. .	248,906	239,431	..	488,337
Cheques and bills of other banks .. .. .	2,793	..	..	2,793
Loans, advances, bills discounted, and other assets (after deducting debts considered bad or doubtful) ..	72,200	..	82,193	(a) 83,919
Bank premises at cost less amounts written off ..	2,358	..	..	2,358
Bills receivable and remittances in transit .. .. .	13,468	..	..	13,468
All other assets .. .. .	3,649	59	..	(a) 3,821
<b>Total .. .. .</b>	<b>654,624</b>	<b>430,866</b>	<b>82,193</b>	<b>a1,097,322</b>

(a) Inter-departmental accounts totalling £70,361,000 have been offset in the combined figures.

(vii) *Profits.* Net profits of the various Departments of the Reserve Bank for the years ended 30th June, 1957 to 1961 were as follows.

**RESERVE BANK OF AUSTRALIA(a): NET PROFITS.**  
(£'000.)

Year ended 30th June—	Central Banking Business.	Note Issue Department.	Rural Credits Department.	Mortgage Bank Department. (b)	Industrial Finance Department. (b)	Total.
1957 .. .. .	8,741	10,053	195	95	386	19,470
1958 .. .. .	10,103	12,593	184	110	405	23,395
1959 .. .. .	4,200	10,935	227	123	512	15,997
1960 .. .. .	5,381	10,516	322	..	..	16,219
1961 .. .. .	6,705	12,930	434	..	..	20,069

(a) Prior to 14th January, 1960, Commonwealth Bank of Australia.  
amalgamated to form Commonwealth Development Bank.

(b) On 14th January, 1960,

The distribution of these profits for the years ended 30th June, 1957 to 1961, is given in the following table.

**RESERVE BANK OF AUSTRALIA(a): DISTRIBUTION OF PROFITS.**  
(£'000.)

To—	1957.	1958.	1959.	1960.	1961.
National Debt Sinking Fund	4,371	5,052	2,100	..	..
Commonwealth of Australia ..	10,054	12,593	10,935	13,206	16,283
Reserve Bank Reserve Fund..	4,370	5,051	2,100	2,691	3,352
Rural Credits Department—					
Reserve Fund .. .. .	97	92	114	161	217
Development Fund .. .. .	97	92	113	161	217
Mortgage Bank Department(b)—					
Reserve Fund .. .. .	95	110	123	..	..
Industrial Finance Department(b)—					
Reserve Fund .. .. .	386	405	512	..	..
<b>Total .. .. .</b>	<b>19,470</b>	<b>23,395</b>	<b>15,997</b>	<b>16,219</b>	<b>20,069</b>

(a) Prior to 14th January, 1960, Commonwealth Bank of Australia.  
amalgamated to form Commonwealth Development Bank.

(b) On 14th January, 1960,

(viii) *Central Banking Business—Average Liabilities and Assets.* The average liabilities and assets of the Central Banking Business and Note Issue Department of the Reserve Bank for the years ended June, 1957 to 1961, are shown in the two tables which follow.

**RESERVE BANK OF AUSTRALIA(a): CENTRAL BANKING BUSINESS  
(INCLUDING NOTE ISSUE DEPARTMENT)—AVERAGE LIABILITIES.**  
(£'000.)

Year ended June—	Capital and Reserve Funds.	Australian Notes on Issue.	Statutory Reserve Deposit Accounts of Trading Banks.	Other Deposits of Trading Banks.	Other Liabilities.	Total Liabilities.
1957 .. .. .	17,559	383,214	289,444	31,345	205,917	927,479
1958 .. .. .	21,618	389,544	328,337	25,602	218,393	983,494
1959 .. .. .	26,437	396,019	259,865	24,189	232,866	939,376
1960 .. .. .	25,029	413,592	280,786	19,580	246,368	985,355
1961 .. .. .	22,790	427,710	294,409	18,478	268,417	1,031,804

(a) Prior to 14th January, 1960, Commonwealth Bank of Australia.

**RESERVE BANK OF AUSTRALIA(a): CENTRAL BANKING BUSINESS  
(INCLUDING NOTE ISSUE DEPARTMENT)—AVERAGE ASSETS.  
(£'000.)**

Year ended June—	Gold and Balances held Abroad.	Australian Notes and Coin.	Cheques and Bills of other Banks.	Government and other Securities (including Commonwealth Treasury Bills).	Bills Receivable and Remittances in Transit.	Loans, Advances and all Other Assets.	Total Assets.
1957 .. .. .	349,663	1,892	5,360	508,841	3,805	57,918	927,479
1958 .. .. .	461,721	2,026	4,177	478,603	4,488	32,479	983,494
1959 .. .. .	411,509	2,182	4,094	469,064	4,707	47,820	939,376
1960 .. .. .	442,164	3,566	3,084	475,189	4,014	57,338	985,355
1961 .. .. .	365,696	6,280	1,956	571,279	5,749	80,844	1,031,804

(a) Prior to 14th January, 1960, Commonwealth Bank of Australia.

(ix) *Rural Credits Department—Average Liabilities and Assets within Australia.* The following table shows the average liabilities and assets (excluding capital and contingencies) of the Rural Credits Department of the Reserve Bank within Australia for the years ended June, 1957 to 1961.

**RESERVE BANK OF AUSTRALIA(a): RURAL CREDITS DEPARTMENT  
AVERAGE LIABILITIES AND ASSETS WITHIN AUSTRALIA.  
(£'000.)**

Year ended June—	Total Liabilities.	Loans, Advances, etc.	Other Assets.	Total Assets.
1957 .. .. .	51,075	56,645	303	56,948
1958 .. .. .	27,563	33,664	278	33,942
1959 .. .. .	40,272	46,732	282	47,014
1960 .. .. .	54,542	62,605	217	62,822
1961 .. .. .	62,332	72,356	54	72,410

(a) Prior to 14th January, 1960, Commonwealth Bank of Australia.

6. The Commonwealth Banking Corporation.—(i) *General.* The Commonwealth Banking Corporation was established under the Commonwealth Banks Act 1959 and came into being on the 14th January, 1960. The Corporation is entirely separate from the Reserve Bank and is the controlling body for the Commonwealth Trading Bank, Commonwealth Savings Bank and Commonwealth Development Bank. The general functions of the corporation are set out in Section 9 of the Commonwealth Banks Act 1959 which states:

“ It is the duty of the Board, within the limits of its powers, to ensure that the policy of the Trading Bank, of the Savings Bank and of the Development Bank are directed to the greatest advantage of the people of Australia and have due regard to the stability and balanced development of the Australian economy.”

Under the Banking Act 1959, the Corporation and its constituent banks are subject to the same central banking controls as are the private trading banks.

(ii) *Management.* The Board of the Corporation consists of the Managing Director of the Corporation, the Deputy Managing Director, the Secretary to the Treasury and eight other members appointed by the Governor-General of whom one is Chairman and another Deputy Chairman. In addition, there is an Executive Committee of the Board for each of the three separate banks. These Executive Committees are appointed by the Treasurer, after consultation with the Board, and are charged with taking such action as is necessary to ensure that effect is given by the respective banks to the policies laid down for them and to any directions given by the Board in relation to their affairs. Under the Board, the Corporation is managed by the Managing Director and the Deputy Managing Director. Each of the three constituent banks of the Corporation has its own statutory functions and responsibilities and its separate identity within the framework of the Corporation. Each bank is managed by a General Manager under the Managing Director of the Corporation.

In paras. 7 and 8 following, details are given of the assets and liabilities of the Commonwealth Development Bank and the Commonwealth Trading Bank. Details for the Commonwealth Savings Bank are shown in § 2 of this chapter, page 789.



7. Commonwealth Development Bank of Australia.—(i) *General.* The Commonwealth Development Bank of Australia was established by the Commonwealth Banks Act 1959 and commenced operations on 14th January, 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank. Under the Act, the Bank is authorized to provide assistance for the development of worthwhile enterprises in the fields of primary and secondary industries which would otherwise be unable to obtain the necessary finance on reasonable and suitable terms and conditions. The Commonwealth Development Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation, and its policy is determined by the Board of that Corporation. The capital of the Development Bank consists of the capital of the Mortgage Bank and Industrial Finance Departments of the Commonwealth Bank immediately prior to 14th January, 1960, £5,000,000 provided by the Reserve Bank, and such other sums as are provided from the Commonwealth Development Bank Reserve Fund. The net profits of the Bank are paid to the Commonwealth Development Bank Reserve Fund.

(ii) *Liabilities and Assets.* The liabilities and assets of the Commonwealth Development Bank at 30th June, 1961, are shown in the following table.

**COMMONWEALTH DEVELOPMENT BANK OF AUSTRALIA:  
LIABILITIES AND ASSETS, 30th JUNE, 1961.  
(£'000.)**

Liabilities.	1961.	Assets.	1961.
Capital .. .. .	15,857	Coin, bullion, notes and cash at bankers .. .. .	491
Commonwealth Development Bank reserve fund .. .. .	5,873	Australian Public Securities—	
Balances due to other banks .. .. .	15,120	Commonwealth and States—	
Deposits, bills payable and all other liabilities (including amounts provided for contingencies) .. .. .	8,349	Treasury bills .. .. .	..
		Other Securities .. .. .	4,339
		Other Securities .. .. .	411
		Loans to authorized dealers in the short-term money market .. .. .	200
		Cheques and bills of other banks and balances with and due from other banks .. .. .	208
		Loans, advances and bills discounted (after deducting provisions for debts considered bad or doubtful) .. .. .	39,438
		All other assets .. .. .	112
<b>Total .. .. .</b>	<b>45,199</b>	<b>Total .. .. .</b>	<b>45,199</b>

(iii) *Average Liabilities and Assets within Australia.* The average liabilities and assets (excluding capital and contingencies) of the Commonwealth Development Bank within Australia for the years ended June, 1957 to 1961 are shown in the following table.

**COMMONWEALTH DEVELOPMENT BANK OF AUSTRALIA<sup>(a)</sup>: AVERAGE  
LIABILITIES AND ASSETS WITHIN AUSTRALIA.  
(£'000.)**

Year ended June—	Total Liabilities.	Loans Advances, etc.		Australian Government Securities (including Treasury Bills).	Other Assets.	Total Assets.
		Hire Purchase.	Other.			
1957 .. .. .	19,559	16,468	14,532	4,698	1,270	36,968
1958 .. .. .	19,070	16,030	14,939	5,390	1,191	37,550
1959 .. .. .	18,731	17,365	15,075	4,949	985	38,374
1960 .. .. .	18,339	17,830	15,934	6,784	1,057	41,605
1961 .. .. .	17,954	18,951	17,535	7,407	1,134	45,027

(a) Prior to 14th January, 1960, Industrial Finance and Mortgage Bank Departments of the Commonwealth Bank of Australia.

(iv) *Profits.* The net profit of the Commonwealth Development Bank for the year ended 30th June, 1961, was £611,590. The net profit was appropriated to the Commonwealth Development Bank Reserve Fund.

8. The Commonwealth Trading Bank of Australia.—(i) *General.* The Commonwealth Trading Bank of Australia was established by the Commonwealth Bank Act 1953 and on 3rd December, 1953, took over the business of the General Banking Division of the Commonwealth Bank. It was managed by a General Manager under the Governor of the Commonwealth Bank and its policy was determined by the Board of that Bank. Under the provisions of the Commonwealth Banks Act 1959, which came into operation on 14th January, 1960, the Commonwealth Trading Bank was maintained in the same form but was placed under the control of the Commonwealth Banking Corporation. The Commonwealth Trading Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation. The capital of the Commonwealth Trading Bank is the capital of the Commonwealth Trading Bank immediately prior to 14th January, 1960, £2,000,000 provided by the Reserve Bank, and such other sums as are transferred from the Commonwealth Trading Bank Reserve Fund. Under the Act, the Bank is liable for income taxes. The net profits of the Bank, after provision for taxation, are divided as follows:— (a) one-half shall be placed to the credit of the Commonwealth Trading Bank Reserve Fund and (b) one-half shall be paid to the Commonwealth.

(ii) *Liabilities and Assets.* The liabilities and assets of the Commonwealth Trading Bank at 30th June, 1961, are shown in the following table.

COMMONWEALTH TRADING BANK OF AUSTRALIA: LIABILITIES AND ASSETS, 30th JUNE, 1961.

(£'000.)

Liabilities.	1961.	Assets.	1961.
Capital .. .. .	7,429	Coin, bullion, notes and cash at bankers .. .. .	15,268
Reserve Fund .. .. .	3,875	Money at short call overseas ..	4,250
Balances due to other banks ..	471	Australian Public Securities—	
Deposits, bills payable and other liabilities (including provision for contingencies) .. .. .	348,309	Commonwealth and States—	
		Treasury Bills .. .. .	2,000
		Other Securities .. .. .	68,287
		Local and Semi-Governmental Authorities .. .. .	3,069
		Other public securities .. .. .	.. .. .
		Other securities .. .. .	2,411
		Loans to authorized dealers in the short-term money market ..	3,450
		Statutory Reserve Deposit Account with Reserve Bank .. .. .	37,383
		Cheques and bills of other banks and balances with and due from other banks .. .. .	13,540
		Loans, advances and bills discounted (after deducting provisions for debts considered bad or doubtful) .. .. .	147,573
		Bank premises .. .. .	3,144
		Bills receivable and remittances in transit .. .. .	58,059
		All other assets .. .. .	1,650
<b>Total .. .. .</b>	<b>360,084</b>	<b>Total .. .. .</b>	<b>360,084</b>

(iii) *Average Liabilities and Assets within Australia.* The average liabilities and assets (excluding capital and contingencies) of the Commonwealth Trading Bank within Australia for the years ended June, 1957 to 1961, are shown in the following tables.

## COMMONWEALTH TRADING BANK OF AUSTRALIA—AVERAGE LIABILITIES WITHIN AUSTRALIA.(a)

(£'000.)

Year ended June—	Deposits.			Balances due to other Banks.	Bills payable and all other Liabilities to the Public.	Total Liabilities.
	Not Bearing Interest.	Bearing Interest.	Total.			
1957 .. .. .	140,125	44,423	184,548	389	18,160	203,097
1958 .. .. .	150,220	54,837	205,057	422	19,523	225,002
1959 .. .. .	159,071	67,705	226,776	417	21,623	248,816
1960 .. .. .	181,055	73,382	254,437	743	14,461	269,641
1961 .. .. .	183,857	87,299	271,156	1,080	2,589	274,825

(a) Includes Territories of Papua and New Guinea.

## COMMONWEALTH TRADING BANK OF AUSTRALIA—AVERAGE ASSETS WITHIN AUSTRALIA.(a)

(£'000.)

Year ended June—	Cash and Cash Balances.	Balances with Other Banks. (b).	Commonwealth and State Government Securities.		Other Securities.	Loans to Authorized Dealers in Short-Term Money Market.	Statutory Reserve Deposit Account with Reserve Bank. (c)	Loans, (d) Advances, and Bills Discounted.	All Other Assets. (e)	Total Assets.
			Treasury Bills and Seasonal Securities.	Other.						
1957 ..	9,988	1,469	4,059	35,714	2,654	..	34,603	106,480	7,305	202,272
1958 ..	10,829	1,596	5,500	46,476	2,511	..	40,193	107,815	8,396	223,316
1959 ..	11,307	1,590	4,137	56,677	2,416	1,388	36,450	122,499	9,161	245,625
1960 ..	11,719	3,606	3,043	60,189	2,355	2,556	41,429	133,735	9,211	267,843
1961 ..	10,518	5,595	1,592	54,007	2,406	4,640	45,835	147,566	8,812	280,971

(a) Includes Territories of Papua and New Guinea. (b) Includes notes, cheques and bills of other banks. (c) Prior to 14th January, 1960, Special Account with Commonwealth Bank. (d) Excludes loans to authorized dealers in short-term Money Market. (e) Includes local and semi-governmental securities.

(iv) *Profits.* The net profits (after writing off bank premises, £113,140 in 1960 and £123,730 in 1961) of the Commonwealth Trading Bank for the years ended 30th June, 1960 and 1961, were £487,854 and £670,154 respectively. These net profits were distributed one half to the Commonwealth and one half to the Commonwealth Trading Bank Reserve Fund.

9. *Private Trading Banks—Average Liabilities and Assets in Australia.*—The average liabilities and assets within Australia (excluding capital and contingencies) of the Private Trading Banks (see p. 766 for list of banks) for the years ended June, 1957 to 1961, are shown in the following tables.

**PRIVATE TRADING BANKS: AVERAGE LIABILITIES WITHIN AUSTRALIA.(a)**  
(£'000.)

Year ended June—	Deposits.			Balances due to other Banks.	Bills payable and all other Liabilities to the Public.	Total Liabilities.
	Not Bearing Interest.	Bearing Interest.	Total.			
1957 .. .. .	1,028,509	299,499	1,328,008	7,343	18,849	1,354,200
1958 .. .. .	1,045,881	345,415	1,391,296	5,561	18,668	1,415,525
1959 .. .. .	1,007,798	368,514	1,376,312	4,121	20,658	1,401,091
1960 .. .. .	1,067,592	385,554	1,453,146	4,804	24,008	1,481,951
1961 .. .. .	1,035,292	422,193	1,457,485	21,752	28,414	1,507,651

(a) Includes Territories of Papua and New Guinea.

**PRIVATE TRADING BANKS: AVERAGE ASSETS WITHIN AUSTRALIA.(a)**  
(£'000.)

Year ended June—	Cash and Cash Balances.	Balances with Other Banks. (b)	Commonwealth and State Government Securities.		Other Securities.	Loans to Authorized Dealers in Short-Term Money Market.	Statutory Reserve Deposit Account with Reserve Bank. (c)	Loans (d), Advances and Bills Discounted.	All Other Assets. (e)	Total Assets.
			Treasury Bills and Seasonal Securities	Other.						
1957 .. .. .	63,661	20,239	51,162	151,298	7,201	..	254,052	762,638	59,108	1,369,359
1958 .. .. .	59,805	18,254	39,027	176,152	12,415	..	287,399	774,302	63,663	1,431,017
1959 .. .. .	58,263	18,794	38,309	193,546	15,702	6,613	222,809	807,028	66,257	1,427,321
1960 .. .. .	57,731	23,195	24,407	236,890	16,484	21,757	238,774	818,308	69,064	1,506,610
1961 .. .. .	61,913	25,890	20,733	174,422	19,149	18,971	248,038	902,465	75,567	1,547,148

(a) Includes Territories of Papua and New Guinea. (b) Includes notes, cheques and bills of other banks. (c) Prior to 14th January, 1960, special account with Commonwealth Bank. (d) Excludes loans to authorized dealers in short-term money market. (e) Includes local and semi-governmental securities.

10. Other Cheque-paying Banks—Average Liabilities and Assets within Australia.—The average liabilities and assets within Australia (excluding capital and contingencies) of "Other Cheque-paying Banks" (see p. 766 for list of these banks) for the years ended June, 1957 to 1961, are shown in the following tables.

**OTHER CHEQUE-PAYING BANKS: AVERAGE LIABILITIES WITHIN AUSTRALIA.**  
(£'000.)

Year ended June—	Deposits.			Balances due to other Banks.	Bills Payable and all other Liabilities to the Public. (a)	Total Liabilities.
	Not Bearing Interest.	Bearing Interest.	Total.			
1957 .. .. .	41,317	16,946	58,263	1,372	21,058	80,693
1958 .. .. .	42,013	20,311	62,324	1,384	21,514	85,222
1959 .. .. .	40,189	24,694	64,883	1,055	22,962	88,900
1960 .. .. .	44,901	27,969	72,870	921	23,838	97,629
1961 .. .. .	45,790	35,105	80,895	1,381	25,624	107,900

(a) Includes inscribed stock and debentures, Rural Bank of New South Wales and State Bank of South Australia.

OTHER CHEQUE-PAYING BANKS: AVERAGE ASSETS WITHIN AUSTRALIA.  
(£'000.)

Year ended June—	Cash and Cash Balances.	Balances with Other Banks. (a)	Commonwealth and State Government Securities.		Other Securities.	Loans to Authorized Dealers in Short-Term Money Market.	Statutory Reserve Deposit Account with Reserve Bank. (b)	Loans, (c) Advances and Bills Discounted.	All Other Assets. (d)(e)	Total Assets.
			Treasury Bills and Seasonal Securities	Other.						
1957 ..	3,857	2,267	3,906	15,068	288	..	788	77,697	6,136	110,007
1958 ..	3,804	2,512	4,145	14,532	748	..	745	81,149	6,727	114,362
1959 ..	3,615	2,920	824	14,400	3,588	1,223	606	85,819	7,417	120,412
1960 ..	2,970	2,380	858	16,952	3,570	6,375	584	88,546	7,968	130,203
1961 ..	2,703	1,971	733	18,776	4,507	7,035	537	94,507	9,012	139,781

(a) Includes notes, cheques and bills of other banks. (b) Prior to 14th January, 1960, special account with Commonwealth Bank. (c) Excludes loans to authorized dealers in short-term money market. (d) Includes local and semi-governmental securities. (e) Includes The Rural and Industries Bank of Western Australia and State Bank of South Australia accounts with State Treasuries.

11. All Cheque-paying Banks.—(i) *Average Liabilities and Assets within Australia.* Particulars of the average liabilities and assets within Australia (excluding capital and contingencies) of all cheque-paying banks in Australia (see p. 766 for list of banks) for the years ended 30th June, 1957 to 1961, are shown in the following tables.

ALL CHEQUE-PAYING BANKS: AVERAGE LIABILITIES WITHIN AUSTRALIA.(a)  
(£'000.)

Year ended June—	Deposits.			Balances Due to Other Banks.	Bills Payable and all Other Liabilities to the Public.	Total Liabilities.
	Not Bearing Interest.	Bearing Interest.	Total.			
1957 ..	1,209,951	360,868	1,570,819	9,104	58,067	1,637,990
1958 ..	1,238,114	420,563	1,658,677	7,367	59,705	1,725,749
1959 ..	1,207,058	460,913	1,667,971	5,593	65,243	1,738,807
1960 ..	1,293,548	486,905	1,780,453	6,468	62,307	1,849,228
1961 ..	1,264,939	544,597	1,809,536	24,213	56,627	1,890,376

(a) Includes Territories of Papua and New Guinea.

ALL CHEQUE-PAYING BANKS: AVERAGE ASSETS WITHIN AUSTRALIA.(a)  
(£'000.)

Year ended June—	Cash and Cash Balances.	Balances with Other Banks.	Commonwealth and State Government Securities.		Other Securities.	Loans to Authorized Dealers in Short-Term Money Market.	Statutory Reserve Deposit Account with Reserve Bank.(b)	Loans,(c) Advances and Bills Discounted.	All Other Assets. (d)	Total Assets.
			Treasury Bills and Seasonal Securities.	Other.						
1957 ..	77,506	23,975	59,127	202,080	10,143	..	289,444	946,815	72,548	1,681,638
1958 ..	74,438	22,362	48,672	237,160	15,674	..	328,337	963,266	78,786	1,768,695
1959 ..	73,185	23,304	43,270	264,623	21,706	9,224	259,865	1,015,346	82,835	1,793,358
1960 ..	72,420	29,181	28,308	314,031	22,409	30,688	280,787	1,040,589	86,243	1,904,656
1961 ..	75,134	33,456	23,058	247,205	26,062	30,646	294,410	1,144,538	93,391	1,967,900

(a) Includes Territories of Papua and New Guinea. (b) Prior to 14th January, 1960, special account with Commonwealth Bank. (c) Excludes loans to authorized dealers in short-term money market. (d) Includes Local and Semi-Governmental securities.

(ii) *Ratios of Assets and Liabilities to Total Deposits.* The following table shows, for all cheque-paying banks, the ratios of selected assets and liabilities to total deposits for the years ended June, 1957 to 1961. The ratios are based on the average liabilities and assets for the years shown.

**ALL CHEQUE-PAYING BANKS: RATIOS OF SELECTED AVERAGE ASSETS AND LIABILITIES TO AVERAGE TOTAL DEPOSITS.(a)**

(Per cent.)

Year ended June—	Cash and Cash Balances.(b)	Commonwealth and State Government Securities.		Statutory Reserve Deposit Account with Reserve Bank.	Loans, Advances and Bills Discounted. (c)	Deposits not Bearing Interest.
		Treasury Bills and Seasonal Securities.	Other.			
1957 .. ..	4.9	3.8	12.9	18.4	60.3	77.0
1958 .. ..	4.5	2.9	14.3	19.8	58.1	74.6
1959 .. ..	4.4	2.6	15.9	15.6	60.9	72.4
1960 .. ..	4.1	1.6	17.6	15.8	58.5	72.7
1961 .. ..	4.1	1.3	13.7	16.3	63.3	69.9

(a) Based on deposits and assets within Australia and excludes London Funds. (b) Coin, bullion, Australian notes and cash with Reserve Bank on current account. (c) Excludes loans to authorized dealers in short-term money market.

(iii) *Proportion of Non-Interest Bearing to Total Deposits.* The following table shows for each State, the proportion of non-interest bearing deposits to total deposits with all cheque-paying banks for each of the years ended June, 1957 to 1961. The ratios are based on the average deposits for the years shown.

**ALL CHEQUE-PAYING BANKS: PROPORTION OF NON-INTEREST BEARING DEPOSITS TO TOTAL DEPOSITS.**

(Per cent.)

Year ended June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.(a)
1957 .. ..	78.1	76.7	77.9	70.1	77.3	81.1	81.1	79.4	77.0
1958 .. ..	75.4	74.5	76.2	67.8	74.9	78.4	79.3	76.7	74.6
1959 .. ..	73.0	72.1	74.2	65.4	72.5	75.8	78.7	77.6	72.4
1960 .. ..	73.0	72.4	74.5	66.6	73.3	76.7	78.3	78.2	72.7
1961 .. ..	70.0	69.6	70.9	65.5	71.7	74.9	75.6	75.2	69.9

(a) Includes Territories of Papua and New Guinea.

(iv) *Ratio of Advances to Total Deposits.* The ratio of advances to total deposits for each State for the years ended June, 1957 to 1961, is shown in the following table. The ratios are based on the averages of deposits and advances for the years shown.

**ALL CHEQUE-PAYING BANKS: RATIO OF ADVANCES TO TOTAL DEPOSITS.**

(Per cent.)

Year ended June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.(a)
1957 .. ..	68.5	51.7	62.9	42.2	72.8	60.0	40.2	32.3	60.3
1958 .. ..	64.9	49.8	60.3	42.5	75.7	59.7	36.8	32.3	58.1
1959 .. ..	67.7	50.9	65.3	47.5	81.6	61.8	41.0	30.5	60.9
1960 .. ..	64.3	49.1	62.6	50.4	74.0	60.1	39.5	33.0	58.5
1961 .. ..	67.2	56.8	66.0	58.5	76.9	63.2	35.2	31.2	63.3

(a) Includes Territories of Papua and New Guinea.

**12. Commonwealth and Private Trading Banks (Major Trading Banks).—(i) Selected Average Assets and Liabilities within Australia.** In the following tables, particulars of selected average assets and liabilities of the Commonwealth and Private Trading Banks are shown for each of the years ended June, 1957 to 1961.

**COMMONWEALTH AND PRIVATE TRADING BANKS (MAJOR TRADING BANKS):  
SELECTED AVERAGE ASSETS AND LIABILITIES WITHIN AUSTRALIA.(a)**

(£'000.)

Year ended June—	Cash and Cash Balances.	Commonwealth and State Government Securities.		Statutory Reserve Deposit Account with Reserve Bank.	Advances.	Total Deposits.	
		Treasury Bills and Seasonal Securities.	Other.			Not Bearing Interest.	Bearing Interest.
1957 .. ..	73,649	55,221	187,012	288,655	869,118	1,168,634	343,922
1958 .. ..	70,634	44,527	222,628	327,592	882,117	1,196,101	400,252
1959 .. ..	69,570	42,446	250,223	259,259	929,527	1,166,869	436,219
1960 .. ..	69,450	27,450	297,079	280,203	952,043	1,248,647	458,936
1961 .. ..	72,431	22,325	228,429	293,873	1,050,031	1,219,149	509,492

(a) Includes Territories of Papua and New Guinea.

(ii) *Ratios of Selected Assets within Australia to Total Deposits.* In the table below, ratios of selected assets to total deposits are given for each of the years ended June, 1957 to 1961.

**COMMONWEALTH AND PRIVATE TRADING BANKS (MAJOR TRADING BANKS):  
RATIOS OF SELECTED ASSETS WITHIN AUSTRALIA.(a) TO TOTAL DEPOSITS.(b)**

(Per cent.)

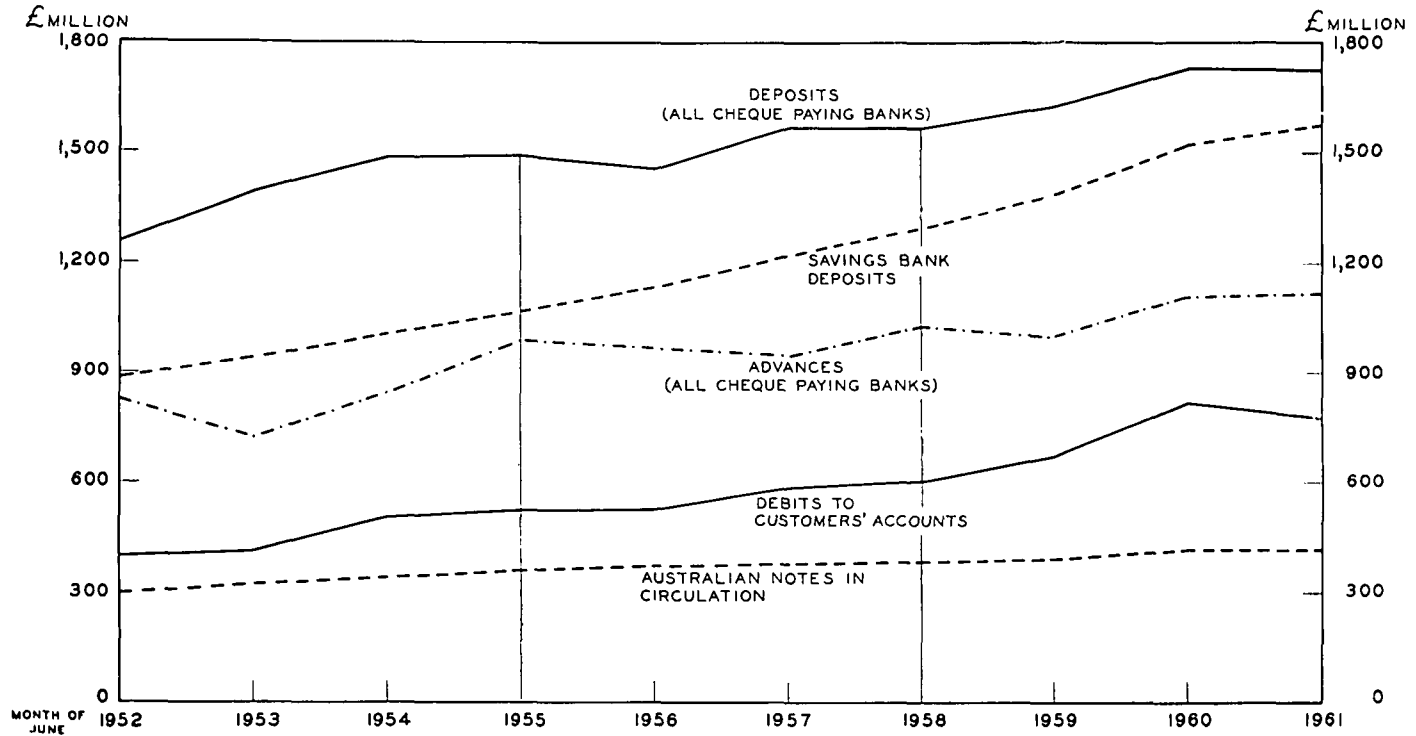
Year ended June—	Cash and Cash Balances. (c)	Commonwealth and State Government Securities.		Statutory Reserve Deposit Account with Reserve Bank.	Advances.	Total Deposits.	
		Treasury Bills and Seasonal Securities.	Other.			Not Bearing Interest.	Bearing Interest.
1957 .. ..	4.9	3.6	12.4	19.1	57.5	77.3	22.7
1958 .. ..	4.4	2.8	14.0	20.5	55.3	74.9	25.1
1959 .. ..	4.3	2.7	15.6	16.2	58.0	72.8	27.2
1960 .. ..	4.1	1.6	17.4	16.4	55.8	73.1	26.9
1961 .. ..	4.2	1.3	13.2	17.0	60.7	70.5	29.5

(a) Includes Territories of Papua and New Guinea. (b) Based on averages of assets and liabilities for the years shown. (c) Coin, bullion, notes and cash with Reserve Bank on current account.

13. *Classification of Advances within Australia—Commonwealth Trading Bank of Australia and Private Trading Banks (Major Trading Banks).*—(i) *States, June, 1961.* A classification of bank advances of the Commonwealth and Private Trading Banks outstanding at the end of June, 1961, is shown in the following table.

Resident borrowers cover institutions (including branches of oversea institutions) engaged in business in Australia and persons permanently residing in Australia. Non-resident borrowers cover all other persons and institutions incorporated abroad, which, though represented, do not carry on business in Australia. Advances to resident borrowers have been classified as business advances, advances to public authorities, personal advances and advances to non-profit organizations. Business advances have been further classified to the main industry of the borrower and include advances to partnerships, companies and other institutions engaged in business in Australia, advances to persons actively engaged in business on their own behalf if the advance is mainly for business purposes, advances to mutual, co-operative and benefit societies which distribute their profits or surpluses (if any) to members by way of dividends, rebates on charges for goods and services, or increased benefits. Advances to public authorities cover advances to local and semi-governmental authorities including separately constituted government business undertakings but not the Commonwealth or State Governments. Personal advances cover advances to persons for purposes other than carrying on a business. Advances to non-profit organizations cover advances to organizations which are not carried on for the purpose of making a profit or gain to individual members, any income of the organization being used for the purposes of the organization or for the benefit of the community.

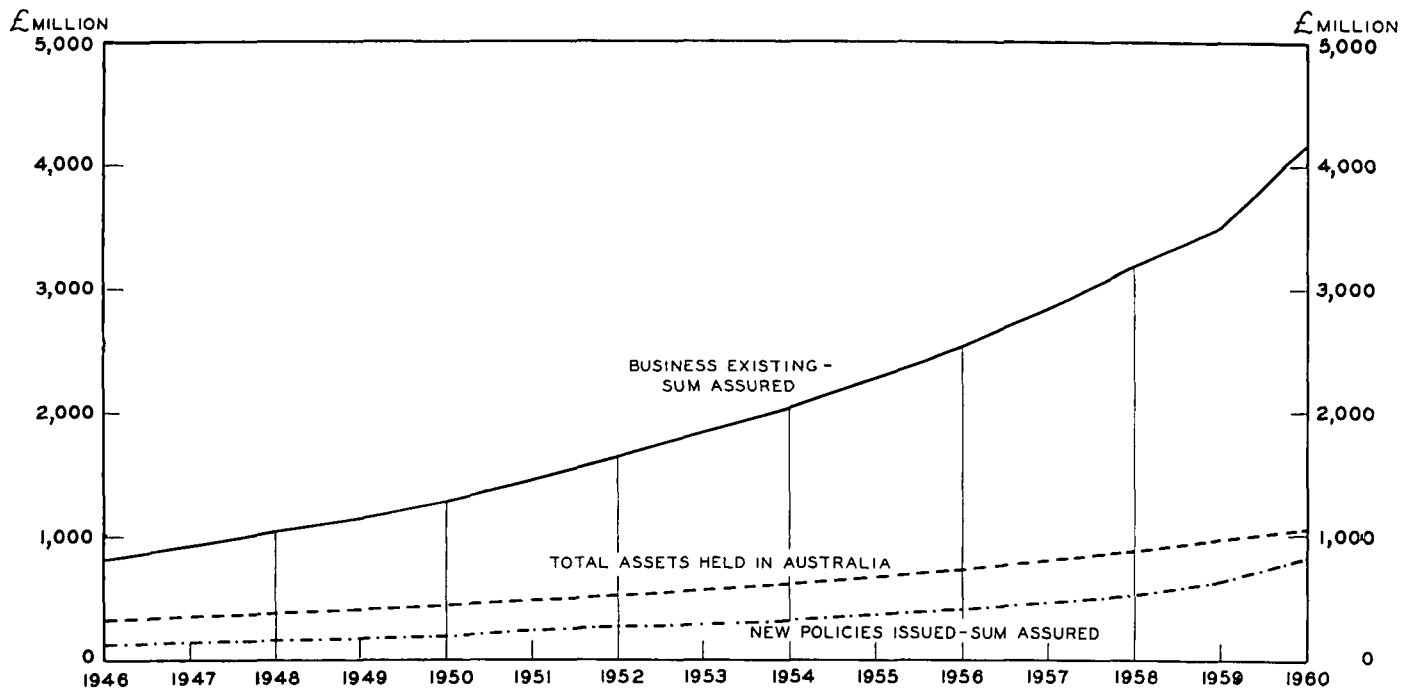
# BANKING: AUSTRALIA, 1952 TO 1961





# LIFE INSURANCE: AUSTRALIA

1946 TO 1960



**COMMONWEALTH TRADING BANK OF AUSTRALIA AND PRIVATE TRADING BANKS (MAJOR TRADING BANKS): CLASSIFICATION OF ADVANCES WITHIN AUSTRALIA(a)—STATES, AT END OF(b) JUNE, 1961.**

Classification.	N.S.W. (c)	Vic.	Q'land. (a)	S. Aust. (d)	W. Aust.	Tas.	Australia. (a)	Proportion of Total (Per cent.)
	(£'000.)	(£'000.)	(£'000.)	(£'000.)	(£'000.)	(£'000.)	(£'000.)	

*Resident Borrowers.*

**A. BUSINESS ADVANCES CLASSIFIED ACCORDING TO MAIN INDUSTRY OF BORROWER.**

1. Agriculture, Dairying and Grazing ..	89,217	41,789	56,697	15,049	17,684	4,847	225,283	21.7
2. Manufacturing ..	90,222	89,278	25,358	12,777	6,390	4,095	228,120	22.0
3. Transport, Storage and Communication ..	4,662	4,039	2,251	2,138	747	501	14,338	1.4
4. Finance—								
(i) Building and Housing Societies ..	11,283	12,870	697	319	191	456	25,816	2.5
(ii) Other ..	18,680	15,646	4,529	2,556	2,549	2,431	46,391	4.4
<i>Total Class 4</i> ..	<i>29,963</i>	<i>28,516</i>	<i>5,226</i>	<i>2,875</i>	<i>2,740</i>	<i>2,887</i>	<i>72,207</i>	<i>6.9</i>
5. Commerce—								
(i) Retail Trade ..	40,657	30,139	16,111	9,066	7,596	3,879	107,448	10.3
(ii) Wholesale Trade(e)	54,660	34,954	6,407	6,590	5,644	1,683	109,938	10.6
<i>Total Class 5</i> ..	<i>95,317</i>	<i>65,093</i>	<i>22,518</i>	<i>15,656</i>	<i>13,240</i>	<i>5,562</i>	<i>217,386</i>	<i>20.9</i>
6. Building and Construction ..	9,953	8,006	3,191	1,468	1,685	949	25,252	2.4
7. Other Businesses ..	28,763	19,622	13,482	3,435	5,032	1,770	72,104	6.9
8. Unclassified ..	1,616	2,392	839	251	314	260	5,692	0.6
<i>Companies(f)</i> ..	<i>216,225</i>	<i>175,060</i>	<i>48,106</i>	<i>32,110</i>	<i>19,086</i>	<i>11,989</i>	<i>502,576</i>	<i>48.4</i>
<i>Other(f)</i> ..	<i>133,488</i>	<i>83,675</i>	<i>81,476</i>	<i>21,539</i>	<i>28,746</i>	<i>8,882</i>	<i>357,806</i>	<i>34.4</i>
<i>Total</i> ..	<i>349,713</i>	<i>258,735</i>	<i>129,582</i>	<i>53,649</i>	<i>47,832</i>	<i>20,871</i>	<i>860,382</i>	<i>82.8</i>

**B. ADVANCES TO PUBLIC AUTHORITIES.**

<i>Public Authorities (including Local Government and Semi-Governmental Bodies)</i> ..	9,250	3,046	1,000	236	294	240	14,066	1.3
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**C. PERSONAL ADVANCES CLASSIFIED ACCORDING TO MAIN PURPOSE OF ADVANCE.**

1. Building or purchasing own home (Individuals) ..	39,636	20,400	12,645	4,302	6,443	1,635	85,061	8.2
2. All other (including Personal Loans) ..	25,083	17,860	8,338	2,938	4,301	1,490	60,010	5.8
<i>Total</i> ..	<i>64,719</i>	<i>38,260</i>	<i>20,983</i>	<i>7,240</i>	<i>10,744</i>	<i>3,125</i>	<i>145,071</i>	<i>14.0</i>

**D. ADVANCES TO NON-PROFIT ORGANIZATIONS.**

<i>Total</i> ..	8,224	4,709	3,678	797	1,411	468	19,287	1.9
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**TOTAL ADVANCES TO RESIDENT BORROWERS.**

<i>Total</i> ..	431,906	304,730	155,243	61,922	60,281	24,704	1,038,806	100.0
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*Non-Resident Borrowers.*

**ADVANCES TO NON-RESIDENT BORROWERS.**

<i>Total</i> ..	138	120	14	1	11	3	287	..
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**Total Advances to Resident and Non-Resident Borrowers.**

<b>Grand Total</b> ..	432,044	304,870	155,257	61,923	60,292	24,707	1,039,093	100.0
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(a) Includes Territories of Papua and New Guinea. (b) "At end of" is used for convenience. Information for individual banks or groups of banks relates to various dates around the end of the period shown. (c) Includes Australian Capital Territory. (d) Includes Northern Territory. (e) Includes temporary advances to woolbuyers. (f) The combined advances for these two groups are distributed over the industries above.

(ii) *Australia, June, 1958, to June, 1961.* The following table provides a classification of advances within Australia (including Territories of Papua and New Guinea) as at the end of June, 1958 to 1961.

**COMMONWEALTH TRADING BANK OF AUSTRALIA AND PRIVATE TRADING BANKS (MAJOR TRADING BANKS): CLASSIFICATION OF ADVANCES WITHIN AUSTRALIA(a): AMOUNT AND PROPORTION OF EACH CLASS TO TOTAL.**

Classification.	At end of (b) June—							
	1958.		1959.		1960.		1961.	
	Amount (£'000.)	Per cent.	Amount (£'000.)	Per cent.	Amount (£'000.)	Per cent.	Amount (£'000.)	Per cent.

*Resident Borrowers.*

**A. BUSINESS ADVANCES CLASSIFIED ACCORDING TO MAIN INDUSTRY OF BORROWER.**

1. Agriculture, Dairying and Grazing ..	230,976	24.0	229,598	24.6	236,782	22.5	225,283	21.7
2. Manufacturing ..	184,580	19.2	180,612	19.3	213,274	20.2	228,120	22.0
3. Transport, Storage and Communication ..	14,646	1.5	15,169	1.6	16,523	1.6	14,338	1.4
4. Finance—								
(i) Building and Housing Societies ..	26,502	2.8	24,500	2.6	24,852	2.4	25,816	2.5
(ii) Other ..	40,582	4.2	24,970	2.7	40,142	3.8	46,391	4.4
Total Class 4 ..	67,084	7.0	49,470	5.3	64,994	6.2	72,207	6.9
5. Commerce—								
(i) Retail Trade ..	99,600	10.3	92,614	10.0	108,982	10.4	107,448	10.3
(ii) Wholesale Trade (c) ..	102,670	10.7	89,867	9.6	102,521	9.7	109,938	10.6
Total Class 5 ..	202,270	21.0	182,481	19.6	211,503	20.1	217,386	20.9
6. Building and Construction ..	25,109	2.6	27,434	2.9	29,283	2.7	25,252	2.4
7. Other Businesses ..	60,229	6.3	64,191	6.9	74,652	7.1	72,104	6.9
8. Unclassified ..	4,602	0.5	5,195	0.6	5,126	0.5	5,692	0.6
Companies (d) ..	411,404	42.8	373,436	40.0	456,508	43.3	502,576	48.4
Other (d) ..	378,092	39.3	380,714	40.8	395,629	37.6	357,806	34.4
Total ..	789,496	82.1	754,150	80.8	852,137	80.9	860,382	82.8

**B. ADVANCES TO PUBLIC AUTHORITIES.**

Public Authorities (incl. Local Government and Semi-Governmental Bodies) ..	12,361	1.3	11,311	1.2	12,764	1.2	14,066	1.3
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**C. PERSONAL ADVANCES CLASSIFIED ACCORDING TO MAIN PURPOSE OF ADVANCE.**

1. Building or purchasing own home (Individuals) ..	89,155	9.2	91,471	9.8	97,935	9.3	85,061	8.2
2. All other (including Personal Loans) ..	55,622	5.8	59,711	6.4	72,211	6.9	60,010	5.8
Total ..	144,777	15.0	151,182	16.2	170,146	16.2	145,071	14.0

**D. ADVANCES TO NON-PROFIT ORGANIZATIONS.**

Total ..	15,407	1.6	16,387	1.8	18,507	1.7	19,287	1.9
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**TOTAL ADVANCES TO RESIDENT BORROWERS.**

Total ..	962,041	100.0	933,030	100.0	1,053,558	100.0	1,038,806	100.0
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*Non-Resident Borrowers.*

**ADVANCES TO NON-RESIDENT BORROWERS.**

Total ..	195	..	227	..	239	..	287	..
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**Total Advances to Resident and Non-Resident Borrowers.**

Grand Total! ..	962,236	100.0	933,257	100.0	1,053,793	100.0	1,039,093	100.0
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(a) Includes Territories of Papua and New Guinea. (b) "At end of" is used for convenience. Information for individual banks or groups of banks relates to various dates around the end of the period shown. (c) Includes temporary advances to wool-buyers. (d) The combined advances for these two groups are distributed over the industries above.

14. Classification of Bank Deposits within Australia—Commonwealth Trading Bank of Australia and Private Trading Banks (Major Trading Banks).—A classification of bank deposits (excluding deposits of Commonwealth and State Governments) held by the Commonwealth and Private Trading Banks at the end of June, 1958 to 1961, is given in the following table. The classification is similar to that used for advances (for details see page 778).

**COMMONWEALTH TRADING BANK OF AUSTRALIA AND PRIVATE TRADING BANKS (MAJOR TRADING BANKS): CLASSIFICATION OF DEPOSITS(a) WITHIN AUSTRALIA(b): AMOUNT AND PROPORTION OF EACH CLASS TO TOTAL.**

Classification.	At end of (c) June—							
	1958.		1959.		1960.		1961.	
	Amount (£mill.)	Per cent.	Amount (£mill.)	Per cent.	Amount (£mill.)	Per cent.	Amount (£mill.)	Per cent.
<i>Resident Depositors—</i>								
Business Deposits classified according to main Industry of Depositor—								
Agriculture, Grazing, Dairying ..	335.0	22.2	335.2	21.2	344.3	20.8	327.6	20.2
Manufacturing ..	130.5	8.6	142.4	9.0	147.7	8.9	120.8	7.4
Transport, Storage and Communication ..	31.4	2.1	31.7	2.0	32.2	2.0	29.7	1.8
Finance ..	125.5	8.3	134.3	8.5	130.3	7.9	123.8	7.6
Commerce ..	146.6	9.7	161.5	10.2	160.7	9.7	142.0	8.7
Building and Construction ..	40.7	2.7	42.5	2.7	45.5	2.7	48.3	3.0
Other Businesses ..	163.9	10.8	177.1	11.2	197.8	11.9	185.0	11.4
Unclassified ..	10.0	0.7	11.0	0.7	13.7	0.8	13.5	0.8
<i>Total Business Deposits—</i>								
Companies(d) ..	320.9	21.2	367.3	23.2	383.7	23.2	337.2	20.7
Other(d) ..	662.7	43.9	668.4	42.3	688.5	41.5	653.5	40.2
<i>Total ..</i>	<i>983.6</i>	<i>65.1</i>	<i>1,035.7</i>	<i>65.5</i>	<i>1,072.2</i>	<i>64.7</i>	<i>990.7</i>	<i>60.9</i>
<i>Deposits of Public Authorities ..</i>	<i>65.3</i>	<i>4.3</i>	<i>73.4</i>	<i>4.6</i>	<i>74.6</i>	<i>4.5</i>	<i>81.8</i>	<i>5.0</i>
<i>Personal Deposits ..</i>	<i>412.9</i>	<i>27.3</i>	<i>419.6</i>	<i>26.5</i>	<i>450.9</i>	<i>27.2</i>	<i>481.4</i>	<i>29.6</i>
<i>Deposits of Non-profit Organizations ..</i>	<i>39.4</i>	<i>2.6</i>	<i>43.3</i>	<i>2.7</i>	<i>48.6</i>	<i>2.9</i>	<i>59.0</i>	<i>3.7</i>
<i>Total Resident Depositors</i>	<i>1,501.2</i>	<i>99.3</i>	<i>1,572.0</i>	<i>99.3</i>	<i>1,646.3</i>	<i>99.3</i>	<i>1,612.9</i>	<i>99.2</i>
<i>Non-resident Depositors ..</i>	<i>9.9</i>	<i>0.7</i>	<i>10.0</i>	<i>0.7</i>	<i>10.9</i>	<i>0.7</i>	<i>12.8</i>	<i>0.8</i>
<b>Total—All Depositors</b>	<b>1,511.1</b>	<b>100.0</b>	<b>1,582.0</b>	<b>100.0</b>	<b>1,657.2</b>	<b>100.0</b>	<b>1,625.7</b>	<b>100.0</b>

(a) Excludes deposits of Commonwealth and State Governments. (b) Includes Territories of Papua and New Guinea. (c) "At end of" is used for convenience. Information for individual banks or groups of banks relates to various dates around the end of the period shown. (d) The combined deposits of these two groups are distributed over the industries above.

15. Interest on Deposits: Rates—Cheque-paying Banks.—Particulars of interest rates since 1952 for fixed deposits are shown hereunder.

## BANK FIXED DEPOSIT RATES: AUSTRALIA.

(Per cent. per annum.)

Date from which Operative.	Deposits for—			
	Three Months.	Six Months.	Twelve Months.	Twenty-four Months.
29th July, 1952 .. .. .	1	1½	1½	(a) 1½
1st January, 1955 .. .. .	1½	1½	1½	2
15th March, 1956 .. .. .	2½	2½	2½	3
4th December, 1956 .. .. .	2½	2½	2½	3½
17th November, 1960 .. .. .	4(b)		4½	(c)

(a) On first £10,000; rate on amounts in excess of £10,000 was 1½ per cent. (b) Three months but less than twelve months. (c) The maximum period for fixed deposits is 12 months.

16. **Clearing House Returns—Average Weekly Clearings.**—The average weekly clearings in each capital city for the years ended June, 1957 to 1961, are shown in the following table.

## BANK CLEARINGS(a): AVERAGE WEEKLY CLEARINGS.

(£'000.)

Year ended June—	Sydney.	Melbourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Total.
1957 ..	119,381	107,563	25,571	23,042	14,927	4,237	294,721
1958 ..	124,172	114,854	25,835	24,099	15,598	4,427	308,985
1959 ..	135,387	128,870	27,227	25,299	15,786	4,893	337,462
1960 ..	167,858	156,625	34,202	30,461	19,579	6,062	414,787
1961 ..	190,929	172,942	40,263	35,773	23,255	7,122	470,284

(a) Excludes transactions connected with the issue and redemption of Treasury Bills.

17. **Debits to Customers' Accounts—Cheque-paying Banks.**—Statistics of debits to customers' accounts have been collected since September, 1945. Generally, they represent the total of all cheques drawn by the customers of the banks. In the following table, the average weekly debits to customers' accounts of all cheque-paying banks (including the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank) are shown for each State for the years ended June, 1957 to 1961. In this table, debits to accounts of Australian Governments in capital cities are excluded, as they are subject to abnormal influences and are not uniform for each State.

## ALL CHEQUE-PAYING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS.

(Excluding Debits to Australian Government Accounts in Capital Cities.)

(£'000.)

Year ended June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Total.
1957 ..	219,368	195,455	62,743	42,685	28,571	12,609	633	1,229	563,293
1958 ..	230,335	207,059	65,655	44,276	30,215	12,930	724	1,533	592,727
1959 ..	248,904	224,729	70,253	46,180	30,731	13,830	799	1,979	637,405
1960 ..	296,295	264,561	79,172	53,374	34,852	15,483	942	2,678	747,357
1961 ..	322,466	282,936	81,901	58,011	37,839	16,236	1,020	3,363	803,772

18. **Rates of Exchange.**—(i) *Overseas Exchange Rates.* In the following table, the par of exchange (based on par values agreed with the International Monetary Fund) and average telegraphic transfer selling rates of exchange for Sydney on a number of overseas countries are shown. Generally, the averages, which are averages of daily quotations, are based on rates quoted by the Commonwealth Trading Bank, but where these were not available rates issued by the Department of Customs and Excise have been used.

**OVERSEA EXCHANGE RATES: PAR OF EXCHANGE AND AVERAGE TELEGRAPHIC TRANSFER SELLING RATES FOR SYDNEY ON OVERSEA COUNTRIES.**

Country.	Basis of Quotation.	Par of Exchange.(a)	Selling Rate 1960-61.	Country.	Basis of Quotation.	Par of Exchange.(a)	Selling Rate 1960-61.
Belgium ..	Francs to £A.1 ..	112.000	110.740	Japan ..	Yen to £A.1 ..	806.400	798.150
Canada ..	Dollars to £A.1 ..	(b)	2.195	Netherlands ..	Guilders to £A.1 ..	8.512	8.266
Ceylon ..	Pence A. to Rupee	22.500	22.797	New Zealand ..	£A to £NZ.100 ..	(c)	124.538
Denmark ..	Kroner to £A.1 ..	15.472	15.330	Norway ..	Kroner to £A.1 ..	16.000	15.850
Egypt ..	Piastres to £A.1 ..	78.006	77.490	Pakistan ..	Pence A. to Rupee	22.500	22.719
Fiji ..	£A. to £F.100 ..	112.613	113.000	Portugal ..	Escudos to £A.1 ..	(c)	63.890
Finland ..	Markka to £A.1 ..	716.800	712.960	Singapore ..	Pence A. to Dollar	35.000	35.380
France ..	New Francs to £A.1	11.059	10.902	South Africa ..	Rands to £A.1(d)	1.594	1.590
French Oceania	Francs to £A.1 ..	(b)	196.000	Sweden ..	Kronor to £A.1 ..	11.588	11.476
Germany, Fed.	Deutschemarks to			Switzerland ..	Francs to £A.1 ..	(c)	9.625
Rep. of ..	£A.1 ..	9.408	9.132	United Kingdom	£A. to £Eng.100	125.500	125.500
Hong Kong ..	Pence A. to Dollar	18.750	18.875	United States of			
India ..	Pence A. to Rupee	22.500	22.719	America ..	Dollars to £A.1 ..	2.240	2.232
Indonesia ..	Rupiahs to £A.1	(c)	100.390	U.S.S.R. ..	Roubles to £A.1	(c)	5.565
Italy ..	Lira to £A.1 ..	(b)	1,379.000				

(a) As at 30th June, 1961, established under International Monetary Fund Agreement. (b) No par value established. (c) Not a member of International Monetary Fund. (d) Unit of currency changed on 15th February, 1961, on basis of £S.A.1 = 2 Rands.

(ii) *Interstate Exchange Rates.* Exchange rates between the capital cities and towns of each of the States and other States or parts thereof at 30th June, 1961, are shown below. Rates varied from 2s. per £100 between the nearer locations to 10s. per £100 between those more widely separated.

**INTERSTATE BANK EXCHANGE RATES, 30th JUNE, 1961.(a)**  
(s. d. per £100.)

Between—	And—						
	New South Wales.	Victoria.	Brisbane and adjacent towns.	South Australia.	Perth and all but distant towns.	Tasmania.	Aust. Cap. Terr.
Sydney and New South Wales towns	..	2 6	2 6	5 0	7 6	5 0	2 0
Melbourne and Victorian towns ..	2 6	..	5 0	2 6	5 0	2 6	2 0
Brisbane and adjacent towns ..	2 6	5 0	..	7 6	10 0	7 6	2 6
Adelaide and South Australian towns	5 0	2 6	7 6	..	2 6	5 0	5 0
Perth and all but distant towns ..	7 6	5 0	10 0	2 6	..	7 6	7 6
Hobart and Tasmanian towns ..	5 0	2 6	7 6	5 0	7 6	..	5 0
Australian Capital Territory ..	2 0	2 0	2 6	5 0	7 6	5 0	..

(a) Unchanged since 1st January, 1940.

There is no charge for transfers within a city or a town. In all States except Queensland and Western Australia, the exchange for transfers between towns in the same State is 2s. per £100. Queensland and Western Australia are divided into zones. The exchange rate for transfers between towns in the same zone is 2s. per £100, with higher rates for inter-zone transfers.

The exchange rate between the Territories of Papua and New Guinea and the mainland is 10s. per £100 for all points.

## § 2. Savings Banks.

1. *General.*—For information as to the origin of savings banks in Australia and the facilities currently available, see Official Year Book No. 46, page 779 and earlier issues.

During 1956, four new savings banks, the Bank of New South Wales Savings Bank Ltd., the Australia and New Zealand Savings Bank Ltd., the C.B.C. Savings Bank Ltd., and The Rural and Industries Bank of Western Australia, were established. Three of these are associated with and operate from the same premises as existing private trading banks, and the other is a division of a State bank—The Rural and Industries Bank of Western Australia. Savings banks operating at 30th June, 1961, were—the Commonwealth Savings Bank and the Australian and New Zealand Savings Bank Ltd. (in all States and Territories), the Bank of New South Wales Savings Bank Ltd. (in all States and Territories except South Australia and Tasmania), the C.B.C. Savings Bank Ltd. (in all States except South Australia and Tasmania, and in the Australian Capital Territory), The State Savings Bank of Victoria, The Savings Bank of South Australia, The Rural and Industries Bank of Western Australia, and the two trustee banks, The Launceston Bank for Savings and The Hobart Savings Bank.

All savings banks, including trustee savings banks but not State savings banks, are subject to the Banking Act 1959. Details of this Act and the special provisions applying to savings banks are given in Official Year Book No. 46, pages 759-60.

2. **Branches and Agencies.**—The number of branches and agencies in Australia of the various savings banks at 30th June, 1961, are given in the following table.

**ALL SAVINGS BANKS: NUMBER OF BRANCHES AND AGENCIES AT 30th JUNE, 1961.**

Bank.	Branches.	Agencies.
Commonwealth Savings Bank .. .. .	723	6,825
Australia and New Zealand Savings Bank Ltd. .. .. .	498	598
Bank of New South Wales Savings Bank Ltd. .. .. .	697	1,679
C.B.C. Savings Bank Ltd. .. .. .	384	82
The State Savings Bank of Victoria .. .. .	387	632
The Savings Bank of South Australia .. .. .	101	629
The Rural and Industries Bank of Western Australia .. .. .	40	213
The Launceston Bank for Savings .. .. .	21	46
The Hobart Savings Bank .. .. .	20	20
<b>Total .. .. .</b>	<b>2,871</b>	<b>10,724</b>

3. **Number of Operative Accounts.**—The following table shows the number of operative savings bank accounts in existence at the end of June, 1960 and 1961. It should be noted that these figures relate to the number of accounts and not necessarily to the number of depositors.

**ALL SAVINGS BANKS: NUMBER OF OPERATIVE ACCOUNTS.(a)**

State or Territory.	At end of June—	
	1960.	1961.
New South Wales .. .. .	3,013,260	3,151,362
Victoria .. .. .	2,691,561	2,822,324
Queensland .. .. .	1,140,200	1,187,322
South Australia .. .. .	930,812	962,673
Western Australia .. .. .	550,966	577,619
Tasmania .. .. .	310,844	316,794
Northern Territory .. .. .	15,126	16,645
Australian Capital Territory .. .. .	34,554	38,816
<b>Total .. .. .</b>	<b>8,687,323</b>	<b>9,073,555</b>

(a) Excludes school bank accounts and inoperative accounts, i.e., accounts of less than £1 which have not been operated on for more than two years.

4. **Business Transacted.**—The following table shows details of the business transacted in Australia by savings banks during the years ended 30th June, 1960 and 1961.

**ALL SAVINGS BANKS: BUSINESS TRANSACTED IN AUSTRALIA.**  
(£'000.)

State or Territory.	Year ended June, 1960.				Year ended June, 1961.			
	Deposits During Year.	Withdrawals During Year.	Interest Added to Accounts During Year.	Amount on Deposit at end of June, 1960.	Deposits During Year.	Withdrawals During Year.	Interest Added to Accounts During Year.	Amount on Deposit at end of June, 1961.
New South Wales .. .. .	599,007	559,792	14,084	541,572	670,234	658,632	15,977	569,151
Victoria .. .. .	620,055	591,828	12,911	499,592	819,789	816,158	14,245	517,468
Queensland .. .. .	207,595	196,470	4,808	182,586	219,682	220,487	5,350	187,131
South Australia .. .. .	181,495	177,473	4,824	165,998	190,260	194,716	5,201	166,743
Western Australia .. .. .	91,678	86,600	2,046	78,623	96,167	96,331	2,253	80,712
Tasmania .. .. .	42,046	39,451	1,298	46,355	45,028	45,429	1,434	47,388
Northern Territory .. .. .	3,846	3,565	62	2,582	4,247	4,175	72	2,726
Australian Capital Territory .. .. .	8,595	7,935	136	5,396	10,626	10,055	165	6,132
<b>Total .. .. .</b>	<b>1,754,317</b>	<b>1,663,114</b>	<b>40,169</b>	<b>1,522,704</b>	<b>2,056,033</b>	<b>2,045,983</b>	<b>44,697</b>	<b>1,577,451</b>

5. Depositors' Balances.—The amount at credit of depositors' accounts and the average per head of population for each State and Territory at the end of June, 1957 to 1961, are shown in the following table.

## ALL SAVINGS BANKS: DEPOSITORS' BALANCES IN AUSTRALIA.

At end of June.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	A.C.T.	Australia.
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## COMMONWEALTH SAVINGS BANK.

(£'000.)

1957..	363,406	114,542	129,816	33,590	53,697	15,252	4,470		714,773
1958..	367,439	117,805	132,545	35,222	53,613	16,119	4,820		727,563
1959..	380,962	122,577	138,924	37,374	54,987	17,020	5,364		757,208
1960..	402,398	131,243	145,706	39,763	57,078	18,175	5,953		800,316
1961..	413,439	133,672	146,832	39,407	56,966	18,197	6,612		815,125

## STATE SAVINGS BANKS.

(£'000.)

1957..	..	266,276	..	108,811	2,302	..	..	..	377,389
1958..	..	272,807	..	113,636	3,507	..	..	..	389,950
1959..	..	281,296	..	119,778	4,471	..	..	..	405,545
1960..	..	298,107	..	123,930	5,793	..	..	..	427,830
1961..	..	308,244	..	124,305	6,564	..	..	..	439,113

## TRUSTEE SAVINGS BANKS: HOBART AND LAUNCESTON.

(£'000.)

1957..	..	..	..	..	..	23,507	..	..	23,507
1958..	..	..	..	..	..	24,122	..	..	24,122
1959..	..	..	..	..	..	25,442	..	..	25,442
1960..	..	..	..	..	..	27,257	..	..	27,257
1961..	..	..	..	..	..	27,969	..	..	27,969

## PRIVATE SAVINGS BANKS.

(£'000.)

1957..	58,778	30,751	14,792	..	6,694	..	726		111,741
1958..	81,579	43,019	20,699	..	8,828	..	1,083		155,208
1959..	107,311	54,581	27,729	..	12,041	..	1,475		203,137
1960..	139,174	70,242	36,880	2,305	15,752	923	2,025		267,301
1961..	155,712	75,552	40,299	3,031	17,182	1,222	2,246		295,244

## ALL SAVINGS BANKS.

(£'000.)

1957..	422,184	411,569	144,608	142,401	62,693	38,759	1,894	3,302	1,227,410
1958..	449,018	433,631	153,244	148,858	65,948	40,241	2,098	3,805	1,296,843
1959..	488,273	458,454	166,653	157,152	71,499	42,462	2,239	4,600	1,391,332
1960..	541,572	499,592	182,586	165,998	78,623	46,355	2,582	5,396	1,522,704
1961..	569,151	517,468	187,131	166,743	80,712	47,388	2,726	6,132	1,577,451

## PER HEAD OF POPULATION.

(£. s. d.)

1957..	116	9	4	154	18	10	102	6	8	163	1	9	91	3	6	118	16	11	89	18	7	87	4	1	127	6	5
1958..	121	12	5	159	10	3	106	9	7	165	19	9	94	5	5	120	16	5	94	18	11	92	8	7	131	15	3
1959..	129	17	4	164	11	3	113	10	1	170	13	0	100	8	2	125	2	4	92	18	11	99	17	0	138	7	0
1960..	141	6	3	174	16	0	122	1	1	175	12	0	108	17	8	134	15	9	100	19	4	103	0	10	148	3	11
1961..	145	6	1	176	11	11	123	4	1	172	0	8	109	11	5	135	5	4	100	8	11	104	4	9	150	2	4

6. Cheque Accounts.—At most savings banks, cheque accounts are available to non-profit organizations such as friendly, co-operative and charitable societies. Similar facilities are also available to other depositors at the State Savings Bank of Victoria. Details of the transactions on these accounts during the year ended June, 1961 (excluding the Savings Bank of South Australia), together with the number of operative accounts and the amount on deposit at the end of June, 1961, were as follows:—Deposits during the year, £453,758,692; withdrawals during the year, £452,819,295; interest added during the year, £810,135, number of operative accounts at the end of year, 193,378; amount on deposit at end of year, £43,884,011. These figures are included in the statistics in previous paragraphs.



7. **School Banking.**—With the object of encouraging principles of thrift among children, agencies of the savings banks have been established at most of the schools throughout Australia. Particulars of operative accounts within Australia at the end of June, 1957 to 1961, appear below.

**SCHOOL SAVINGS BANKS: AUSTRALIA.**

At end of June—				Number of School Agencies.	Number of Operative Accounts.	Deposits.	Deposits per Operative Account.		
							£	£	s.
1957..	..	..	..	8,294	895,139	6,429,490	7	3	8
1958..	..	..	..	8,650	986,758	6,924,422	7	0	4
1959..	..	..	..	8,856	1,050,742	7,479,254	7	2	4
1960..	..	..	..	9,042	1,118,101	8,154,973	7	5	10
1961..	..	..	..	9,225	1,165,516	8,658,753	7	8	7

8. **Assets.**—The assets within Australia of all Savings Banks as at the end of June, 1960 and 1961, are given in the following table.

**ALL SAVINGS BANKS: ASSETS WITHIN AUSTRALIA.(a)**  
(£'000.)

Particulars.	At end of June—	
	1960.	1961.
Coin, Bullion and Australian Notes .. .. .	2,888	4,336
Deposits with Reserve Bank .. .. .	133,258	135,683
Deposits in Australia with Trading Banks .. .. .	54,925	47,441
Australian Public Securities (including Treasury Bills and Seasonal Securities)—		
Commonwealth and States .. .. .	793,829	789,332
Local and Semi-Governmental Authorities .. .. .	285,296	312,235
Loans to Authorized Dealers in the Short-term Money Market	1,675	7,625
Cheques and Bills of other Banks and Balances with and due from other Banks .. .. .	342	231
Loans, Advances and Bills Discounted—		
Housing .. .. .	277,339	312,144
Other .. .. .	23,549	26,685
Bank Premises, Furniture and Sites .. .. .	18,231	21,282
Bills Receivable and all other Assets .. .. .	4,849	5,036
<b>Total .. .. .</b>	<b>1,596,181</b>	<b>1,662,030</b>

(a) Includes assets in Territories of Papua, New Guinea and Norfolk Island.

9. **War Savings and Savings Certificates.**—Sales of savings certificates and stamps under the War Savings and Savings Certificate schemes, particulars of which were given in earlier issues of the Official Year Book (see No. 37, page 586), were discontinued after 31st January, 1949, except for some sales made to wind up savings groups, etc. The total value of savings certificates outstanding at 30th June in each of the last five years was:—1957, £20,043,000; 1958, £16,004,000; 1959, £10,633,000; 1960, £8,205,000; 1961, £5,989,000.

10. **Commonwealth Savings Bank of Australia.**—(i) *General.* The Commonwealth Savings Bank of Australia was established as a separate institution on 9th June, 1928, having functioned previously as a department of the Commonwealth Bank (for particulars of the origin of the Savings Bank Department and the extension of its services see Official Year Book No. 46, page 783 and earlier issues of this Year Book). It has since then operated independently, publishing its own balance-sheets and profit and loss accounts. The Commonwealth Bank Act 1927, which provided for the establishment of the Commonwealth Savings Bank as a separate institution, provided for a Commission of three members to manage the savings bank. This Commission was never appointed, and the Commonwealth Bank Act 1945 placed the control of the Commonwealth Savings Bank under the Governor of the Commonwealth Bank. Under the provisions of the Commonwealth Banks Act 1959, which came into operation on 14th January, 1960, the Commonwealth Savings Bank was maintained in the same form, but was placed under the control

of the Commonwealth Banking Corporation (see also para. 6, page 771. Under the Banking Act 1959, the Commonwealth Savings Bank is subject to the same conditions as apply to the private savings banks and the trustee savings banks.

(ii) *Balance-sheet, 30th June, 1960 and 1961.* Particulars of the liabilities and assets of the Commonwealth Savings Bank as at 30th June, 1960 and 1961, are as follows.

**COMMONWEALTH SAVINGS BANK(a): LIABILITIES AND ASSETS, 30th JUNE, 1960 AND 1961.**  
(£'000.)

Liabilities.	1960.	1961.	Assets.	1960.	1961.
Reserve Fund ..	10,839	11,425	Coin, Bullion and Australian Notes ..	1,119	1,335
Depositors' Balances ..	807,121	822,399	Deposits with Reserve Bank ..	88,525	88,450
Bills payable and all other Liabilities .. ..	24,357	30,424	Deposits in Australia with Trading Banks ..	10,261	11,731
			Australian Public Securities (including Treasury Bills)—		
			Commonwealth and States .. ..	495,935	492,616
			Local and Semi-Governmental Authorities .. ..	88,924	95,682
			Other Public Securities	996	934
			Loans to Authorized Dealers in the Short-term Money Market	825	3,280
			Loans and Advances (after deducting provisions for Debts considered bad or doubtful) .. ..	136,096	148,394
			Bank Premises ..	11,537	13,146
			Bills Receivable and all other Assets ..	8,099	8,680
<b>Total .. ..</b>	<b>842,317</b>	<b>864,248</b>	<b>Total .. ..</b>	<b>842,317</b>	<b>864,248</b>

(a) Includes branches in London, the Territories of Papua, New Guinea, and Norfolk Island, and the British Solomon Islands.

(iii) *Profits.* Under the terms of the Savings Bank Amalgamation Agreements relative to the absorption of the State savings banks by the Commonwealth Bank, the profits of the Commonwealth Savings Bank in New South Wales, Queensland, Western Australia and Tasmania are equally divided between the Bank and the former controlling authorities in those States. Net profits for the years ended 30th June, 1957 to 1961, and the distribution of those profits, are shown in the following table.

**COMMONWEALTH SAVINGS BANK: DISTRIBUTION OF PROFITS.**

(£.)

Year ended 30th June—	Total Profit.	Payments to State Authorities under Savings Bank Amalgamation Agreements.	Net Profit.	Distribution of Net Profit.	
				Commonwealth of Australia.	Savings Bank Reserve Fund.
1957 .. ..	890,419	310,033	580,386	290,193	290,193
1958 .. ..	1,415,722	540,796	874,926	437,463	437,463
1959 .. ..	1,302,708	486,836	815,872	407,936	407,936
1960 .. ..	1,585,127	560,931	1,024,196	512,098	512,098
1961 .. ..	1,814,928	642,108	1,172,820	586,410	586,410

11. State Savings Banks.—(i) *General.* State savings banks at present operating (with date of establishment shown in parentheses) are: The State Savings Bank of Victoria (1841); The Savings Bank of South Australia (1848); The Rural and Industries Bank of Western Australia (1956).

(ii) *Assets.* The assets of the State savings banks, excluding the Rural and Industries Bank of Western Australia, as at the date of their respective balance sheets, are shown in the following table.

STATE SAVINGS BANKS: ASSETS AT 30th JUNE, 1960 AND 1961.  
(£'000.)

Particulars.	1961.			1960.
	The State Savings Bank of Victoria including Crédit Foncier Dept.	The Savings Bank of South Australia.	Total.	Total.
Cash, Cash and Fixed Deposits with other Banks .. .. .	31,268	15,477	46,745	51,722
Government Securities (including Treasury Bills) .. .. .	103,122	52,459	155,581	159,600
Local and Semi-Governmental Securities ..	96,764	28,948	125,712	120,828
Mortgages .. .. .	89,544	33,781	123,325	109,136
Landed and House Property .. .. .	4,700	1,975	6,675	5,445
All other Assets .. .. .	6,004	1,180	7,184	4,960
<b>Total .. .. .</b>	<b>331,402</b>	<b>133,820</b>	<b>465,222</b>	<b>(a)451,691</b>

(a) Details were: State Savings Bank of Victoria (including Crédit Foncier Department), £318,678,000, The Savings Bank of South Australia, £133,013,000.

(iii) *Profit and Loss Accounts.* Details of the profit and loss accounts of the State savings banks included in the table above are given below for the years 1960 and 1961.

STATE SAVINGS BANKS: PROFIT AND LOSS ACCOUNTS, YEARS ENDED  
30th JUNE, 1960 AND 1961.  
(£'000.)

Particulars.	1961.			1960.
	The State Savings Bank of Victoria including Crédit Foncier Department.	The Savings Bank of South Australia.	Total.	Total.
<b>Receipts—</b>				
Total—Interest, Dividends, Rents, and all other .. .. .	15,057	5,695	20,752	18,994
<b>Expenditure—</b>				
Interest allotted to Depositors including provision for accrued interest ..	8,802	4,031	12,833	11,782
Expenses of Management and all other Expenditure .. .. .	5,624	1,363	6,987	6,444
<b>Total .. .. .</b>	<b>14,426</b>	<b>5,394</b>	<b>19,820</b>	<b>18,226</b>
Profit for year .. .. .	631	301	932	768
Balance of profit and loss account brought forward .. .. .	158	169	327	329
<b>Total .. .. .</b>	<b>789</b>	<b>470</b>	<b>1,259</b>	<b>1,097</b>
<b>Distribution of Profits—</b>				
Amount written off Bank Premises ..	20	(a)	(b) 20	(b) 133
Amount carried to Reserves and Depreciation Funds .. .. .	601	300	901	637
Balance of Profit and Loss Account carried forward .. .. .	168	170	338	327

(a) Not available, included with expenses of management, &c.

(b) Incomplete.

12. *Trustee Savings Banks, Hobart and Launceston.*—(i) *General.* Two Trustee Savings Banks, Hobart and Launceston, operate within Tasmania. These banks commenced business in 1845 and 1835 respectively. Under the Banking Act 1959, they are subject to the same conditions as apply to the Commonwealth Savings Bank and the private savings banks.

(ii) *Assets.* The assets of the Trustee Savings Banks as at 31st August, 1960 and 1961, are set out in the following table.

**TRUSTEE SAVINGS BANKS: ASSETS AT 31st AUGUST, 1960 AND 1961.**

(£'000.)

Particulars.	1961.			1960.
	The Hobart Savings Bank.	The Launceston Bank for Savings.	Total.	Total.
Cash, Cash and Fixed Deposits with other Banks	1,313	1,433	2,746	2,939
Government Securities (including Treasury Bills)	3,065	3,834	6,899	7,518
Local and Semi-Governmental Securities ..	7,389	4,129	11,518	11,006
Mortgages .. .. .	3,751	4,158	7,909	7,408
Landed and House Property .. .. .	463	260	723	632
All other Assets .. .. .	467	487	954	601
<b>Total .. .. .</b>	<b>16,448</b>	<b>14,301</b>	<b>30,749</b>	<b>(a) 30,104</b>

(a) Separate details were: The Hobart Savings Bank, £16,205,000 and the Launceston Bank for Savings, £13,899,000.

(iii) *Profit and Loss Accounts.* Details of the profit and loss accounts of the Trustee Savings Banks for the years ended 31st August, 1960 and 1961, are given below.

**TRUSTEE SAVINGS BANKS: PROFIT AND LOSS ACCOUNTS, YEARS ENDED 31st AUGUST, 1960 AND 1961.**

(£'000.)

Particulars.	1961.			1960.
	The Hobart Savings Bank.	The Launceston Bank for Savings.	Total.	Total.
<i>Receipts—</i>				
Total—Interest, Dividends, Rents and all other .. .. .	749	640	1,389	1,274
<i>Expenditure—</i>				
Interest allotted to Depositors .. .. .	505	432	937	840
Expenses of Management .. .. .	175	159	334	311
All other Expenditure .. .. .	5	..	5	4
<b>Total .. .. .</b>	<b>685</b>	<b>591</b>	<b>1,276</b>	<b>1,155</b>
Profit for Year .. .. .	64	49	113	119
Balance of Profit and Loss Account brought forward .. .. .	54	54	108	108
<b>Total .. .. .</b>	<b>118</b>	<b>103</b>	<b>221</b>	<b>227</b>
<i>Distribution of Profits—</i>				
Amount written off Bank Premises ..	14	7	21	42
Amount carried to Reserves and Depreciation Fund .. .. .	50	42	92	77
Balance of Profit and Loss Account carried forward .. .. .	54	54	108	108

13. **Private Savings Banks.**—(i) *General.* The Bank of New South Wales Savings Bank Ltd. and the Australia and New Zealand Savings Bank Ltd. commenced business on 19th January, 1956, and the C.B.C. Saving Bank Ltd. on 16th July, 1956. Each of these Savings Banks is subject to the provisions of the Banking Act 1959.

(ii) *Assets.* The assets of the private savings banks as at the date of their respective balance-sheets are shown in the following table.

PRIVATE SAVINGS BANKS: ASSETS, 1960 AND 1961.  
(£'000.)

Particulars.	1961.				1960.
	The Australia and New Zealand Savings Bank Ltd. (a)	The Bank of New South Wales Savings Bank Ltd. (a)	C.B.C. Savings Bank Ltd. (b)	Total.	Total.
Cash at Bankers—					
Reserve Bank .. .. .	8,930	17,550	4,957	31,437	28,828
Other Banks .. .. .	3,486	5,877	2,585	11,948	13,134
Government Securities—					
Treasury Bills .. .. .	..	200	200	400	749
Other .. .. .	37,245	69,989	26,480	133,714	131,591
Local and Semi-Governmental Securities .. .. .	26,503	43,743	9,021	79,267	68,517
Loans and Advances (including accrued interest and other accounts) .. .. .	18,181	43,276	9,536	70,993	55,155
<b>Total .. .. .</b>	<b>94,345</b>	<b>180,635</b>	<b>52,779</b>	<b>327,759</b>	<b>c 297,974</b>

(a) At 30th September. (b) At 30th June. (c) Separate details were:—The Australia and New Zealand Savings Bank Ltd., £88,625,000; the Bank of New South Wales Savings Bank Ltd., £162,246,000; C.B.C. Savings Bank Ltd., £47,103,000.

(iii) *Profit and Loss.* The net profit of the three private savings banks, after allowing for all expenses and providing for reserves and contingencies, etc., for the year ended 30th June, 1961, in respect of the C.B.C. Savings Bank Ltd. and the year ended 30th September, 1961, for the other banks, was (1960 figures in parentheses):—The Australia and New Zealand Savings Bank Ltd., £238,963 (£251,270); The Bank of New South Wales Savings Bank Ltd., £348,851 (£309,749); C.B.C. Savings Bank Ltd., £172,371 (£160,755); total, £760,185 (£721,774).

14. **Classification of Depositors' Balances.**—The classification of deposits published by savings banks does not permit a fully detailed analysis with respect to Australia as a whole, but the classification of deposits as at 30th June, 1957 to 1961, of the combined State Savings Banks of Victoria and South Australia, is shown below.

STATE SAVINGS BANKS: CLASSIFICATION OF DEPOSITS.  
(Per cent.)

At 30th June—	£500 and under.	£501—£1,000.	Over £1,000.
1957 .. .. .	38.43	28.83	32.74
1958 .. .. .	37.64	28.03	34.33
1959 .. .. .	36.99	26.05	36.96
1960 .. .. .	36.43	24.24	39.33
1961 .. .. .	(a)	(b)59.66	40.34

(a) Not available separately.

(b) £1—£1,000.

15. Rates of Interest on Deposits.—The following table shows the rates of interest allowed by Savings Banks at the 30th June, 1957 to 1961.

## SAVINGS BANKS: INTEREST RATES ON DEPOSITS.

(Per cent. per annum.)

Particulars.	Interest Rates at 30th June—				
	1957.	1958.	1959.	1960.	1961.
Commonwealth Savings Bank, State Savings Bank of Victoria, Bank of New South Wales Savings Bank Ltd., Australia and New Zealand Savings Bank Ltd., C.B.C. Savings Bank Ltd.—					
Ordinary Accounts(a)—					
£1 to £1,000 .. .. .	2½	2½	3	3	3½
£1,001 to £1,500 .. .. .	1½	1½	3	3	3½
£1,501 to £2,000 .. .. .	Nil	Nil	3	3	3½
£2,001 to £2,500 .. .. .	Nil	Nil	Nil	Nil	3½
Friendly and other Society Accounts—					
£1 to £2,000 .. .. .	2½	2½	3	3	3½
£2,001 to £2,500 .. .. .	1½	1½	1½	1½	3½
£2,501 and over .. .. .	1½	1½	1½	1½	1½
Deposit Stock(a)(b)—					
£10 to £1,000 .. .. .	2½	2½	3½	3½	4
Rural and Industries Bank of Western Australia—					
Ordinary Accounts(a)—					
£1 to £1,000 .. .. .	2½	2½	3	3	3½
£1,001 to £1,500 .. .. .	1½	1½	3	3	3½
£1,501 to £2,000 .. .. .	Nil	Nil	3	3	3½
£2,001 to £2,500 .. .. .	Nil	Nil	Nil	Nil	3½
Friendly and other Society Accounts—					
£1 to £2,000 .. .. .	2½	2½	3	3	3½
£2,001 to £2,500 .. .. .	1½	1½	1½	1½	3½
£2,501 and over .. .. .	1½	1½	1½	1½	2
Savings Bank of South Australia—					
Ordinary Accounts(a)—					
£1 to £1,500 .. .. .	2½	2½	3½	3½	3½
£1,501 to £2,000 .. .. .	Nil	Nil	3½	3½	3½
£2,001 to £2,500 .. .. .	Nil	Nil	Nil	Nil	3½
Friendly and other Society Accounts—					
£1 to £500 .. .. .	2½	3	3½	3½	3½
£501 to £2,000 .. .. .	2½	2½	3½	3½	3½
£2,001 to £2,500 .. .. .	1½	1½	1½	1½	3½
£2,501 and over .. .. .	1½	1½	1½	1½	2
Deposit Stock(a)—					
£10 to £2,000 .. .. .	2½	3	3½	3½	4
£2,001 to £2,500 .. .. .	Nil	Nil	Nil	Nil	4
Trustee Savings Banks—Hobart and Launceston—					
Ordinary Accounts(a)—					
£1 to £500 .. .. .	3	3	3½	3½	3½
£501 to £1,500 .. .. .	1½	1½	3½	3½	3½
£1,501 to £2,000 .. .. .	Nil	Nil	Nil	3½	3½
£2,001 to £2,500 .. .. .	Nil	Nil	Nil	Nil	3½
Friendly and other Society Accounts—					
£1 to £500 .. .. .	3	3	3½	3½	3½
£501 to £1,500 .. .. .	1½	1½	3½	3½	3½
£1,501 to £2,000 .. .. .	1½	1½	1½	3½	3½
£2,001 to £2,500 .. .. .	1½	1½	1½	1½	3½
£2,501 and over .. .. .	1½	1½	1½	1½	1½

(a) No interest is payable on amounts in excess of the maximum amount shown.

(b) State Savings Bank of Victoria only.

## C. REGISTERED BUILDING AND CO-OPERATIVE SOCIETIES.

## § 1. Registered Building Societies.

1. Summary.—During 1959 and 1960, returns were received from 1,454 and 1,571 societies respectively, but the information was not exhaustive, as particulars regarding a number of organizations were not included. In the following table, general information is given relating to the societies in each State for the year 1959–60 and to the combined States for 1958–59.

## REGISTERED BUILDING SOCIETIES: SUMMARY, 1958-59 AND 1959-60.

Particulars.	1959-60.							1958-59.
	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.	Total.
Societies making returns—								
Permanent .. No.	140	24	9	25	8	6	212	207
Terminating .. No.	1,277	..	50	..	12	20	1,359	1,247
<b>Total .. No.</b>	<b>1,417</b>	<b>24</b>	<b>59</b>	<b>25</b>	<b>20</b>	<b>26</b>	<b>1,571</b>	<b>1,454</b>
Shareholders .. No.	143,547	12,017	35,822	24,847	27,707	9,905	253,845	248,283
Borrowers .. No.	(b)	16,645	16,710	4,994	6,493	3,913	(b)	(b)
Working expenses ..	(£'000.) 1,450	(£'000.) 1,017	(£'000.) 305	(£'000.) 74	(£'000.) 87	(£'000.) 52	(£'000.) 2,985	(£'000.) 2,626
Loans granted ..	20,560	4,689	4,889	1,157	2,710	1,357	35,362	32,554

(a) Year 1959; excludes Co-operative Housing Societies, for details of which see para. 3.  
 (b) Not available.

2. Liabilities and Assets.—Particulars of liabilities and assets in 1959-60 of the societies mentioned in the previous paragraph are shown below, with totals for 1958-59.

## REGISTERED BUILDING SOCIETIES: LIABILITIES, 1958-59 AND 1959-60.

(£'000.)

State.	1959-60.					1958-59.
	Investing Members' Funds.	Borrowing Members' Funds.	Deposits.	Bank Overdrafts and Other Liabilities.	Total Liabilities.	Total Liabilities.
New South Wales	20,301	31,492	1,752	105,772	159,317	149,382
Victoria(a) ..	4,742	..	5,070	(b) 10,674	20,486	17,820
Queensland ..	9,408	847	261	4,493	15,009	11,928
South Australia ..	2,867	..	580	1,265	4,712	3,938
Western Australia	3,831	236	1,926	3,141	9,134	7,393
Tasmania ..	2,002	21	1,961	1,271	5,255	4,547
<b>Total ..</b>	<b>43,151</b>	<b>32,596</b>	<b>11,550</b>	<b>126,616</b>	<b>213,913</b>	<b>195,008</b>

(a) Years 1960 and 1959.

(b) Includes balances of Profit and Loss Accounts, £45,000.

## REGISTERED BUILDING SOCIETIES: ASSETS, 1958-59 AND 1959-60.

(£'000.)

State.	1959-60.			1958-59.
	Advances on Mortgage. (a)	Other Assets.	Total Assets.	Total Assets.
New South Wales .. .. .	155,888	3,429	159,317	149,382
Victoria(b) .. .. .	19,256	1,230	20,486	17,820
Queensland .. .. .	14,340	669	15,009	11,928
South Australia .. .. .	4,326	386	4,712	3,938
Western Australia .. .. .	8,837	297	9,134	7,393
Tasmania .. .. .	4,827	428	5,255	4,547
<b>Total .. .. .</b>	<b>207,474</b>	<b>6,439</b>	<b>213,913</b>	<b>195,008</b>

(a) Includes advances on mortgages of terminating societies which are on a gross basis. Net advances may be derived by subtracting the liability item "Borrowing Members' Funds". See preceding page.  
 (b) Years 1960 and 1959.

3. Co-operative Housing Societies, Victoria.—In addition to the information shown above, the following details of co-operative housing societies in Victoria have been extracted from the Annual Reports of the Registrar of Co-operative Housing Societies. At 30th June, 1960 (1959 in parentheses), 518 (482) co-operative housing societies were registered in Victoria with 36,641 (34,828) members who had subscribed for 1,544,714 (1,418,663) shares, giving a nominal share capital subscribed of £79,914,179 (£72,850,785). For the twelve months ended 30th April, 1960 (1959), returns were submitted by 494 (460) societies, the total income of those societies being £430,725 (£357,475) and total expenditure, £372,846 (£318,646). The liabilities at 30th April, 1960 (1959), of the societies submitting returns were:—bank or other loans £53,156,151 (£47,290,197), subscriptions £8,851,046 (£7,689,078), surplus interest and management expenses £847,099 (£670,189), other liabilities £2,320,360 (£1,892,399), total liabilities £65,174,656 (£57,541,863). Assets at the same date consisted of:—advances £64,819,623 (£57,273,561), other assets £355,033 (£268,302), total assets £65,174,656 (£57,541,863).

## § 2. Co-operative Societies.

Co-operative societies are divided into three classes—(i) those engaged in the manufacture and marketing of primary products and trade requirements; (ii) those engaged in retailing general household requirements; and (iii) those engaged in activities covered by both classes (i) and (ii). The first class may be described briefly as Producers' Co-operative Societies and the second as Consumers' Co-operative Societies. The particulars given for New South Wales relate to societies registered under the Co-operation Act 1923-1954. A summary of the business of all co-operative societies for the years 1959-60 or 1960 for all States except Western Australia is given in the following tables. Separate particulars for each of the three types of Co-operative Societies are given in the annual bulletin *Finance, Part I.—Public and Private Finance*, and issue No. 51, 1959-60, contains details for 1958-59 or 1959.



## CO-OPERATIVE SOCIETIES.

Particulars.	N.S.W. 1959-60.	Victoria 1959-60.	Queensland 1959-60.	S. Australia 1960.	Tasmania 1959-60.
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## SUMMARY.

Societies .. .. .	No.	312	118	165	69	15
Branches .. .. .	"	(a)	(a)	115	(a)	16
Members .. .. .	"	234,496	74,659	128,118	116,645	4,979
		(£'000.)	(£'000.)	(£'000.)	(£'000.)	(£'000.)
Gross Turnover (Sales) .. .. .		129,896	33,170	61,253	16,964	3,009
Other Income .. .. .		731	1,570	1,429	1,217	755
Total Income .. .. .		130,627	34,740	62,682	18,181	3,764
Total Purchases .. .. .			26,933	47,277	13,575	2,413
Other Expenditure .. .. .		125,337	6,891	12,963	3,978	858
Total Expenditure .. .. .		125,337	33,824	60,240	17,553	3,271
Rebates and Bonuses .. .. .		2,399	316	795	776	4
Dividends on Share Capital .. .. .		523	296	147	120	35

## LIABILITIES.

(£'000.)

Paid-up Capital .. .. .		11,788	4,653	7,423	2,270	618
Loan Capital .. .. .			1,023	5,866	3,316	543
Bank Overdrafts .. .. .		6,487	2,195	5,339	1,472	293
Accumulated Profits .. .. .			882	1,340	650	100
Reserve Funds .. .. .		8,055	4,655	6,430	1,752	45
Sundry Creditors .. .. .			3,919	9,442	1,583	397
Other Liabilities .. .. .		15,708	1,053	2,177	2,204	33
<b>Total .. .. .</b>		<b>42,038</b>	<b>18,380</b>	<b>38,017</b>	<b>13,247</b>	<b>2,029</b>

## ASSETS.

(£'000.)

Land and Buildings .. .. .				6,692	3,033	514
Machinery, Plant and other Fixed Assets .. .. .		18,983	9,835	10,002	1,628	180
Stocks .. .. .		11,828	2,841	4,187	3,652	492
Sundry Debtors .. .. .		8,831	4,490	11,636	1,875	602
Cash in hand and on deposit .. .. .			416	1,455	466	14
Profit and Loss Account .. .. .		2,396	82	233	118	26
Other Assets .. .. .			716	3,812	2,475	201
<b>Total .. .. .</b>		<b>42,038</b>	<b>18,380</b>	<b>38,017</b>	<b>13,247</b>	<b>2,029</b>

(a) Not available.

## D. INSURANCE.

## § 1. Introductory.

1. **Legislation.**—Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to “insurance other than State insurance; also State insurance extending beyond the limits of the State concerned”. Commonwealth legislation includes the Marine Insurance Act 1909 defining the limits of marine insurance and regulating the terms of contracts, etc., the Insurance Act 1932–1937 requiring the lodgment of deposits by insurance companies, and the Life Insurance Act 1945–1961 generally regulating life insurance business in Australia. The Marine Insurance Act 1909 and the Insurance Act 1932–1937 have limited application, and, except for life insurance business, which is regulated by the Life Insurance Act 1945–1961, insurance business is conducted almost entirely under State laws.

2. **Insurance Act 1932–1937.**—Companies, persons or associations of persons carrying on insurance business in Australia or in any Territory of Australia are required to lodge a deposit with the Commonwealth Treasurer.

Money deposited is invested by the Treasurer in prescribed securities selected by the depositor, and all interest is paid to depositors. Deposits remain as security against liability to policy holders, and are available to satisfy judgments obtained in respect of policies.

Deposits held by States on 1st February, 1932, could, however, remain with the States subject to the conditions embodied in the laws of the States, and depositors to the extent of the value of these deposits were exempt from liability to make deposits under the Commonwealth Act.

The following are not regarded as insurance business under the Act:—

Staff superannuation schemes; schemes of religious organizations solely for insurance of their property; and friendly society, union and association schemes involving superannuation or insurance benefits to employees.

This Act does not apply to State insurance within the limits of the State concerned, and, under the Life Insurance Act 1945–1961, ceased to apply to life insurance business.

3. **Life Insurance Act 1945–1961.**—The objects of this Act are:—(a) to replace all State legislation on the subject of life insurance, except that relating to the life insurance operations of State insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia; (b) to appoint an Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; (c) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act was assented to on 16th August, 1945, and came into operation on 20th June, 1946. A summary of the provisions of the Act is given in Official Year Book No. 37, pages 595 to 597.

The provisions of the Act relating to the establishment of a Commonwealth Government Insurance Office were repealed under the Life Insurance Act No. 94 of 1953.

4. **Export Payments Insurance Corporation Act 1956.**—Details of the operations of the *Export Payments Insurance Corporation set up under this Act may be found in § 5 of Chapter XIII., Trade (see p. 477).*

5. **Deposits under Insurance Acts.**—Deposits lodged under the Insurance Acts at 30th June, 1961, totalled £9,112,053, comprising £1,632,580 held by the Commonwealth in respect of life insurance and £7,257,183 held by the Commonwealth and £222,290 held by the States in respect of other forms of insurance. The deposits consisted of government, local, and semi-governmental securities £6,103,103, fixed deposits £6,000, bank guarantees and undertakings £2,366,000, corporation debentures and stock £226,800 and titles and mortgages £410,150.

## § 2. Life Insurance.

1. **General.**—Since 1947, returns lodged under the Life Insurance Act 1945–1961 have been used to compile life insurance statistics. Except where otherwise indicated, the figures in the succeeding paragraphs refer to Australian business only. Business in the Territories of Papua and New Guinea is, however, included in the Australian figures.

The information shown has been compiled from returns of life insurance business submitted in the financial years which ended during the year stated.

2. **Offices Transacting Business.**—The number of offices which transacted life insurance business in Australia during 1961 was 36, including 10 overseas companies. Of the 26 Australian offices, 6 are purely mutual, including one which transacts general business in respect of which share capital is used, 18 are public companies, and 2 are State Government institutions. Of the total offices, 23 transacted ordinary business only and the remainder both ordinary and industrial business. Where possible, ordinary and industrial business have been kept separate in the following tables.

3. **Australian Business—Policies in Existence.**—In the following table, details of policies on the registers in each State and in the Australian Capital Territory are given for the year 1960.

## LIFE INSURANCE : POLICIES EXISTING IN AUSTRALIA, 1960.

State or Territory.(a)	Insurance and Endowment Policies.				Annuity Policies.		
	Number of Policies.	Sum Insured. (£'000.)	Bonus Additions. (£'000.)	Annual Premiums. (£'000.)	Number of Policies.	Annuities per Annum. (£'000.)	Annual Premiums. (£'000.)
<b>ORDINARY BUSINESS.</b>							
New South Wales ..	1,431,459	1,157,928	98,917	36,733	1,413	1,798	486
Victoria ..	1,110,074	1,188,640	85,908	33,686	1,704	7,135	2,004
Queensland(b) ..	675,997	538,193	39,592	15,502	259	77	11
South Australia(c) ..	410,634	348,799	28,010	11,149	289	80	14
Western Australia ..	289,998	229,870	19,336	7,382	190	61	8
Tasmania ..	134,800	128,860	10,053	3,810	143	54	12
Australian Capital Territory ..	57,179	252,130	6,319	4,007	356	1,323	302
<b>Australia(b) ..</b>	<b>4,110,141</b>	<b>3,844,420</b>	<b>288,135</b>	<b>112,269</b>	<b>4,354</b>	<b>10,528</b>	<b>2,837</b>
<b>INDUSTRIAL BUSINESS.</b>							
New South Wales ..	1,238,374	130,452	5,468	6,046	..	..	..
Victoria ..	1,032,245	104,505	4,570	4,830	..	..	..
Queensland(b) ..	408,575	42,017	1,656	1,930	..	..	..
South Australia(c) ..	357,065	33,622	1,430	1,551	..	..	..
Western Australia ..	207,780	22,162	890	1,008	..	..	..
Tasmania ..	81,187	8,163	369	368	..	..	..
Australian Capital Territory ..	14,777	2,043	88	93	..	..	..
<b>Australia(b) ..</b>	<b>3,340,003</b>	<b>342,964</b>	<b>14,471</b>	<b>15,826</b>	<b>..</b>	<b>..</b>	<b>..</b>

(a) Location of register of policies.  
(c) Includes the Northern Territory.

(b) Includes Territories of Papua and New Guinea.

The following table shows particulars of policies existing at the end of the years 1956 to 1960 inclusive.

## LIFE INSURANCE: POLICIES EXISTING IN AUSTRALIA.

At End of Year—	Insurance and Endowment Policies.				Annuity Policies.	
	Number of Policies.	Sum Insured. (£'000.)	Average per Policy. (£.)	Annual Premiums. (£'000.)	Number of Policies.	Annuities per Annum. (£'000.)
<b>ORDINARY DEPARTMENT.</b>						
1956 .. ..	3,319,429	2,223,270	670	73,663	17,294	8,172
1957 .. ..	3,445,644	2,533,396	735	82,332	13,308	8,565
1958 .. ..	3,576,943	2,873,388	803	90,752	12,016	9,486
1959 .. ..	3,710,479	3,285,710	886	99,997	5,673	9,762
1960 .. ..	4,110,141	3,844,420	935	112,269	4,354	10,528
<b>INDUSTRIAL DEPARTMENT.</b>						
1956 .. ..	3,701,540	315,440	85	15,132	..	..
1957 .. ..	3,615,271	322,516	89	15,334	..	..
1958 .. ..	3,530,826	328,626	92	15,493	..	..
1959 .. ..	3,443,168	332,539	97	15,532	..	..
1960 .. ..	3,340,003	342,964	103	15,826	..	..

4. New Policies issued in Australia.—In the following table, details are given of new policies issued in each State and the Australian Capital Territory during 1960 for each class of business.

## LIFE INSURANCE: NEW POLICIES ISSUED IN AUSTRALIA, 1960.

State or Territory.(a)	Insurance and Endowment Policies.				Annuity Policies.			
	Number of Policies.	Sum Insured. (£'000.)	Premiums.		Number of Policies.	Annuities per Annum. (£'000.)	Premiums.	
			Single. (£'000.)	Annual. (£'000.)			Single. (£'000.)	Annual. (£'000.)
<b>ORDINARY BUSINESS.</b>								
New South Wales ..	155,892	225,501	190	6,210	(b) -476	309	191	141
Victoria .. ..	123,850	273,734	430	5,845	162	1,620	247	453
Queensland(c) ..	65,987	92,888	54	2,432	23	14	41	2
South Australia(d) ..	43,344	64,158	58	1,806	12	12	24	2
Western Australia ..	35,488	44,819	42	1,179	17	7	23	1
Tasmania .. ..	16,788	25,764	10	664	5	17	9	5
Australian Capital Territory ..	12,521	74,646	119	1,164	39	268	73	56
Australia(c) ..	453,870	801,510	903	19,300	-218	2,247	608	660
<b>INDUSTRIAL BUSINESS.</b>								
New South Wales ..	77,159	15,884	..	722	..	..	..	..
Victoria .. ..	51,275	11,532	..	512	..	..	..	..
Queensland(c) ..	22,283	4,623	..	211	..	..	..	..
South Australia(d) ..	17,361	3,310	..	152	..	..	..	..
Western Australia ..	12,694	2,633	..	117	..	..	..	..
Tasmania .. ..	4,613	1,044	..	46	..	..	..	..
Australian Capital Territory ..	1,765	368	..	17	..	..	..	..
Australia(c) ..	187,150	39,394	..	1,777	..	..	..	..

(a) Location of register of policies. (b) Net decrease due to cancellation of individual policies and issue of blanket policies. (c) Includes Territories of Papua and New Guinea. (d) Includes the Northern Territory.

New policies issued in Australia during each of the years 1956 to 1960 were as shown in the following table.

**LIFE INSURANCE: NEW POLICIES ISSUED IN AUSTRALIA.**

Year.	Insurance and Endowment Policies.				Annuity Policies.			
	Number of Policies.	Sum Insured. (£'000.)	Premiums.		Number of Policies.	Annuities per Annum. (£'000.)	Premiums.	
			Single (£'000.)	Annual (£'000.)			Single. (£'000.)	Annual. (£'000.)
<b>ORDINARY BUSINESS.</b>								
1956 ..	316,620	372,436	625	11,646	1,592	1,851	793	392
1957 ..	317,735	445,470	649	13,521	1,512	1,250	869	288
1958 ..	322,269	499,694	760	14,044	925	1,464	355	409
1959 ..	341,332	598,239	728	15,507	547	1,383	493	422
1960 ..	453,870	801,510	903	19,300	(a)—218	2,247	608	660
<b>INDUSTRIAL BUSINESS.</b>								
1956 ..	211,411	32,977	..	1,558	..	..	..	..
1957 ..	209,733	33,459	..	1,580	..	..	..	..
1958 ..	200,954	33,071	..	1,553	..	..	..	..
1959 ..	192,524	32,796	..	1,543	..	..	..	..
1960 ..	187,150	39,394	..	1,777	..	..	..	..

(a) See note (b) to preceding table.

5. Policies Discontinued or Reduced in Australia.—In the following table, details are given of ordinary and industrial life insurance policies discontinued or reduced in each State and the Australian Capital Territory during the year 1960.

**LIFE INSURANCE: POLICIES DISCONTINUED OR REDUCED IN AUSTRALIA, 1960.(a)**

State or Territory.(b)	Insurance and Endowment.			Annuity Policies.		
	Number of Policies.	Sum Insured. (£'000.)	Annual Premiums. (£'000.)	Number of Policies.	Annuities per Annum. (£'000.)	Annual Premiums. (£'000.)
<b>ORDINARY BUSINESS.</b>						
New South Wales .. ..	95,000	92,943	2,967	157	360	140
Victoria .. ..	111,777	78,173	2,170	1,022	1,191	395
Queensland(c) .. ..	36,399	27,095	827	15	5	1
South Australia(d) .. ..	23,342	20,572	665	22	11	3
Western Australia .. ..	16,703	13,110	425	7	2	..
Tasmania .. ..	9,521	9,097	276	17	62	19
Australian Capital Territory .. ..	— 5,711	1,810	— 302	27	— 150	— 72
<b>Australia(c) .. ..</b>	<b>287,031</b>	<b>242,800</b>	<b>7,028</b>	<b>1,267</b>	<b>1,481</b>	<b>486</b>
<b>INDUSTRIAL BUSINESS.</b>						
New South Wales .. ..	110,743	11,258	576	..	..	..
Victoria .. ..	88,794	8,451	438	..	..	..
Queensland(c) .. ..	32,433	3,407	174	..	..	..
South Australia(d) .. ..	29,917	2,681	139	..	..	..
Western Australia .. ..	19,742	2,111	104	..	..	..
Tasmania .. ..	7,797	909	44	..	..	..
Australian Capital Territory .. ..	889	152	7	..	..	..
<b>Australia(c) .. ..</b>	<b>290,315</b>	<b>28,969</b>	<b>1,482</b>	<b>..</b>	<b>..</b>	<b>..</b>

(a) Includes matured, surrendered, forfeited, conversions to other classes of business, etc. (b) Location of register of policies. (c) Includes Territories of Papua and New Guinea. (d) Includes the Northern Territory.

NOTE.—Minus sign (—) denotes an increase in existing business in the registers concerned, due to an excess of transfers from other States or of conversions from other classes of business, over discontinuances.

Policies discontinued or reduced in Australia during each of the years 1956 to 1960 were as shown in the following table.

**LIFE INSURANCE: POLICIES DISCONTINUED OR REDUCED  
IN AUSTRALIA.(a)**

Year.	Insurance and Endowment Policies.			Annuity Policies.			
	Number of Policies.	Sum Insured. (£'000.)	Annual Premiums. (£'000.)	Number of Policies.	Annuities per Annum. (£'000.)	Annual Premiums. (£'000.)	
<b>ORDINARY BUSINESS.</b>							
1956	.. .. .	180,858	119,928	4,534	1,436	878	227
1957	.. .. .	191,520	135,344	4,852	5,498	857	(b) - 308
1958	.. .. .	190,970	159,702	5,627	2,217	543	197
1959	.. .. .	207,796	185,917	6,260	6,890	1,106	330
1960	.. .. .	287,031	242,800	7,028	1,267	1,481	486
<b>INDUSTRIAL BUSINESS.</b>							
1956	.. .. .	275,722	24,907	1,327	..	..	..
1957	.. .. .	296,002	26,383	1,378	..	..	..
1958	.. .. .	285,399	26,960	1,393	..	..	..
1959	.. .. .	280,182	28,886	1,504	..	..	..
1960	.. .. .	290,315	28,969	1,482	..	..	..

(a) See note (a) to preceding table. (b) The negative amount shown is due to an adjustment to the annual premiums on certain annuities which in previous years were treated as single premiums.

The number of policies and sums insured, excluding annuities, discontinued during the years 1956 to 1960 and the causes for discontinuance are given in the following table.

**LIFE INSURANCE: POLICIES(a) DISCONTINUED OR REDUCED IN AUSTRALIA—  
CAUSE OF DISCONTINUANCE OR REDUCTION.(b)**

Year.	Death or Maturity.	Surrender.	Forfeiture.	Other.	Total.	
<b>ORDINARY BUSINESS: NUMBER OF POLICIES.</b>						
1956	.. .. .	52,876	72,659	44,073	11 250	180,858
1957	.. .. .	55,923	77,937	42,981	14,679	191,520
1958	.. .. .	58,914	85,211	42,805	4,040	190,970
1959	.. .. .	62,251	92,030	45,413	8,102	207,796
1960	.. .. .	70,539	122,201	58,767	35,524	287,031
<b>ORDINARY BUSINESS: SUM INSURED. (£'000.)</b>						
1956	.. .. .	18,042	53,378	37,766	10,742	119,928
1957	.. .. .	19,475	60,231	41,868	13,770	135,344
1958	.. .. .	21,689	69,721	49,444	18,848	159,702
1959	.. .. .	23,018	77,059	60,150	25,690	185,917
1960	.. .. .	25,989	99,166	77,789	39,856	242,800
<b>INDUSTRIAL BUSINESS: NUMBER OF POLICIES.</b>						
1956	.. .. .	171,748	60,531	61,276	- 17,833	275,722
1957	.. .. .	174,327	66,940	54,612	123	296,002
1958	.. .. .	159,145	69,878	56,168	208	285,399
1959	.. .. .	155,108	74,069	50,865	140	280,182
1960	.. .. .	172,026	71,178	47,041	70	290,315
<b>INDUSTRIAL BUSINESS: SUM INSURED. (£'000.)</b>						
1956	.. .. .	7,944	7,828	9,994	- 859	24,907
1957	.. .. .	8,439	8,722	9,186	36	26,383
1958	.. .. .	8,006	9,416	9,478	60	26,960
1959	.. .. .	8,200	10,600	10,023	63	28,886
1960	.. .. .	8,996	10,561	9,363	49	28,969

(a) Excludes annuities. (b) See note (a) to table on p. 800.

NOTE.—Minus sign (-) denotes an increase in existing business in the Australian registers due to transfers from overseas registers.

6. Premiums and Claims, Australia.—(i) *Premiums.* (a) *Ordinary Business.* Details of revenue from premiums in respect of the ordinary business of all offices doing business in Australia are shown in the following tables for each State and the Australian Capital Territory for the year 1960.

**ORDINARY LIFE INSURANCE: AUSTRALIAN REVENUE FROM PREMIUMS, 1960.**  
(£'000.)

State or Territory.(a)	Insurance and Endowment Premiums.		Consideration for Annuities.		Total.
	Single Premiums.	Other Premiums.	Single Premiums.	Other Premiums.	
New South Wales .. ..	199	36,028	221	524	36,972
Victoria .. ..	438	33,961	238	2,023	36,660
Queensland(b) .. ..	53	15,175	40	11	15,279
South Australia(c) .. ..	58	10,916	25	15	11,014
Western Australia .. ..	41	7,309	23	18	7,391
Tasmania .. ..	10	3,696	9	17	3,732
Australian Capital Territory ..	104	5,516	67	902	6,589
<b>Australia(b) .. ..</b>	<b>903</b>	<b>112,601</b>	<b>623</b>	<b>3,510</b>	<b>117,637</b>

(a) Location of register of policies.

(b) Includes Territories of Papua and New Guinea.

(c) Includes the Northern Territory.

(b) *Industrial Business.* Details of revenue from premiums in respect of the industrial business of all offices doing business in Australia are shown in the following table for each State and the Australian Capital Territory for the year 1960.

**INDUSTRIAL LIFE INSURANCE: AUSTRALIAN REVENUE FROM PREMIUMS, 1960.**  
(£'000.)

State or Territory.(a)	Insurance and Endowment Premiums.		Total.
	Single Premiums.	Other Premiums.	
New South Wales .. ..	2	5,852	5,854
Victoria .. ..	2	4,751	4,753
Queensland (b) .. ..	..	1,880	1,880
South Australia(c) .. ..	..	1,524	1,524
Western Australia .. ..	1	991	992
Tasmania .. ..	..	358	358
Australian Capital Territory ..	..	87	87
<b>Australia(b) .. ..</b>	<b>5</b>	<b>15,443</b>	<b>15,448</b>

(a) Location of register of policies.

(b) Includes Territories of Papua and New Guinea.

(c) Includes the Northern Territory.

(c) *Ordinary and Industrial Business.* The following table shows, for each of the years 1956 to 1960, the aggregate Australian income from premiums in respect of both ordinary and industrial business of all offices doing business in Australia.

**LIFE INSURANCE: AUSTRALIAN REVENUE FROM PREMIUMS.**  
(£'000.)

Year.	Ordinary Business.			Industrial Business.	Ordinary and Industrial Business Combined.
	Insurance and Endowment Premiums.	Consideration for Annuities.	Total.		
1956 .. ..	74,413	2,700	77,113	15,002	92,115
1957 .. ..	83,256	3,009	86,265	15,041	101,306
1958 .. ..	92,126	3,377	95,503	15,184	110,687
1959 .. ..	101,749	3,593	105,342	15,264	120,606
1960 .. ..	113,504	4,133	117,637	15,448	133,085

(ii) *Claims, etc., Paid.* Details of the claims, etc., paid on policies in each State and the Australian Capital Territory during the year 1960 are shown in the following table.

**LIFE INSURANCE: PAYMENTS TO POLICY-HOLDERS IN AUSTRALIA, 1960.**  
(£'000.)

State or Territory.(a)	Claims.		Surrenders.	Annuities.	Cash Bonuses.	Total.
	Death or Disability.	Maturity.				
<b>ORDINARY BUSINESS.</b>						
New South Wales .. .. .	5,798	5,676	12,163	205	50	23,892
Victoria .. .. .	5,011	4,961	7,388	284	175	17,819
Queensland(b) .. .. .	2,315	2,187	1,460	31	19	6,012
South Australia(c) .. .. .	1,340	1,526	1,064	26	12	3,968
Western Australia .. .. .	969	900	681	22	14	2,586
Tasmania .. .. .	481	449	533	17	4	1,484
Australian Capital Territory .. .. .	557	346	803	53	6	1,765
<b>Australia(b) .. .. .</b>	<b>16,471</b>	<b>16,045</b>	<b>24,092</b>	<b>638</b>	<b>280</b>	<b>57,526</b>

<b>INDUSTRIAL BUSINESS.</b>						
New South Wales .. .. .	366	3,355	745	..	..	4,466
Victoria .. .. .	307	3,003	568	..	..	3,878
Queensland(b) .. .. .	113	989	261	..	..	1,363
South Australia(c) .. .. .	103	907	181	..	..	1,191
Western Australia .. .. .	59	550	141	..	..	750
Tasmania .. .. .	22	217	59	..	..	298
Australian Capital Territory .. .. .	4	27	9	..	..	40
<b>Australia(b) .. .. .</b>	<b>974</b>	<b>9,048</b>	<b>1,964</b>	<b>..</b>	<b>..</b>	<b>11,986</b>

(a) Location of register of policies.  
(c) Includes the Northern Territory.

(b) Includes Territories of Papua and New Guinea.

In the following table details are given of claims, etc., paid on policies in Australia for each of the years 1956 to 1960.

**LIFE INSURANCE: PAYMENTS TO POLICY-HOLDERS IN AUSTRALIA.**  
(£'000.)

Year.	Claims.	Surrenders.	Annuities.	Cash Bonuses.	Total.
<b>ORDINARY BUSINESS.</b>					
1956 .. .. .	22,436	7,123	472	180	30,211
1957 .. .. .	24,187	8,825	493	135	33,640
1958 .. .. .	26,328	10,295	524	183	37,330
1959 .. .. .	28,527	11,495	578	370	40,970
1960 .. .. .	32,516	24,092	638	280	57,526
<b>INDUSTRIAL BUSINESS.</b>					
1956 .. .. .	8,767	1,270	..	..	10,037
1957 .. .. .	9,361	1,498	..	..	10,859
1958 .. .. .	8,806	1,664	..	..	10,470
1959 .. .. .	9,050	1,848	..	..	10,898
1960 .. .. .	10,022	1,964	..	..	11,986



7. Total Revenue and Expenditure.—(i) *Total Revenue.* The following table shows particulars of the total life insurance revenue derived by life insurance offices from sources within and beyond Australia during each of the years 1956 to 1960.

ORDINARY AND INDUSTRIAL LIFE INSURANCE: TOTAL REVENUE.  
(£'000.)

Year.	Assurance and Endowment Premiums.	Consideration for Annuities Granted.	Net Interest, Dividends and Rents.	All other Revenue.	Total Revenue.
ORDINARY BUSINESS.					
1956 .. .. .	98,689	3,488	30,886	416	133,479
1957 .. .. .	109,353	4,081	35,417	353	149,204
1958 .. .. .	121,802	4,693	41,429	530	168,454
1959 .. .. .	138,168	5,591	49,678	2,433	195,870
1960 .. .. .	152,798	6,406	56,313	5,494	221,011
INDUSTRIAL BUSINESS.					
1956 .. .. .	17,174	..	5,274	28	22,476
1957 .. .. .	17,210	..	5,592	29	22,831
1958 .. .. .	17,336	..	6,072	12	23,420
1959 .. .. .	17,746	..	6,787	406	24,939
1960 .. .. .	17,897	..	7,190	446	25,533

(ii) *Total Expenditure.* The next table supplies details of the total expenditure, both within and beyond Australia, of life insurance offices during each of the years 1956 to 1960.

ORDINARY AND INDUSTRIAL LIFE INSURANCE: TOTAL EXPENDITURE.  
(£'000.)

Year.	Claims and Annuities paid.	Surrenders.	Cash Bonuses paid to Policyholders.	Commission.	Transfers to Profit and Loss Account including Shareholders Dividends.	All other Expenditure.	Total Expenditure.
ORDINARY BUSINESS.							
1956 .. .. .	33,233	9,506	267	7,968	165	10,838	61,977
1957 .. .. .	35,944	11,463	238	9,160	223	12,741	69,769
1958 .. .. .	39,693	13,708	306	9,900	212	14,251	78,070
1959 .. .. .	44,827	16,209	559	11,045	196	17,239	90,075
1960 .. .. .	50,378	28,875	489	13,128	346	21,548	114,764
INDUSTRIAL BUSINESS.							
1956 .. .. .	10,490	1,417	..	2,515	65	3,067	17,554
1957 .. .. .	11,218	1,648	..	2,538	78	3,436	18,918
1958 .. .. .	10,556	1,830	..	2,549	61	3,670	18,666
1959 .. .. .	10,932	2,066	..	2,495	40	3,833	19,366
1960 .. .. .	12,150	2,194	..	2,579	42	4,090	21,055

8. **Liabilities and Assets.**—(i) *General.* The liabilities of the Australian offices consist mainly of their insurance funds, but in the case of public companies there is a further liability on account of the shareholders' capital. The assets consist chiefly of government and municipal securities, mortgages, loans on policies, landed and house property, etc. Loans on personal security are granted by very few of the Australian offices. Separate details of liabilities and assets in respect of Australian business are not available.

(ii) *Total Liabilities and Assets.* In the two tables which follow, the details of liabilities and assets relate to all business (Australian and overseas) of Australian companies, the life insurance business of the two State Government offices, all business of the Provident Life Assurance Co. Ltd. (incorporated in New Zealand) and the Australian business only of the other ten overseas companies operating in Australia. For various reasons, several offices do not attempt the dissection of liabilities and assets between industrial and ordinary business, and, therefore, the figures in the following tables relate to ordinary and industrial business combined. Details of the total liabilities of life insurance offices for the year 1960 are given in the following table.

**ORDINARY AND INDUSTRIAL LIFE INSURANCE: TOTAL LIABILITIES, 1960.**

(£'000.)

Particulars.	Life Insurance Business.	Other Classes of Business.	Total Liabilities.
<i>Shareholders' Capital—</i>			
Authorized .. .. .	..	16,462	16,462
Less Unissued .. .. .	..	11,150	11,150
<i>Subscribed Capital</i> .. .. .	..	5,312	5,312
<i>Paid-up—</i>			
In Money .. .. .	..	4,774	4,774
Otherwise than in Money .. .. .	..	65	65
<i>Total</i> .. .. .	..	4,839	4,839
<i>Life Insurance Statutory Funds—</i>			
Ordinary Business .. .. .	1,201,393	..	1,201,393
Industrial Business .. .. .	151,016	..	151,016
<i>Total</i> .. .. .	1,352,409	..	1,352,409
<i>Funds in respect of Other Classes of Business</i>			
General Reserves .. .. .	20,565	2,221	22,880
Profit and Loss Account Balance .. .. .	..	446	446
<i>Total, Shareholders' Capital, Insurance Funds and Reserves</i> .. .. .	1,372,974	9,821	1,382,795
<i>Other Liabilities—</i>			
Deposits .. .. .	10,405	5,136	15,541
Staff Provident and Superannuation Funds .. .. .	3,451	369	3,820
Claims admitted or intimated but not paid .. .. .	14,466	818	15,284
Annuities due but not paid .. .. .	2	..	2
Premiums Paid in Advance and in Suspense .. .. .	1,389	19	1,408
Sundry Creditors .. .. .	5,194	369	5,563
Bank Overdraft .. .. .	9,761	125	9,886
Reserves and Provisions for Taxation .. .. .	10,539	544	11,083
All Other Liabilities .. .. .	1,127	650	1,777
<b>Total Liabilities</b> .. .. .	<b>1,429,308</b>	<b>17,851</b>	<b>1,447,159</b>

The following table furnishes details of the total assets of life insurance offices for the year 1960.

**ORDINARY AND INDUSTRIAL LIFE INSURANCE: TOTAL ASSETS, 1960.**  
(£'000.)

Particulars.	Life Insurance Business.	Other Classes of Business.	Total.	Amount of Assets held in Australia.		
				Life Insurance Business.	Other Classes of Business.	Total.
<i>Fixed Assets—</i>						
Freehold and Leasehold Property, Office Premises ..	80,713	624	81,337	58,209	624	58,833
Furniture, etc. ..	1,602	96	1,698	1,231	96	1,327
<i>Total Fixed Assets</i> ..	<i>82,315</i>	<i>720</i>	<i>83,035</i>	<i>59,440</i>	<i>720</i>	<i>60,160</i>
<i>Loans—</i>						
On Mortgage ..	494,013	324	494,337	352,736	324	353,060
On Policies of the Company ..	51,988	..	51,988	37,639	..	37,639
Other Loans ..	26,816	310	27,126	26,388	310	26,698
<i>Total Loans</i> ..	<i>572,817</i>	<i>634</i>	<i>573,451</i>	<i>416,763</i>	<i>634</i>	<i>417,397</i>
<i>Investments—</i>						
<i>Government Securities—</i>						
Australia ..	238,503	5,856	244,359	221,879	5,856	227,735
Other ..	77,115	230	77,345	2	..	2
<i>Securities of Local and Semi-Governmental Bodies</i> ..						
..	181,608	575	182,183	128,510	489	128,999
Other Investments ..	237,773	7,252	245,025	193,792	7,166	200,958
<i>Total Investments</i> ..	<i>734,999</i>	<i>13,913</i>	<i>748,912</i>	<i>544,183</i>	<i>13,511</i>	<i>557,694</i>
Cash on Deposit, Current Account and in hand ..	1,999	666	2,665	956	642	1,598
Other Assets(a) ..	37,178	1,918	39,096	29,114	1,890	31,004
<b>Total Assets</b> ..	<b>1,429,308</b>	<b>17,851</b>	<b>1,447,159</b>	<b>1,050,456</b>	<b>17,397</b>	<b>1,067,853</b>

(a) Includes Advances of Premiums.

(iii) *Assets held in Australia.* Details of assets held in Australia for the years 1956 to 1960 are set out in the following table.

**ORDINARY AND INDUSTRIAL LIFE INSURANCE(a): ASSETS HELD IN AUSTRALIA.**

(£'000.)

Particulars.	1956.	1957.	1958.	1959.	1960.
Landed and House Property..	30,290	39,276	43,670	51,566	58,833
Government and Municipal Securities ..	326,323	338,520	350,671	359,173	356,736
Other Investments ..	80,961	92,561	117,824	148,848	200,958
Loans on Mortgage ..	230,688	261,011	294,625	319,442	353,060
Loans on Companies' Policies ..	29,315	32,880	37,402	42,078	37,639
Other Loans ..	27,663	29,412	23,522	34,233	26,698
All other Assets ..	14,247	15,089	16,689	19,914	33,929
<b>Total</b> ..	<b>739,487</b>	<b>808,749</b>	<b>884,403</b>	<b>975,254</b>	<b>1,067,853</b>

(a) Life insurance and other classes of business.

9. *Loans.*—In the following table, details are given of new loans paid over by life insurance companies during each of the years ended 31st December, 1957 to 1961. The information has been compiled from monthly returns furnished by each company. New loans paid over by the Government Insurance Office of New South Wales and the Queensland State Government Insurance Office are not included. Advances of premiums are also excluded.

**LIFE INSURANCE COMPANIES: NEW LOANS PAID OVER.**  
(£'000.)

Particulars.	1957.	1958.	1959.	1960.	1961.
<b>CLASS OF SECURITY.</b>					
Mortgage of Real Estate ..	48,969	53,953	58,900	67,680	51,111
Companies' Policies ..	6,334	7,470	7,925	10,080	12,796
Other .. ..	4,431	5,399	6,777	6,583	4,745
<b>Total .. ..</b>	<b>59,734</b>	<b>66,822</b>	<b>73,602</b>	<b>84,343</b>	<b>68,652</b>
<b>STATE OR TERRITORY.(a)</b>					
New South Wales .. ..	26,454	30,096	33,674	35,962	28,790
Victoria .. ..	17,115	17,699	20,516	25,564	22,059
Queensland(b) .. ..	4,696	6,653	7,305	7,786	5,826
South Australia(c) .. ..	5,724	6,047	5,630	7,049	5,231
Western Australia .. ..	3,318	3,556	3,570	4,456	3,862
Tasmania .. ..	2,334	2,576	2,767	3,221	2,472
Australian Capital Territory	93	195	140	305	412
<b>Total .. ..</b>	<b>59,734</b>	<b>66,822</b>	<b>73,602</b>	<b>84,343</b>	<b>68,652</b>

(a) State or Territory of location of mortgage, registration of policy, or residence of borrower.  
(b) Includes Territories of Papua and New Guinea. (c) Includes the Northern Territory.

### § 3. Fire, Marine and General Insurance.

1. **General.**—The following statistics, which are in respect of the Australian business of companies operating in Australia and State Government insurance offices, conform to the following definitions and should be interpreted in accordance therewith.

(a) Premiums represent the full amount receivable in respect of policies issued and renewed in the year, less returns, rebates and bonuses paid or credited to policy-holders during the year. They are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from "earned premium income" appropriate to the year. When business is increasing, as in recent years, premiums receivable (as shown in the statistics) are greater than "earned premium income" appropriate to the year. The converse applies when business is declining.

(b) Claims or losses include provision for outstanding claims and represent claims or losses incurred in the year. Salvage and other amounts recoverable have been deducted.

(c) Contributions to Fire Brigades, Commission and Agents' Charges, and Expenses of Management represent mainly charges paid during the year.

(d) Taxation represents mainly payments made during the year, and includes income tax, pay-roll tax, licence fees, stamp duty (where paid by the company), etc. Income tax paid during the year is based on the income of earlier years.

The tables contain selected items of statistics and are not construable as "Profit and Loss" statements or "Revenue Accounts".

In cases where the business is underwritten in one State and the risk is situated in another, the business is included in the State in which the policy was issued.

During 1960-61, revenue from premiums amounted to £198,908,000, and that from net interest on investments, etc., to £10,213,000, a total of £209,121,000. Expenditure on claims amounted to £129,308,000, contributions to fire brigades, £5,150,000, commission and agents' charges £18,274,000, expenses of management £33,857,000, and taxation £7,221,000, a total of £193,810,000.

2. **States.**—The following table shows, for each State, the aggregate premium income less reinsurances and returns, and claims or losses less amounts recoverable, for all classes of insurance other than life for the years 1956-57 to 1960-61.

**FIRE, MARINE AND GENERAL INSURANCE: PREMIUMS AND CLAIMS—STATES.**  
(£'000.)

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>GROSS PREMIUMS, LESS REINSURANCES AND RETURNS.</b>					
New South Wales(a) ..	53,050	59,875	65,371	71,419	79,773
Victoria .. .. .	45,583	50,764	53,961	58,119	62,424
Queensland .. .. .	16,702	19,106	19,291	22,154	24,017
South Australia .. .. .	11,836	12,209	12,990	13,836	15,979
Western Australia .. .. .	7,585	8,532	9,340	10,785	11,792
Tasmania .. .. .	3,355	3,989	4,292	4,567	4,923
<b>Total .. .. .</b>	<b>138,111</b>	<b>154,475</b>	<b>165,245</b>	<b>180,880</b>	<b>198,908</b>

<b>GROSS CLAIMS OR LOSSES, LESS AMOUNTS RECOVERABLE.</b>					
New South Wales(a) ..	32,753	35,390	39,753	44,688	56,513
Victoria .. .. .	26,542	28,603	30,854	33,417	38,680
Queensland .. .. .	10,707	11,110	12,381	13,702	15,778
South Australia .. .. .	6,208	5,898	6,639	7,127	8,342
Western Australia .. .. .	4,678	4,618	5,489	6,327	7,235
Tasmania .. .. .	1,644	2,017	2,113	2,701	2,760
<b>Total .. .. .</b>	<b>82,532</b>	<b>87,636</b>	<b>97,229</b>	<b>107,962</b>	<b>129,308</b>

(a) Excludes Workers' Compensation Insurance in coal-mining industry in New South Wales.

3. **Classes of Insurance.**—The following statement shows premiums and claims in respect of the principal classes of risks, for the years 1956-57 to 1960-61.

**FIRE, MARINE AND GENERAL INSURANCE: PREMIUMS AND CLAIMS—**  
**PRINCIPAL CLASSES OF RISK, AUSTRALIA.**  
(£'000.)

Class of Risk.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>GROSS PREMIUMS, LESS REINSURANCES AND RETURNS.</b>					
Fire .. .. .	27,919	29,854	30,642	31,813	33,842
Workers' Compensation(a) ..	28,976	33,772	34,805	38,876	43,825
Motor Vehicle—					
Compulsory Third Party ..	14,772	16,064	17,166	19,831	23,095
Other .. .. .	37,851	42,127	43,827	48,939	52,662
Marine .. .. .	6,916	7,292	7,646	8,033	8,839
Personal Accident .. .. .	3,990	4,733	5,563	6,151	6,875
All other .. .. .	17,687	20,633	25,596	27,237	29,770
<b>Total .. .. .</b>	<b>138,111</b>	<b>154,475</b>	<b>165,245</b>	<b>180,880</b>	<b>198,908</b>

<b>GROSS CLAIMS OR LOSSES, LESS AMOUNTS RECOVERABLE.</b>					
Fire .. .. .	9,037	9,406	9,370	10,104	12,007
Workers' Compensation(a) ..	23,515	24,473	27,391	29,154	31,871
Motor Vehicle—					
Compulsory Third Party ..	13,710	14,105	17,342	18,848	22,716
Other .. .. .	25,452	27,459	28,405	32,416	38,875
Marine .. .. .	3,130	3,258	2,999	3,311	4,204
Personal Accident .. .. .	1,700	2,120	2,427	2,831	3,390
All other .. .. .	5,988	6,815	9,295	11,298	16,245
<b>Total .. .. .</b>	<b>82,532</b>	<b>87,636</b>	<b>97,229</b>	<b>107,962</b>	<b>129,308</b>

(a) Excludes Workers' Compensation in coal-mining industry in New South Wales.

**E. INSTALMENT CREDIT FOR RETAIL SALES BY RETAIL BUSINESSES AND NON-RETAIL FINANCE BUSINESSES.**

1. *General.*—Information relating to instalment credit for retail sales in Australia is given in the following tables. Information in more detail may be found in the monthly and quarterly statements relating to instalment credit for retail sales issued by this Bureau.

The statistics cover operations of all types of instalment credit schemes which relate primarily to the financing of retail sales of goods, whether the credit is advanced by a retail business or by a non-retail finance business. In general, the term "instalment credit" is defined as relating to schemes in which repayment is made by regular pre-determined instalments. Types of schemes covered include Hire Purchase, Time Payment, Budget Account, and Personal Loan schemes which relate primarily to financing of retail sales of goods. In these statistics, the term "retail sales" relates not only to retail sales by retail establishments coming within the scope of the Censuses of Retail Establishments conducted periodically by this Bureau, but includes also other sales of goods to final purchasers (e.g. plant and machinery).

2. *New Retail Agreements, 1956-57 and 1958-59 to 1960-61.*—Details of amounts financed on new retail agreements in the years 1956-57 and 1958-59 to 1960-61 are given in the following tables.

**INSTALMENT CREDIT FOR RETAIL SALES: AMOUNTS FINANCED(a) ON NEW AGREEMENTS BY RETAIL BUSINESSES AND NON-RETAIL FINANCE BUSINESSES.**

(£'000.)

Year.	N.S.W.(b)	Vic.	Q'land.	S. Aust. (c)	W. Aust.	Tas.	Aust.
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**HIRE PURCHASE.**

1956-57 .. ..	79,696	65,853	35,969	24,527	14,834	8,309	229,188
1958-59(d) ..	124,287	90,562	43,647	28,812	20,811	8,447	316,566
1959-60 .. ..	134,053	105,604	52,573	38,919	26,941	9,375	367,465
1960-61 .. ..	119,328	86,548	43,909	31,641	24,378	9,324	315,128

**OTHER INSTALMENT CREDIT.**

1956-57 .. ..	19,375	8,070	4,120	1,711	2,326	1,098	36,700
1958-59(d) ..	28,990	16,399	6,297	3,181	4,088	1,327	60,282
1959-60 .. ..	35,808	20,584	8,604	6,761	6,230	2,923	80,910
1960-61 .. ..	40,549	24,871	9,036	9,044	7,596	2,903	93,999

**TOTAL INSTALMENT CREDIT.**

1956-57 .. ..	99,071	73,923	40,089	26,238	17,160	9,407	265,888
1958-59(d) ..	153,277	106,961	49,944	31,993	24,899	9,774	376,848
1959-60 .. ..	169,861	126,188	61,177	45,680	33,171	12,298	448,375
1960-61 .. ..	159,877	111,419	52,945	40,685	31,974	12,227	409,127

(a) Excludes hiring charges, interest and insurance. (b) Includes the Australian Capital Territory.  
(c) Includes the Northern Territory. (d) 1957-58 not available.

3. *New Retail Agreements, Classified by Commodity Groups, 1960-61.*—The details shown for 1960-61 in the preceding table are classified by commodity groups below.

**INSTALMENT CREDIT FOR RETAIL SALES: AMOUNTS FINANCED(a) ON NEW AGREEMENTS BY RETAIL BUSINESSES AND NON-RETAIL FINANCE BUSINESSES: COMMODITY GROUPS, 1960-61.**  
(£'000.)

Commodity Group.	N.S.W. (b)	Vic.	Q'land.	S. Aust. (c)	W. Aust.	Tas.	Aust.
<b>HIRE PURCHASE.</b>							
Motor vehicles, tractors, etc.(d) .. ..	76,198	49,921	24,733	19,480	14,568	6,294	191,194
Plant and machinery(e) .. ..	8,857	5,973	3,242	1,909	2,021	694	22,696
Household and personal goods(f) .. ..	34,273	30,654	15,934	10,252	7,789	2,336	101,238
<i>Total (all goods) ..</i>	<i>119,328</i>	<i>86,548</i>	<i>43,909</i>	<i>31,641</i>	<i>24,378</i>	<i>9,324</i>	<i>315,128</i>

<b>OTHER INSTALMENT CREDIT.</b>							
Motor vehicles, tractors, etc.(d) .. ..	865	4,229	752	1,041	1,155	107	8,149
Plant and machinery(e) .. ..	218	96	12	4	43	2	375
Household and personal goods(f) .. ..	39,466	20,546	8,272	7,999	6,398	2,794	85,475
<i>Total (all goods) ..</i>	<i>40,549</i>	<i>24,871</i>	<i>9,036</i>	<i>9,044</i>	<i>7,596</i>	<i>2,903</i>	<i>93,999</i>

<b>TOTAL INSTALMENT CREDIT.</b>							
Motor vehicles, tractors, etc.(d) .. ..	77,063	54,150	25,485	20,521	15,723	6,401	199,343
Plant and machinery(e) .. ..	9,075	6,069	3,254	1,913	2,064	696	23,071
Household and personal goods(f) .. ..	73,739	51,200	24,206	18,251	14,187	5,130	186,713
<i>Total (all goods) ..</i>	<i>159,877</i>	<i>111,419</i>	<i>52,945</i>	<i>40,685</i>	<i>31,974</i>	<i>12,227</i>	<i>409,127</i>

(a) Excludes hiring charges, interest and insurance. (b) Includes the Australian Capital Territory. (c) Includes the Northern Territory. (d) Includes new and used motor cars, motor cycles, commercial vehicles, tractors, caravans, motor parts and accessories. (e) Includes farm machinery and implements, earth-moving equipment, aircraft, industrial plant and machinery, business machines and equipment (including commercial refrigeration equipment), etc. (f) Includes furniture and furnishings, domestic refrigerators, electrical goods, television and accessories, radios, musical instruments, bicycles and other household and personal goods.

The following are some additional particulars relating to new hire purchase agreements made during 1960-61.

**NEW HIRE PURCHASE AGREEMENTS, COMMODITY GROUPS: AVERAGE VALUE AND AMOUNT AND PROPORTION FINANCED, AUSTRALIA, 1960-61.**

Commodity Group.	Average Value of Goods Purchased per Agreement.	Average Amount Financed per Agreement.	Average Proportion Financed.
Motor vehicles, tractors, etc. .. ..	£ 771	£ 491	Per cent. 64
Plant and machinery .. ..	762	506	66
Household and personal goods .. ..	88	74	84
<i>Total (all goods) .. ..</i>	<i>252</i>	<i>174</i>	<i>69</i>

4. Balances Outstanding on Retail Agreements at 30th June, 1957 and 1959 to 1961.—Details of the balances outstanding on retail agreements at 30th June, 1957 and 1959 to 1961, are given below.

**INSTALMENT CREDIT FOR RETAIL SALES: BALANCES OUTSTANDING ON AGREEMENTS MADE BY RETAIL BUSINESSES AND NON-RETAIL FINANCE BUSINESSES.**

(Including Hiring Charges, Interest and Insurance.)

(£'000.)

30th June—	N.S.W.(a)	Vic.	Q'land.	S. Aust.(b)	W. Aust.	Tas.	Aust.
<b>HIRE PURCHASE.</b>							
1957 .. ..	105,661	77,261	42,528	29,030	18,141	9,689	282,310
1959(c) .. ..	173,396	119,923	55,677	37,147	26,639	11,303	424,085
1960 .. ..	199,466	143,120	67,598	50,753	34,792	12,487	508,216
1961 .. ..	200,227	136,602	68,058	50,838	38,050	13,542	507,317
<b>OTHER INSTALMENT CREDIT.</b>							
1957 .. ..	12,383	4,712	3,069	742	1,005	696	22,607
1959(c) .. ..	22,666	12,513	4,736	2,684	3,017	1,525	47,141
1960 .. ..	29,262	18,631	7,630	5,849	4,232	2,707	68,311
1961 .. ..	36,872	25,746	8,850	9,749	5,982	3,712	90,911
<b>TOTAL INSTALMENT CREDIT.</b>							
1957 .. ..	118,044	81,973	45,597	29,772	19,146	10,385	304,917
1959(c) .. ..	196,062	132,436	60,413	39,831	29,656	12,828	471,226
1960 .. ..	228,728	161,751	75,228	56,602	39,024	15,194	576,527
1961 .. ..	237,099	162,348	76,908	60,587	44,032	17,254	598,228

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory.  
(c) Balances at 30th June, 1958, are not available.

5. **Non-Retail Finance Businesses.**—The preceding tables include all instalment credit for retail sales, whether advanced by retail businesses and their subsidiaries or by non-retail finance businesses. In the following table, particulars for non-retail finance businesses, including statistics of collections by such businesses, are shown for the years 1956–57 to 1960–61. The figures include hire purchase and other instalment credit agreements.

**INSTALMENT CREDIT FOR RETAIL SALES, FINANCED BY NON-RETAIL FINANCE BUSINESSES.**

(£'000.)

Year.	N.S.W.(a)	Vic.	Q'land.	S. Aust.(b)	W. Aust.	Tas.	Aust.
<b>AMOUNTS FINANCED DURING YEAR.(c)</b>							
1956–57 .. ..	61,275	48,144	30,396	19,352	11,338	7,454	177,959
1957–58 .. ..	86,334	61,002	34,299	19,903	14,669	7,579	223,786
1958–59 .. ..	102,783	65,468	38,854	21,629	14,980	8,086	251,800
1959–60 .. ..	112,726	80,024	47,208	29,509	19,696	9,346	298,509
1960–61 .. ..	101,574	66,168	37,720	25,268	17,487	8,922	257,139
<b>COLLECTIONS DURING YEAR.(d)(e)</b>							
1959–60 .. ..	123,600	83,209	50,220	28,696	19,478	10,944	316,147
1960–61 .. ..	133,870	89,939	52,126	31,239	20,570	11,526	339,270
<b>BALANCES OUTSTANDING AT END OF YEAR.(d)</b>							
1956–57 .. ..	79,316	60,042	36,622	22,677	14,148	8,957	221,762
1957–58 .. ..	108,191	77,590	42,459	25,393	17,230	9,807	280,670
1958–59 .. ..	137,277	90,000	49,694	28,768	19,760	11,026	336,525
1959–60 .. ..	158,647	108,041	61,080	38,631	24,372	12,561	403,332
1960–61 .. ..	159,411	102,192	58,109	38,742	25,511	13,370	397,335

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory.  
(c) Excludes hiring charges, interest and insurance. (d) Includes hiring charges, interest and insurance.  
(e) Not available for years prior to 1959–60.

**F. NEW CAPITAL RAISINGS BY COMPANIES IN AUSTRALIA.**

1. **General.**—Information relating to capital raised by companies in Australia is given in the following tables. More detailed information may be found in the annual bulletin *Finance, Part I.—Public and Private Finance* and in quarterly bulletins dealing with capital raisings.



The statistics (the collection of which commenced in July, 1954) relate to capital raised by companies through issues of shares, and in the case of companies listed on stock exchanges, through the issue of debentures, notes and similar securities and the acceptance of deposits, and in the case of unlisted companies, by way of loans secured over the entire assets of the company. Capital obtained by way of bank overdraft, trade credit, temporary advances, and loans secured over part only of the assets of the company is not included, and, in the case of unlisted companies, capital raised through loans not secured over any of the assets of the company is excluded.

Separate statistics are given for listed and unlisted companies. Listed companies are companies incorporated in Australia or the Australian territories and listed on one or more of the Australian stock exchanges. All other companies incorporated in Australia, including subsidiaries of listed companies, are classified as unlisted companies. Companies incorporated overseas, whether listed on an Australian stock exchange or not, are excluded from the statistics of share issues. However, subsidiaries of overseas companies, if incorporated in Australia, are included. The statistics of new capital raised through issues of debentures, notes, etc., and the acceptance of deposits, include, in addition to capital raised by Australian companies, capital raised in this way from Australian sources by overseas public companies through their Australian offices.

The following are explanatory notes relating to some of the items shown in the tables.

*New Money.* This is the net amount of cash transferred from the investing public to the companies. For this purpose, the investing public includes banks and life insurance companies (except when subscribing to issues by associated companies), and government and private superannuation funds, but excludes other Government agencies. Subscriptions by associated companies, whether local or overseas, are excluded. In the tables which follow, the amount of new money is obtained by deducting from the total cash raised the "amount not involving a net transfer of funds from the investing public".

*Amounts not involving new money.* These amounts include cash subscriptions received by issuing companies from associated companies. Such subscriptions represent inter-company transfers only, and do not involve a receipt of funds from the "investing public". Also included are amounts which, although subscribed by the "investing public" (i.e. subscribers other than "associated companies"), are not retained by the issuing company or its associates, but are used to redeem shares, debentures or unsecured notes, etc., or are used to purchase from individuals existing shares, debentures, etc., in other companies, including existing shares, etc., in associated and subsidiary companies. The funds used in this way are thus returned to another section of the "investing public", and do not represent a net transfer of cash from the "investing public" to the companies. (Besides these purchases of existing shares, etc., from individuals, purchases of existing shares, etc., from companies other than associates of the issuing company might also be included in this item, but the amounts involved are small and separate details have not been collected.)

2. *Companies Listed on Stock Exchanges.*—Details of new capital raised through issues of shares, debentures, or registered notes, or accepting deposits are given in the following table for each of the years 1956–57 to 1960–61.

**LISTED AUSTRALIAN COMPANIES(a): NEW CAPITAL RAISED THROUGH ISSUES OF SHARES, DEBENTURES, OR REGISTERED NOTES, ETC.(b), OR ACCEPTING DEPOSITS(c).**

(£ million.)

Year.	Share Capital.					Debentures, Registered Notes and Deposits.			
	Value of Issues Com-menced.	Non-Cash Issues Com-menced. (d)	Cash Issues Com-menced.	Cash Raised During Period. (e)	Amounts Not In-volving New Money.	New Money.	Total Amount Raised. (f)	Amounts Not In-volving New Money. (f)	New Money.
1956–57 ..	110.4	57.7	52.7	51.0	7.3	43.7	143.1	92.1	51.0
1957–58 ..	105.1	56.2	48.9	50.3	15.1	35.2	208.9	130.6	78.3
1958–59 ..	99.6	41.1	58.5	57.7	9.0	48.7	308.2	168.7	139.5
1959–60 ..	158.4	96.6	61.8	62.0	14.3	47.7	407.7	213.2	194.5
1960–61 ..	263.5	127.2	136.3	127.2	28.7	98.5	428.7	311.8	116.9

(a) Includes companies incorporated in the Australian Territories.

(b) Includes convertible notes.

(c) Deposits accepted by banks, life assurance companies, pastoral companies, building societies and loans to authorized dealers in the short term money market are not included.

(d) Includes bonus issues, conversion issues, issues in exchange for existing shares, etc.

(e) Amounts paid up on issues commenced during the year plus calls on issues commenced in earlier years.

(f) Includes conversions, renewals, etc.

3. *Companies not listed on Stock Exchanges.*—Details of new capital raised by unlisted companies through issues of shares and loans secured by charges over the companies' entire assets are given in the following table for each of the years 1956–57 to 1960–61.

**UNLISTED COMPANIES(a): NEW CAPITAL RAISED THROUGH ISSUES OF SHARES AND LOANS SECURED BY CHARGES OVER THE COMPANIES' ENTIRE ASSETS.**

(£ million.)

Year.	Share Capital.					Loans secured by charges over the Companies' Entire Assets.			
	Value of Issues Commenced.	Non-Cash Issues Commenced. (b)	Cash Issues Commenced.	Cash Raised During Period. (c)	Amounts Not Involving New Money.	New Money.	Total Amount Raised. (d)	Amounts Not Involving New Money. (d)	New Money.
1956-57 ..	131.1	58.1	73.0	69.4	41.8	27.6	6.6	1.9	4.7
1957-58 ..	151.2	81.2	70.0	64.8	43.7	21.1	8.7	4.4	4.3
1958-59 ..	175.1	94.6	80.5	70.0	51.9	18.1	18.8	6.3	12.5
1959-60 ..	224.7	107.6	117.1	104.9	69.4	35.5	29.2	17.6	11.6
1960-61 ..	314.6	198.1	116.5	113.4	81.2	32.2	24.6	15.3	9.3

(a) Excludes companies incorporated in the Northern Territory and Australian External Territories.

(b) Includes bonus issues, conversion issues, issues in exchange for existing shares, etc.

(c) Amounts paid up on issues commenced during year plus calls on issues commenced in previous years.

(d) Includes conversions, renewals, etc.

4. Listed and Unlisted Companies, New Money Raised, Classified by Industry Groups.—A summary of new money raised by listed and unlisted companies during each of the years 1956-57 to 1960-61 as shown in the preceding tables is given below, together with a classification by industry groups of the amounts raised.

**LISTED AND UNLISTED COMPANIES: NEW MONEY RAISED, INDUSTRY GROUPS.**

(£ million.)

Year.	Companies Listed on Stock Exchanges.			Companies not Listed on Stock Exchanges.			Grand Total.
	Share Capital. (a)	Debentures, Registered Notes and Deposits. (b)	Total.	Share Capital. (a)	Secured Loans. (c)	Total.	
<b>MANUFACTURING.</b>							
1956-57 ..	22.1	10.1	32.2	6.7	1.8	8.5	40.7
1957-58 ..	14.7	12.9	27.6	5.2	2.8	8.0	35.6
1958-59 ..	20.7	27.7	48.4	4.6	8.8	13.4	61.8
1959-60 ..	17.9	22.2	40.1	(d)	(d)	13.2	53.3
1960-61 ..	37.9	23.3	61.2	5.8	3.4	9.2	70.4
<b>FINANCE AND PROPERTY.(b)</b>							
1956-57 ..	1.7	29.0	30.7	5.5	1.0	6.5	37.2
1957-58 ..	3.9	44.6	48.5	5.4	0.5	5.9	54.4
1958-59 ..	10.5	88.8	99.3	4.0	1.7	5.7	105.0
1959-60 ..	9.5	136.6	146.1	10.3	2.6	12.9	159.0
1960-61 ..	20.2	59.0	79.2	9.8	3.7	13.5	92.7
<b>COMMERCE.</b>							
1956-57 ..	10.5	8.3	18.8	6.0	1.3	7.3	26.1
1957-58 ..	10.6	15.9	26.5	4.9	0.6	5.5	32.0
1958-59 ..	11.9	16.6	28.5	3.9	1.6	5.5	34.0
1959-60 ..	9.6	24.4	34.0	7.2	0.8	8.0	42.0
1960-61 ..	21.6	22.6	44.2	5.9	1.0	6.9	51.1
<b>OTHER INDUSTRIES.</b>							
1956-57 ..	9.4	3.6	13.0	9.4	0.6	10.0	23.0
1957-58 ..	6.0	4.9	10.9	5.6	0.4	6.0	16.9
1958-59 ..	5.6	6.4	12.0	5.6	0.4	6.0	18.0
1959-60 ..	10.7	11.3	22.0	(d)	(d)	13.0	35.0
1960-61 ..	18.8	11.5	30.3	10.7	1.2	11.9	42.2
<b>TOTAL ALL INDUSTRIES.</b>							
1956-57 ..	43.7	51.0	94.7	27.6	4.7	32.3	127.0
1957-58 ..	35.2	78.3	113.5	21.1	4.3	25.4	138.9
1958-59 ..	48.7	139.5	188.2	18.1	12.5	30.6	218.8
1959-60 ..	47.7	194.5	242.2	35.5	11.6	47.1	289.3
1960-61 ..	98.5	116.4	214.9	32.2	9.3	41.5	256.4

(a) Includes preference shares. (b) Excludes deposits accepted by banks, insurance companies, pastoral companies and building societies, and loans to authorized dealers in the short-term money market.

(c) Includes only loans which are secured by charges over the companies' entire assets.

(d) Not available for publication.

## G. UNIT TRUSTS, LAND TRUSTS, AND MUTUAL FUNDS.

1. General.—Statistics relating to operations in Australia of unit trusts, land trusts and mutual funds have been collected quarterly since March, 1961, and are shown in the following tables. The figures do not include details of superannuation funds conducted by unit trusts management companies.

2. Transactions of Trusts and Funds.—Particulars of cash transactions in trust units and fund shares and of purchases and sales of investments by trusts and funds are given below.

## TRANSACTIONS OF TRUSTS AND FUNDS, 1961.

(£ million.)

Quarter ended—	Cash Transactions in respect of Trust Units and Fund Shares.		Purchases and Sales of Investments.(a)	
	Total Amount Received for Trust Units and Fund Shares Issued.(b)	Total Amount Paid for Trust Units and Fund Shares Re-purchased.(c)	Purchases.(d)	Sales.(e)
March, 1961 .. .. .	2.6	1.8	3.6	1.6
June, 1961 .. .. .	3.2	2.0	2.7	1.3
September, 1961 .. .. .	4.3	1.9	3.0	1.1
December, 1961 .. .. .	3.2	1.5	2.1	0.7

(a) Commonwealth Government, Local Authority and Semi-governmental Securities, shares, debentures, unsecured notes, loans, deposits on term or notice of three months or longer, land and buildings, etc. (b) Includes re-issues and new issues. Includes fees and expenses. (c) Includes those units and fund shares intended for re-issue. (d) Payments for assets acquired during quarter. Includes brokerage and stamp duty. (e) Receipts for assets sold or redeemed during quarter. Excludes brokerage and stamp duty.

3. Market Value of Trusts and Funds, and Cash and Short-term Deposits of Trusts and Funds.—The total market value of trusts and funds and the cash and short-term deposits of trusts and funds are shown in the following table.

## TOTAL MARKET VALUE OF TRUSTS AND FUNDS, AND CASH AND SHORT-TERM DEPOSITS OF TRUSTS AND FUNDS, 1961.

(£ million.)

At—	Total Market Value of Trusts and Funds.(a)	Cash and Short-term Deposits.(b)
31st March, 1961 .. .. .	81.0	4.6
30th June, 1961 .. .. .	84.0	3.8
30th September, 1961 .. .. .	85.8	3.2
31st December, 1961 .. .. .	87.7	3.5

(a) Includes value of land trusts at valuation. (b) Includes cash on hand and at bank, loans to authorized dealers in the short-term money market, and other deposits under three months term or notice.

## H. RURAL ADVANCES OF PASTORAL FINANCE COMPANIES.

The following table is derived from returns supplied to the Reserve Bank by major pastoral finance companies, and shows the total rural advances outstanding at the end of June, 1956 to 1960, and of subsequent quarters to June, 1961.

## RURAL ADVANCES OF PASTORAL FINANCE COMPANIES(a).

(Source: Reserve Bank of Australia.)

(£ million.)

At end of—	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia and Tasmania.	Total.
June, 1956 ..	21.1	15.1	15.5	11.8	10.7	74.3
„ 1957 ..	24.0	15.7	14.2	12.8	13.3	80.1
„ 1958 ..	28.4	14.5	20.0	14.4	15.6	92.9
„ 1959 ..	26.5	16.0	21.2	13.4	14.2	91.3
„ 1960 ..	29.6	17.7	24.3	14.9	15.4	101.9
September, 1960 ..	33.4	22.0	25.7	16.5	16.1	113.7
December, 1960 ..	32.0	24.5	26.2	18.7	15.7	117.1
March, 1961 ..	30.7	22.9	25.2	17.8	15.4	112.0
June, 1961 ..	29.8	19.9	23.4	17.4	15.9	106.4
September, 1961 ..	32.2	21.7	24.7	17.5	16.1	112.1
December, 1961 ..	28.2	20.6	24.8	17.8	14.7	106.0

(a) Compiled from returns supplied by major pastoral finance companies. Advances are classified according to the location of the branch holding the advance, which in some cases may differ from the State of residence of the borrower. The statistics refer to the total advances outstanding at the end of the month shown.

## I. SHORT-TERM MONEY MARKET.

1. General.—For some years prior to 1959, leading stockbrokers had been actively engaged in the acceptance of short-term funds against the security of Government securities, but their operations were limited by the absence of suitable short term securities and their liquidity requirements.

In February, 1959, the Commonwealth Bank (now the Reserve Bank) gave official status to the market by announcing that under certain conditions it would act as lender of last resort to authorized dealers in the short-term money market.

The form of organization so far developed consists of several companies authorized to act as dealers in the market. These dealers accept loans overnight, at call or for fixed periods in amounts of at least £25,000, and invest the funds in "money market securities", which have been defined as Commonwealth Government securities with currencies not exceeding three years.

Dealers are required to provide for a minimum capitalization and, in addition, to lodge with the Bank part of their capital in the form of money market securities as general backing for their operations. These lodgments which are referred to as "margins" are required to be equivalent on market values to at least:—(a) one per cent. of the total holdings by the dealer of securities maturing in one year; (b) two per cent. of the total holdings by the dealer of securities maturing within one to two years; and (c) four per cent. of the total holdings by the dealer of securities maturing within two to three years.

The Bank approves for each dealer the maximum portfolio of money market securities which may be carried and establishes a line of credit in favour of the dealer to the extent of that approved maximum portfolio. Under the line of credit, which is subject to renewal from time to time, the dealer may borrow in the last resort from the Bank against lodgment of security.

2. Selected Assets and Liabilities of Authorized Dealers and Rates of Interest on Loans Accepted.—In the following table, details of selected assets and liabilities of authorized dealers and the interest rates on loans accepted by dealers are given for each month January to December, 1960.

**SHORT-TERM MONEY MARKET: SELECTED ASSETS AND  
LIABILITIES OF AUTHORIZED DEALERS.**

(Source: Reserve Bank of Australia.)

Period.	Liabilities to Clients.			Holdings of Commonwealth Government Securities (at face value).	Interest Rates on Loans accepted during Month.			
	All Cheque-paying Banks.	Other Clients.	Total.		At Call.		For Fixed Periods.	
					Minimum per cent. per annum.	Maximum per cent. per annum.	Minimum per cent. per annum.	Maximum per cent. per annum.
	Average of Weekly Figures—£ million.							
1960—								
January ..	34.6	40.9	75.5	77.1	2.44	3.00	2.75	3.25
February ..	32.8	44.2	77.0	78.6	2.50	3.06	2.75	3.38
March ..	31.4	49.0	80.4	82.0	2.69	3.19	2.81	3.38
April ..	25.8	51.2	77.0	78.9	2.88	3.25	2.94	3.44
May ..	28.3	52.1	80.4	82.4	2.94	3.38	3.13	3.50
June ..	27.2	52.7	79.9	82.3	2.75	3.50	3.00	3.50
July ..	24.1	54.0	78.1	80.9	2.88	3.75	3.19	3.75
August ..	26.0	54.5	80.5	82.5	2.88	3.94	3.13	3.90
September ..	24.9	64.1	89.0	91.3	2.81	4.50	3.50	4.50
October ..	21.9	71.4	93.3	95.3	2.50	4.15	3.31	4.13
November ..	22.1	75.3	97.4	99.9	2.44	4.25	3.00	4.25
December(a)	27.1	69.4	96.5	100.0	2.50	4.50	3.50	4.38
1961—								
January ..	32.1	66.8	98.9	101.4	2.50	4.50	3.50	4.50
February ..	35.0	63.9	98.9	101.4	2.38	4.03	2.88	4.31
March ..	44.3	54.7	99.0	101.6	2.50	4.56	3.38	4.63
April ..	40.3	54.8	95.1	98.5	3.00	4.81	3.94	4.75
May ..	33.8	61.4	95.2	98.3	2.75	4.83	4.13	4.88
June ..	34.4	62.7	97.1	100.4	2.50	4.88	3.50	4.83
July ..	31.9	67.6	99.5	102.5	2.25	4.88	3.38	4.88
August ..	34.7	67.7	102.4	105.6	2.25	4.25	3.00	4.25
September ..	33.2	69.9	103.1	106.6	2.25	3.75	2.75	3.75
October ..	35.7	72.0	107.7	111.2	2.25	3.88	2.88	3.88
November ..	33.5	76.3	109.8	113.5	2.25	4.31	2.75	4.34
December(a)	33.8	76.6	110.4	114.1	2.25	4.00	2.75	4.00

(a) Excludes one Wednesday in December.

### J. FRIENDLY SOCIETIES.

1. **General.**—The total membership of friendly societies in Australia is about 450,000, but as certain benefits, such as medical attendance and free medicines, and in many cases funeral expenses, are granted to members' families as well as to members themselves, this figure must be more than doubled to arrive at an estimate of the number of persons who receive some direct benefit from these societies, even when due allowance is made for young and unmarried members. Legislation has conferred certain privileges on friendly societies, but, on the other hand, it insists on their registration, and it is the duty of the Registrars in the various States, prior to registering a new society, to see that its proposed rules conform to the law, and that the scale of contribution is sufficient to provide the promised benefits. Societies are obliged to forward to the Registrar annual returns about their membership and their finances, and reports are published in most of the States dealing with the returns received.

2. **Societies, Members and Revenue.**—The following table sets out the number of societies, members, etc., revenue and expenditure, and funds of registered societies for the year 1959-60. More detailed information is available in the bulletins *Finance, Part I.—Public and Private Finance*, and issue No. 51, 1959-60, contains particulars for the year 1958-59.

FRIENDLY SOCIETIES(a), 1959-60.

Particulars.	New South Wales. (b)	Victoria. (c)	Queensland.	South Australia.	Western Australia.	Tasmania. (c)	Total.
	No.	No.	No.	No.	No.	No.	No.
Registered Societies .. ..	41	145	23	14	12	12	247
Branches .. ..	1,917	1,223	471	606	262	125	4,604
Benefit members at end of year ..	143,744	165,633	50,608	52,239	19,134	7,819	439,177
Average benefit members during year ..	145,120	166,389	50,511	52,677	19,444	8,188	442,329
Members who received sick pay ..	(d)	30,877	9,728	9,993	3,396	1,557	(d)
Total weeks sick pay granted ..	(d)	458,132	139,377	167,544	57,540	27,197	(d)
Average weeks per member sick ..	(d)	14.9	14.3	16.8	16.9	17.5	(d)
Deaths of benefit members ..	(d)	2,456	1,058	1,002	306	294	(d)
Proportion of deaths per 1,000 members (average) .. ..	(d)	14.8	20.9	19.0	15.7	35.9	(d)
<b>Revenue—</b>	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
Entrance fees, levies and members' contributions .. ..	2,800	2,229	660	1,226	529	26	7,470
Interest, dividends and rents .. ..	444	552	168	254	56	34	1,820
All other revenue .. ..	136	68		63	33	12	
<b>Total .. ..</b>	<b>3,380</b>	<b>2,849</b>	<b>828</b>	<b>1,543</b>	<b>618</b>	<b>72</b>	<b>9,290</b>
<b>Expenditure—</b>							
Sick pay .. ..	198	268	96	79	25	12	678
Medical attendance and medicine ..	2,041	1,349	423	506	431	4	4,754
Sums payable at death .. ..	157	82	57	55	17	21	389
Administration .. ..	619	526	179	254	58	16	1,652
All other expenditure .. ..	162	210	..	451	32	5	860
<b>Total .. ..</b>	<b>3,177</b>	<b>2,435</b>	<b>755</b>	<b>1,345</b>	<b>563</b>	<b>58</b>	<b>8,333</b>
<b>Total Funds .. ..</b>	<b>9,287</b>	<b>11,624</b>	<b>3,615</b>	<b>5,175</b>	<b>1,615</b>	<b>695</b>	<b>32,011</b>

(a) Excludes juvenile branches, dispensaries, medical institutes and certain miscellaneous societies. Receipts and payments of subsidy under the Commonwealth medical and hospital benefit schemes are excluded. (b) Includes the Australian Capital Territory. (c) Year 1960. (d) Not available.

K. PROBATES AND LETTERS OF ADMINISTRATION.

The following table gives some particulars of the number and value of estates of deceased persons in each State for the latest year for which information is available. Owing to differences in legislation in the various States, the figures are not entirely comparable. Figures shown for Queensland now relate to all estates dealt with; previous figures shown related only to estates dealt with by the Supreme Court.

PROBATES AND LETTERS OF ADMINISTRATION.

Particulars.	New South Wales. 1959-60. (a)	Victoria. 1960.	Queensland. 1959-60.	South Australia. 1960.	Western Australia. 1960.	Tasmania. 1960. (b)
<b>Probates—</b>						
Estates .. .. No.	22,122	(c)	5,758	3,310	2,196	1,098
Gross Value .. .. £'000	(c)	(c)	36,062	23,847	15,578	7,818
Net Value .. .. £'000	127,028	(c)	(c)	22,548	13,807	7,344
<b>Letters of Administration—</b>						
Estates .. .. No.	(c)	(c)	1,241	647	273	219
Gross Value .. .. £'000	(c)	(c)	2,744	1,810	1,078	662
Net Value .. .. £'000	(c)	(c)	(c)	1,623	979	571
<b>Total—</b>						
Estates .. .. No.	(c)	15,137	6,999	3,957	2,469	1,317
Gross Value .. .. £'000	(c)	99,068	38,806	25,657	16,656	8,480
Net Value .. .. £'000	(c)	94,896	35,795	24,171	14,786	7,915

(a) Total estates of deceased persons assessed for death duty. Taxation Department. (b) Estates dealt with by the (c) Not available.

## L. LOTTERIES AND BETTING.

## § 1. Lotteries.

State Governments operate lotteries in New South Wales, Queensland and Western Australia. Tattersall Lotteries and Tasmanian Lotteries are operated under Government licences in Victoria and Tasmania respectively. In general, revenue derived by the State Governments from these lotteries is used directly or indirectly to provide funds for expenditure on hospitals, charities, etc. For information as to the origin, purpose and method of payment of proceeds or taxes to State revenues *see* Official Year Book No. 46, page 808 and earlier issues of this Year Book.

Details of ticket sales, prizes allotted, and taxes paid and other net contributions to State Government revenues, relating to lotteries drawn during each of the years ended 30th June, 1957 to 1961, are given in the following table.

**LOTTERIES: VALUE OF TICKET SALES, PRIZES ALLOTTED, TAXES PAID AND OTHER NET CONTRIBUTIONS TO STATE GOVERNMENT REVENUES.**

(£'000.)

Year.	New South Wales.	Victoria.	Queensland.	Western Australia.	Tasmania.	Total.
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TICKET SALES.

1956-57..	..	12,830	9,200	6,175	1,163	3,525	32,893
1957-58..	..	14,150	8,950	6,725	1,150	1,427	32,402
1958-59..	..	13,598	8,750	6,760	1,138	796	31,042
1959-60..	..	14,505	9,300	6,510	1,263	490	32,068
1960-61..	..	16,670	10,400	6,480	1,350	105	35,005

PRIZES ALLOTTED.

1956-57..	..	8,211	5,520	3,946	654	2,146	20,477
1957-58..	..	9,087	5,370	4,285	640	868	20,250
1958-59..	..	8,725	5,250	4,308	628	485	19,396
1959-60..	..	9,292	5,570	4,149	698	299	20,008
1960-61..	..	10,659	6,240	4,130	758	64	21,851

TAXES PAID AND OTHER NET CONTRIBUTIONS TO STATE GOVERNMENT REVENUES.

1956-57..	..	4,184	2,852	1,822	353	1,027	10,238
1957-58..	..	4,593	2,775	1,895	353	415	10,031
1958-59..	..	4,326	2,713	1,902	352	232	9,525
1959-60..	..	4,661	2,883	1,774	392	143	9,853
1960-61..	..	5,380	3,224	1,744	407	32	10,787

## § 2. Betting.

Estimates of totalizator investments and investments with licensed bookmakers for the years ended 30th June, 1957 to 1961, are given in the following table.

**TOTALIZATOR INVESTMENTS AND INVESTMENTS WITH LICENSED BOOKMAKERS.**  
(£'000.)

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
<b>TOTALIZATOR INVESTMENTS.(a)</b>							
1956-57 .. ..	13,213	11,573	2,361	2,172	2,177	976	32,472
1957-58 .. ..	13,831	11,740	2,579	2,236	2,498	944	33,828
1958-59 .. ..	14,340	11,532	2,771	2,014	2,018	823	33,498
1959-60 .. ..	14,691	13,198	2,623	2,294	2,263	793	35,862
1960-61 .. ..	13,677	15,298	2,912	2,361	2,342	750	37,340
<b>INVESTMENTS WITH LICENSED BOOKMAKERS.(b)</b>							
1956-57 .. ..	113,170	52,715	(c)	29,932	25,564	11,505	(c)
1957-58 .. ..	113,147	64,250	(c)	28,335	27,005	12,031	(c)
1958-59 .. ..	100,201	62,150	(c)	26,366	24,385	11,103	(c)
1959-60 .. ..	110,792	71,600	(c)	27,269	25,032	11,884	(c)
1960-61 .. ..	111,911	78,585	(c)	28,922	21,751	13,158	(c)

(a) Estimated from taxes on totalizators.  
(c) Not available.

(b) Estimated from taxes on betting with licensed bookmakers.

**M. PENSION AND SUPERANNUATION SCHEMES.**

**§ 1. Government and Semi-Governmental Pension and Superannuation Schemes.**

The Commonwealth and all State Governments have established pension or superannuation schemes for their employees. These schemes are operated through funds to which both the Government and the employees make contributions. Employees of semi-governmental authorities are in some cases covered by the Commonwealth or State Government scheme and in other cases by a separate scheme of the authority.

In the following tables, aggregate details are given, for the year 1960-61, of the receipts, expenditure, accumulated funds and number of contributors and pensioners of the Commonwealth and State Government and main semi-governmental schemes. The funds included are:—

- (a) *Commonwealth*.—The Superannuation Fund and Defence Forces Retirement Benefits Fund.
- (b) *New South Wales*.—State Superannuation Fund, Government Railways Superannuation Fund and Police Superannuation and Reward Fund.
- (c) *Victoria*.—The State Superannuation Fund, Police Superannuation Fund, Police Pensions Fund, Melbourne Harbor Trust Superannuation Account, Geelong Harbor Trust Superannuation Fund, Melbourne and Metropolitan Board of Works Superannuation Fund, State Electricity Commission Provident Fund, Gas and Fuel Corporation Superannuation Fund, Metropolitan Fire Brigades Board Superannuation Fund, Country Fire Authority Superannuation Fund, Port Phillip Pilots' Sick and Superannuation Fund, and Married Women Teachers' Pension Fund.
- (d) *Queensland*.—Public Service Superannuation Fund and Police Superannuation Fund.
- (e) *South Australia*.—South Australia Superannuation Fund, Police Pensions Fund and Public Service Superannuation Fund.
- (f) *Western Australia*.—The Superannuation Fund.
- (g) *Tasmania*.—Public Service Superannuation Fund (Old and New Funds), Police Provident Fund and State Teachers' Superannuation Fund.



**GOVERNMENT AND SEMI-GOVERNMENTAL PENSION AND SUPERANNUATION SCHEMES, 1960-61.**

Particulars.	C'wth.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
<b>Receipts—</b>								
<b>Contributions—</b>								
Employees ..	12,462	5,229	4,240	1,243	1,145	655	578	25,552
Government ..	8,501	11,485	7,281	1,314	1,174	64	477	30,296
Interest ..	4,172	4,773	2,881	540	767	307	266	13,706
Other ..	..	8	618	7	..	915	5	1,553
<b>Total ..</b>	<b>25,135</b>	<b>21,495</b>	<b>15,020</b>	<b>3,104</b>	<b>3,086</b>	<b>1,941</b>	<b>1,326</b>	<b>71,107</b>
<b>Expenditure—</b>								
Pension Payments(a) ..	11,359	10,540	7,168	886	1,690	1,109	631	33,383
Gratuities or Rewards ..	1,347	109	19	..	..	..	..	1,475
Refund of Contributions ..	53	..	..	..	8	..	..	61
Other ..	..	95	7	..	74	..	7	183
<b>Total ..</b>	<b>12,759</b>	<b>10,744</b>	<b>7,194</b>	<b>886</b>	<b>1,772</b>	<b>1,109</b>	<b>638</b>	<b>35,102</b>
<b>Funds at end of Year ..</b>	<b>97,199</b>	<b>70,590</b>	<b>65,683</b>	<b>12,668</b>	<b>16,466</b>	<b>6,907</b>	<b>5,783</b>	<b>275,296</b>
<b>Contributors at end of Year—</b>								
Males ..	No. (b)	No. } 93,904	No. } 50,534	No. } 13,709	No. } 14,014	No. } 9,550	No. } 6,721	No. } (b)
Females ..	(b)	} ..	} 7,997	} 5,364	} 1,777	} 687	} 2,355	(b)
<b>Total ..</b>	<b>(b)</b>	<b>93,904</b>	<b>58,531</b>	<b>19,073</b>	<b>15,791</b>	<b>10,237</b>	<b>9,076</b>	<b>(b)</b>
<b>Pensioners at end of Year—</b>								
Males ..	(b)	} 26,869	{ 9,768	1,271	2,966	2,493	950	(b)
Female ex-employees ..	(b)		{ 1,325	375	533	258	238	(b)
Widows ..	(b)		{ 6,961	372	2,486	1,697	660	(b)
Children ..	(b)		{ 708	82	234	158	123	(b)
<b>Total ..</b>	<b>(b)</b>	<b>26,869</b>	<b>18,762</b>	<b>2,100</b>	<b>6,219</b>	<b>4,606</b>	<b>1,971</b>	<b>(b)</b>

(a) Including lump sum payments. (b) Not available—for year 1959-60 contributors to Commonwealth fund numbered 154,140 and pensioners 21,455.

For details of the individual funds summarized above see *Finance, Part I, Public and Private Finance Bulletins* issued by this Bureau.

### § 2. Parliamentary Pension and Superannuation Schemes.

Pension and superannuation schemes have been established for members of the Commonwealth and State Parliaments. Details of these schemes, except for Tasmania, are given in pages 91 to 99 of Official Year Book No. 38. Details of the Tasmanian scheme, are given on page 72 of Official Year Book No. 44. All the schemes are operated through funds to which the members of Parliament and the Commonwealth or States contribute. Details of the receipts, expenditure, funds and number of contributors and pensioners for the year 1960-61 are shown in the following table:—

**PARLIAMENTARY PENSION AND SUPERANNUATION SCHEMES, 1960-61.**

Particulars.	C'wth.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
	£	£	£	£	£	£	£	£
<b>Receipts—</b>								
<b>Contributions—</b>								
Members ..	445,077	29,915	15,456	15,499	7,382	13,663	8,415	535,407
Government ..	240,291	14,555	29,087	15,499	13,382	13,520	1,496	327,830
Interest ..	90,301	7,107	..	15,684	5,413	3,681	823	123,009
Other ..	3,986	..	..	..	..	..	..	3,986
<b>Total ..</b>	<b>779,655</b>	<b>51,577</b>	<b>44,543</b>	<b>46,682</b>	<b>26,177</b>	<b>30,864</b>	<b>10,734</b>	<b>990,232</b>
<b>Expenditure—</b>								
Pension Payments(a) ..	343,971	31,374	44,543	13,868	12,437	12,671	8,578	467,442
Refund of Contributions ..	4,219	..	..	..	..	..	..	4,219
Other ..	..	..	..	150	75	..	132	357
<b>Total ..</b>	<b>348,190</b>	<b>31,374</b>	<b>44,543</b>	<b>14,018</b>	<b>12,512</b>	<b>12,671</b>	<b>8,710</b>	<b>472,018</b>
<b>Funds at end of Year ..</b>	<b>424,611</b>	<b>169,641</b>	<b>..</b>	<b>340,671</b>	<b>128,447</b>	<b>87,623</b>	<b>21,403</b>	<b>1,172,396</b>
<b>Contributors at end of Year—</b>								
Males ..	No. 184	No. 97	No. 100	No. 73	No. 59	No. 80	No. 54	No. 647
<b>Pensioners at end of Year—</b>								
Ex-members ..	50	29	(b)	19	12	18	8	(b)
Widows ..	21	23	(b)	12	10	19	3	(b)
<b>Total ..</b>	<b>71</b>	<b>52</b>	<b>(b)</b>	<b>31</b>	<b>22</b>	<b>37</b>	<b>11</b>	<b>(b)</b>

(a) Including lump sum payments. (b) Not available.

### § 3. Private Pension and Retiring Allowance Schemes.

Special surveys have been conducted by this Bureau on superannuation or pension and retiring allowance schemes conducted under private enterprise, and the results were published in a series of Special Business Surveys, Nos. 7, 9, 11, 12 and 13 relating to the years 1951-52, 1955-56, 1955-56 to 1957-58, 1955-56 to 1958-59 and 1955-56 to 1960-61 respectively.

## CHAPTER XXI.

### PUBLIC FINANCE.

NOTE.—The subject of "Public Finance" is dealt with in this chapter under the two major divisions of Commonwealth Finance and State Finance. The close financial relations between the Commonwealth and States, however, particularly since the Financial Agreement has been in operation, demand also a combination of these two divisions under the heading of Commonwealth and State Finance. Under the Financial Agreement, the Commonwealth assumed the liability to bondholders for the States' Securities existing at the date of the Agreement and now arranges for all borrowings for and on behalf of the Commonwealth or any State and for all conversions, renewals, redemptions and consolidations of such securities. In view of this, it is convenient to deal with the Commonwealth and State Government Securities on Issue in a separate division of this chapter (D, page 864).

The subject of income taxes is also dealt with in a separate division (E, page 883).

For further detailed information on the subjects covered by this chapter, *see* the annual bulletins *Finance, Part I.—Public and Private Finance* and *Part II.—Commonwealth Taxation*, published by this Bureau. Current information in summarized form is contained in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, and the *Digest of Current Economic Statistics*.

#### A. COMMONWEALTH FINANCE.

##### § 1. General.

1. **Financial Provisions of the Constitution.**—The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth are contained in Sections 81 to 105A of the Commonwealth Constitution (*see* pp. 17–20 of this Year Book). Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51.

Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments. Sections 87 and 96 deal with the financial relations between the Commonwealth and the States. These matters have been treated in previous issues of the Official Year Book and on pages 841–7 of this issue a summary is given of the present provisions for Commonwealth financial assistance to the States.

The majority of the tables relating to Commonwealth Finance have been compiled from the annual Budget Papers as presented to Parliament by the Treasurer of the Commonwealth.

2. **Accounts of the Commonwealth Government.**—The Commonwealth Government bases its accounts upon three funds, the Consolidated Revenue Fund, the Trust Fund and the Loan Fund.

##### § 2. Commonwealth Consolidated Revenue Fund.

###### A. NATURE OF FUND.

1. **Provisions of the Constitution.**—The provisions made for the establishment of a Commonwealth Consolidated Revenue Fund, and the means to be adopted for operating on the fund, are contained in Sections 81 to 83 of the Constitution (*see* p. 17 of this Year Book).

2. **Annual Results of Transactions.**—In the early 1920's, receipts and expenditure of the Consolidated Revenue Fund each ranged between £60 million and £70 million. After allowing for special appropriations, amounting to one or two million pounds each year

utilized for a variety of purposes, e.g., for debt redemption, naval construction, main roads, science and industry investigations, prospecting for oil and precious metals, civil aviation, etc., the receipts and expenditure of the Fund were balanced. In the later twenties and early thirties, when receipts and expenditure were each about £70 million or £80 million a year, there were annual deficits, which had accumulated to more than £17 million by the end of 1930-31.

In the years 1931-32 to 1938-39, receipts and expenditure each ranged from £70 million to £95 million and were in balance after allowing for special appropriations of up to £3.5 million a year for reduction of the accumulated deficit, non-recurring grants to the States, post office works and the provision of defence equipment. The amount applied towards reduction of the accumulated deficit was approximately £1.5 million and the balance of the deficit (approximately £15.7 million) was funded in 1937-38.

For most of the 1939-45 War years and thereafter, the Consolidated Revenue Fund was balanced, all available revenue after meeting expenditure on ordinary services being used for defence, war and repatriation purposes.

During the years 1956-57 to 1960-61, the Fund was balanced after special payments of £194.8 million, £104.4 million, £27.9 million, £41.4 million and £142.6 million to the Loan Consolidation and Investment Reserve Trust Account. The amounts so transferred were subsequently invested wholly or partly in special loans for State works requirements.

#### B. REVENUE.

1. General.—The following table shows details of the revenue from each source and the amount per head of population under each of the main headings during the years 1956-57 to 1960-61. Taxation constitutes the main sources of Commonwealth revenue, accounting for 87.0 per cent. in 1960-61.

#### COMMONWEALTH CONSOLIDATED REVENUE FUND: SOURCES OF REVENUE.

(£'000.)

Source.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Taxation</i> .. .. .	1,098,736	1,161,533	1,133,298	1,249,790	1,425,141
Per head of Population .. ..	£115 5 4	£119 4 6	£113 18 4	£122 19 3	£137 3 1
<i>Business Undertakings</i> .. ..	99,803	108,228	116,896	137,238	153,867
Per head of population .. ..	£10 9 4	£11 2 2	£11 15 1	£13 10 1	£14 16 2
<i>Territories(a)</i> .. .. .	2,513	2,845	3,189	4,198	5,455
Per head of population .. ..	£0 5 3	£0 5 10	£0 6 5	£0 8 3	£0 10 6
<i>Other Revenue—</i>					
Interest, etc. .. .. .	13,475	10,920	11,572	13,539	14,817
Coinage .. .. .	693	223	149	415	321
Defence .. .. .	3,763	5,776	6,185	5,832	5,827
Civil Aviation .. .. .	1,262	1,472	1,497	1,872	2,621
Health .. .. .	90	105	92	106	119
Patents, Trade Marks, etc. ..	306	318	351	399	476
Bankruptcy .. .. .	72	98	98	113	143
Shipping and Transport .. ..	914	1,128	621	2,645	1,761
Net Profit on Australian Note Issue	10,054	12,592	10,935	10,516	12,930
Surplus Balances of Trust Accounts	69,782	3,991	5,722	5,674	2,053
Australian Aluminium Production Commission .. .. .	..	..	..	..	2,500
Reserve Bank Reserve Fund ..	..	..	..	..	2,691
Commonwealth Banking Corporation	..	..	..	..	756
Joint Coal Board—Repayment of Advances .. .. .	750	1,100	143	..	..
Other .. .. .	9,622	(b) 13,442	(b) 5,302	(b) 5,949	(b) 6,801
<i>Total</i> .. .. .	110,783	51,165	42,667	47,060	53,816
Per head of population .. ..	£11 12 5	£5 5 1	£4 5 9	£4 12 7	£5 3 7
<i>Grand Total</i> .. .. .	1,311,835	1,323,771	1,296,050	1,438,286	1,638,279
Per head of population .. ..	£137 12 4	£135 17 7	£130 5 7	£141 10 2	£157 13 4

(a) Excludes Railways. (b) Includes collections of Diesel Fuel Taxation subsequently refunded; 1957-58, £1,314,000; 1958-59, £989,000; 1959-60, £278,000; 1960-61, £115,000.

A graphical representation of the revenue and expenditure of the Commonwealth Consolidated Revenue Fund appears on page 845.

2. Taxation.—(i) *Total Collections.* (a) *Amount.* Collections under each heading for the years 1956–57 to 1960–61 are shown below.

## COMMONWEALTH TAXATION: TOTAL NET COLLECTIONS.

(£'000.)

Heading.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Customs .. .. .	68,597	71,717	71,671	84,381	101,823
Excise .. .. .	217,440	231,334	236,254	252,111	257,297
Sales Tax .. .. .	125,752	137,777	143,617	164,185	173,016
Land Tax .. .. .	1	11	..	..	..
Pay-roll Tax .. .. .	48,675	48,552	49,619	55,162	61,260
Income Taxes(a) .. .. .	620,298	650,419	608,660	671,294	807,266
Estate Duty .. .. .	12,712	13,774	13,309	13,753	14,807
Gift Duty .. .. .	1,940	2,205	2,000	2,435	2,783
Special Industry Taxes(b) .. .. .	3,321	5,744	8,168	6,469	6,889
<b>Total Taxation .. .. .</b>	<b>1,098,736</b>	<b>1,161,533</b>	<b>1,133,298</b>	<b>1,249,790</b>	<b>1,425,141</b>

(a) Includes Social Services Contribution, War-time (Company) Tax, Super Tax, Undistributed Profits Tax and Wool Deduction. (b) Used for purposes of industries concerned. The taxes are as follows:—Flour Tax, Wheat Tax, Wool Levy, Wool Contributory Charge, Wheat Export Charge, Miscellaneous Export Charges, Stevedoring Industry Charge, Tobacco Industry Charge, Gold Tax, Dairy Produce Levy, Canning Fruit Charge and Cattle Slaughter Levy.

(b) *Proportion of each Class to Total Collections.* The following table shows the proportion of the total collections represented by returns from each class of taxation for the years 1956–57 to 1960–61.

## COMMONWEALTH TAXATION: PROPORTION OF EACH CLASS TO TOTAL NET COLLECTIONS.

(Per Cent.)

Heading.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Customs .. .. .	6.2	6.2	6.3	6.8	7.2
Excise .. .. .	19.8	20.0	20.9	20.2	18.1
Sales Tax .. .. .	11.4	11.8	12.7	13.1	12.1
Land Tax .. .. .	..	..	..	..	..
Pay-roll Tax .. .. .	4.4	4.2	4.4	4.4	4.3
Income Taxes(a) .. .. .	56.5	56.0	53.7	53.7	56.6
Estate Duty .. .. .	1.2	1.2	1.2	1.1	1.0
Gift Duty .. .. .	0.2	0.2	0.2	0.2	0.2
Special Industry Taxes(b) .. .. .	0.3	0.4	0.6	0.5	0.5
<b>Total Taxation .. .. .</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) See note (a) to previous table.

(b) See note (b) to previous table.

(ii) *Customs Revenue.* The following table gives details of net customs receipts for the years 1956-57 to 1960-61.

**COMMONWEALTH CUSTOMS REVENUE: CLASSIFICATION OF NET RECEIPTS.**  
(£'000.)

Classes.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Foodstuffs of animal origin .. .. .	281	347	336	473	677
Foodstuffs of vegetable origin .. .. .	1,392	1,546	1,512	1,784	2,100
Spirituos and alcoholic liquors .. .. .	2,697	3,047	3,274	4,762	5,202
Tobacco, cigars and cigarettes .. .. .	12,526	12,375	12,190	13,034	13,352
Animal substances (not foodstuffs) .. .. .	7	5	5	7	8
Vegetable substances and fibres .. .. .	196	222	182	259	168
Yarns, textiles and apparel .. .. .	8,303	10,284	9,800	12,176	15,573
Oils, fats and waxes .. .. .	11,543	10,039	11,123	10,970	12,430
Pigments, paints and varnishes .. .. .	152	160	179	219	317
Rocks and minerals .. .. .	24	35	24	56	46
Metals, metal manufactures and machinery ..	16,169	18,389	18,348	23,036	28,655
Rubber and leather and manufactures thereof	990	1,291	620	606	939
Wood and wicker, raw and manufactured ..	1,413	1,510	1,398	1,802	2,353
Earthenware, cement, china, glass and stone-ware	1,588	1,822	1,866	2,233	3,002
Pulp, paper and board, paper manufactures and stationery .. .. .	748	848	940	1,426	2,361
Sporting materials, toys, fancy goods, jewellery and timepieces .. .. .	1,779	2,165	2,297	2,825	3,526
Optical, surgical and scientific instruments, photographic goods .. .. .	1,065	1,118	1,169	1,404	1,683
Chemicals, pharmaceutical products, essential oils and fertilizers .. .. .	1,051	1,302	1,317	1,690	1,806
Miscellaneous goods .. .. .	1,802	2,174	2,269	3,047	5,045
Primage .. .. .	4,318	2,483	2,078	1,939	2,298
Other receipts .. .. .	553	555	744	633	282
<b>Total .. .. .</b>	<b>68,597</b>	<b>71,717</b>	<b>71,671</b>	<b>84,381</b>	<b>101,823</b>

(iii) *Excise Revenue.* Net excise receipts for the years 1956-57 to 1960-61 were as follows.

**COMMONWEALTH EXCISE REVENUE: CLASSIFICATION OF NET RECEIPTS.**  
(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Beer .. .. .	103,516	105,997	105,286	109,724	111,740
Spirits .. .. .	8,138	8,047	8,692	8,683	8,586
Tobacco .. .. .	17,270	16,633	15,207	14,366	13,389
Cigars and cigarettes .. .. .	47,916	51,366	55,824	61,459	64,969
Cigarette papers .. .. .	910	862	811	770	716
Petrol .. .. .	37,183	41,711	44,253	49,255	51,952
Diesel Fuel .. .. .	..	2,770	1,475	2,179	2,184
Matches .. .. .	1,074	1,084	1,092	1,125	1,105
Playing cards .. .. .	48	47	48	52	50
Coal .. .. .	599	590	578	418	389
Miscellaneous .. .. .	786	2,227	2,988	4,080	2,217
<b>Total .. .. .</b>	<b>217,440</b>	<b>231,334</b>	<b>236,254</b>	<b>252,111</b>	<b>257,297</b>

(iv) *Other Taxation. (a) General.* Taxes other than customs and excise and the various export charges are, in general, assessed and collected by the Commissioner of Taxation. The organization comprises a Head Office in Canberra, an office in each State assessing the returns of taxpayers whose interests are restricted to that State, and a Central Office situated in Melbourne assessing taxpayers whose interests are in more than one State.

For detailed statistics relating to Commonwealth income taxes, estate duty, gift duty and sales tax, see the annual bulletin *Finance, Part II.—Commonwealth Taxation*, issued by this Bureau.

(b) *Sales Tax.* The sales tax was first imposed in August, 1930. The operation of the tax is controlled chiefly by a system of registration of taxpayers whereby all manufacturers and wholesale merchants, who are the taxpayers under the Act in respect of goods sold in Australia, must be registered with the Department. The tax on imports subject to sales tax is collected by the Customs Department at ports of entry.

Since the inception of the tax, certain exemptions have been allowed. These exemptions, which have been extended from time to time, relate mainly to goods of an essential nature or those for use in primary production. The most recent exemptions were those granted from 15th August, 1961.

A general rate of tax is levied on all goods other than those specified in the schedules to the Sales Tax (Exemptions and Classifications) Act 1935-1961. These schedules set out details of goods exempt from sales tax and those subject to special rates. The general and special rates which operated from 7th August, 1952, were:—

Period.	General Rate.	Special Rates.
7th August, 1952, to 9th September, 1953 ..	12½ per cent. ..	20, 33½ and 50 per cent.
10th September, 1953, to 18th August, 1954 ..	12½ per cent. ..	16½ per cent.
19th August, 1954, to 14th March, 1956 ..	12½ per cent. ..	10 and 16½ per cent.
15th March, 1956, to 3rd September, 1957 ..	12½ per cent. ..	10, 16½, 25 and 30 per cent.
4th September, 1957, to 15th November, 1960 ..	12½ per cent. ..	8½, 16½, 25 and 30 per cent.
16th November, 1960, to 21st February, 1961 ..	12½ per cent. ..	8½, 16½, 25 and 40 per cent.
22nd February, 1961, to 14th August, 1961 ..	12½ per cent. ..	8½, 16½, 25 and 30 per cent.
15th August, 1961, to 6th February, 1962 ..	12½ per cent. ..	2½, 16½, 25 and 30 per cent.
From 7th February, 1962 .. ..	12½ per cent. ..	2½, 22½ and 25 per cent.

Particulars of the net amount of sales tax payable, and the sales of taxable and exempt goods in each State for 1960-61, are given in the following table. The figures relate to sales during the period 1st July to 30th June. The figures for sales tax payable differ from those for net collections shown on page 823, because the latter include some adjustments in respect of earlier tax years and include only tax payable on returns lodged during the year, which in general cover sales for the period June to May.

## SALES TAX AND AMOUNT OF SALES, 1960-61.

(£'000.)

Particulars.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Terr.	Australia.
Net Sales on which Sales Tax was payable at—								
8½ per cent. ..	80,816	61,765	21,131	17,333	10,507	4,147	42	195,741
12½ per cent. ..	196,386	133,837	54,959	40,197	25,499	10,171	374	461,423
16½ per cent. ..	41,744	37,791	16,820	11,811	9,206	1,321	58	118,751
25 per cent. ..	43,244	26,900	9,940	7,360	5,305	1,836	21	94,606
30 per cent. ..	52,395	46,450	15,794	13,289	8,808	1,874	..	138,610
40 per cent. ..	11,515	11,080	3,484	2,886	2,157	299	..	31,421
<i>Total</i> ..	<i>426,100</i>	<i>317,823</i>	<i>122,128</i>	<i>92,876</i>	<i>61,482</i>	<i>19,648</i>	<i>495</i>	<i>1,040,552</i>
Sales of Exempt Goods by Registered Persons ..	955,030	718,367	343,923	207,737	152,836	66,095	3,138	2,447,126
Total Sales of Taxable and Exempt Goods ..	1,381,130	1,036,190	466,051	300,613	214,318	85,743	3,633	3,487,678
Sales Tax Payable ..	69,376	53,267	20,051	15,418	10,429	2,978	65	171,584

(a) Includes the Australian Capital Territory.

Sales of taxable and exempt goods and sales tax payable for Australia as a whole are shown in the following table for the years 1956–57 to 1960–61.

## SALES TAX AND AMOUNT OF SALES.

(£'000.)

Year.	Net Sales on which Sales Tax was Payable.	Sales of Exempt Goods by Registered Persons.	Total Sales of Taxable and Exempt Goods.	Sales Tax Payable.
1956–57 .. .. .	781,250	2,016,828	2,798,078	127,649
1957–58 .. .. .	849,347	2,105,688	2,955,035	138,259
1958–59 .. .. .	890,293	2,152,026	3,042,319	143,296
1959–60 .. .. .	1,020,033	2,354,204	3,374,237	167,839
1960–61 .. .. .	1,040,552	2,447,126	3,487,678	171,584

In the foregoing tables, sales include goods transferred to stock for sale by retail, goods imported by persons other than registered taxpayers, and goods used in the business of the taxpayer. Exempt sales relate to goods exempted from sales tax under the Sales Tax (Exemptions and Classifications) Act 1935–1961. The figures shown do not represent the total sales of all commodities, as vendors trading only in exempt goods are not required to be registered and consequently the volume of their sales is not included in the statistics above. In addition, non-taxable sales (i.e., goods sold by one registered taxpayer to another registered taxpayer) are excluded.

(c) *Land Tax.* Commonwealth Land Tax was levied annually from 1910–11 to 1951–52 on the unimproved value of land. It was abolished from 1st July, 1952.

(d) *Pay-roll Tax.* The Pay-roll Tax Act 1941 and the Pay-roll Tax Assessment Act 1941–1942 imposed a pay-roll tax of 2½ per cent. on all wages and salaries in excess of £20 a week paid by an employer after 30th June, 1941. Employers who are liable for tax are required to register and to furnish a monthly return of all wages paid. These measures formed part of the Commonwealth scheme of child endowment, the revenue from the tax being designed to provide part of the money required. However, the collections now form part of the general revenues of the Commonwealth. For particulars of the present method of financing the National Welfare Fund, out of which Child Endowment is paid, see para. 6, page 837. The exemption was increased to £80 a week (£4,160 per annum) from 1st October, 1953, to £120 a week (£6,240 per annum) from 1st September, 1954, and to £200 a week (£10,400 per annum) from 1st September, 1957. Employers whose export sales have increased above the annual average of export sales effected during a base period of two years ended 30th June, 1960, are entitled under the Commonwealth Government's export incentive scheme to a rebate of pay-roll tax of twelve and one half times the percentage increase in export sales.

Receipts from pay-roll tax for the years 1956–57 to 1960–61 were—1956–57, £48,675,000; 1957–58, £48,552,000; 1958–59, £49,619,000; 1959–60, £55,162,000; and 1960–61, £61,260,000.

(e) *Income Taxes.* Details of taxes on income are given in division E of this chapter.

(f) *Wool Sales Deduction.* The Wool Sales Deduction scheme operated from 2nd December, 1950, until 17th November, 1951. For particulars, see Official Year Book No. 46, page 819.

(g) *Estate Duty.* The Commonwealth Estate Duty was first levied in 1914. Particulars of exemptions allowed and the rates imposed prior to November, 1957, are given in earlier issues of the Year Book (see No. 43, p. 758).

Under the Estate Duty Assessment Act 1914–1957, Estate Duty is assessed on the net value of the estate less a statutory exemption determined in accordance with the following formula:—(a) where the whole of the estate passes to the widow, children (including adopted children, step-children and ex-nuptial children), or grand-children of the deceased, the sum of £5,000 decreasing by £1 for every £3 by which the value exceeds £5,000 and ceasing to apply at £20,000; (b) where no part of the estate passes to the widow, children or grand-children, the sum of £2,500 decreasing by £1 for every £3 by which the value exceeds £2,500 and ceasing to apply at £10,000; and (c) where only part of the estate passes to the widow, children or grand-children, the statutory exemption is to be calculated proportionately under (a) and (b).

An amendment to this Act, assented to on 20th November, 1957, provided for rebates of duty on estates which become liable for duty on two or more occasions within a period of five years.

The rates of duty levied under the Estate Duty Act 1914–1941 increase as the value of the estate increases, as follows:—£1 to £10,000, 3 per cent.; £10,001 to £20,000, 3 per cent. to 6 per cent.; £20,001 to £120,000, 6 per cent. to 26 per cent.; £120,001 to £500,000, 26 per cent. to 27.9 per cent.; over £500,000, 27.9 per cent.

Total collections for the years 1956–57 to 1960–61 were as follows:—1956–57, £12,712,000; 1957–58, £13,774,000; 1958–59, £13,309,000; 1959–60, £13,753,000; and 1960–61, £14,807,000.

Particulars of the number and value of estates and duty assessed, for each of the assessment years 1955–56 to 1959–60, are given in the following table.

## ESTATE DUTY ASSESSMENTS.

Particulars.	1955–56.	1956–57.	1957–58.	1958–59.	1959–60.
Number of Estates .. .. .	11,069	12,784	13,599	11,794	13,978
Gross Value Assessed .. .. .	£'000 178,361	213,253	227,310	202,899	233,560
Deductions .. .. .	£'000 31,281	37,376	39,707	35,589	40,453
Statutory Exemption .. .. .	£'000 23,802	28,661	30,492	26,555	31,597
Dutiable Value .. .. .	£'000 123,278	147,216	157,111	140,755	161,510
Duty Payable .. .. .	£'000 10,882	13,580	13,967	13,013	14,116
Average dutiable value .. .. .	£ 11,137	11,516	11,553	11,934	11,555
Average duty per estate .. .. .	£ 983	1,062	1,027	1,103	1,010

(h) *Gift Duty.* The Gift Duty Act 1941–1947 and the Gift Duty Assessment Act 1941–1957 impose a gift duty on all gifts made after the 29th October, 1941. A gift has been defined as any disposition of property which is made otherwise than by will without adequate consideration in money or money's worth. There is a liability on both the donor and the donee to furnish a return, and both are jointly and severally liable for payment of the duty.

The following rates of duty are levied under the Gift Duty Act 1941–1947 and relate to the value of all gifts made by the donor within a period of eighteen months:—Not exceeding £2,000, nil; £2,001 to £10,000, 3 per cent.; £10,001 to £20,000, 3 per cent. to 6 per cent.; £20,001 to £120,000, 6 per cent. to 26 per cent.; £120,001 to £500,000, 26 per cent. to 27.9 per cent.; £500,001 and over, 27.9 per cent.

An amendment which operated from 3rd June, 1947, provides that gift duty shall not exceed one-half of the amount by which the value of the gift exceeds £2,000.

Total receipts from gift duty for the years 1956–57 to 1960–61 were as follows:—1956–57, £1,940,000; 1957–58, £2,205,000; 1958–59, £2,000,000; 1959–60, £2,435,000; and 1960–61, £2,783,000.

(i) *Entertainments Tax.* The Commonwealth levied an Entertainments Tax from 1st October, 1942, to 30th September, 1953. Details of rates are given in earlier issues of the Official Year Book (see No. 40, pp. 672 and 673).



(j) *Wool Levy.* The Wool Tax Act 1936 and Wool Tax Assessment Act 1936 provided for a levy on all wool grown in Australia and shorn on or after 1st July, 1936. Details of this levy are given in earlier issues of the Official Year Book. This levy was suspended from 1st July, 1946, until 30th June, 1952, while the Wool Contributory Charge was imposed.

With the repeal of the Wool Contributory Charge, however, a levy on wool produced in Australia was re-introduced from 1st July, 1952. The Wool Tax Acts (Nos. 1 and 2) of 1952 provided for the payment of a levy of four shillings a bale until 30th June, 1953, after which date the rate of tax could be varied within prescribed limits. There was no variation until 1st July, 1957, when the rate was increased to six shillings a bale. The purpose of the tax is to provide funds for publicity and research previously provided by the Wool Contributory Charge. Collections during 1956–57, 1957–58, 1958–59, 1959–60 and 1960–61 were £979,000, £1,328,000, £1,389,000, £1,542,000 and £1,455,000 respectively.

(k) *Wool Contributory Charge.* The Wool (Contributory Charge) Act 1945 and the Wool (Contributory Charge) Assessment Act 1945 imposed a charge on all wool produced in Australia and sold, manufactured or exported. Wool sold by the Australian Wool Realization Commission was not liable to the charge. Details of the rate of the charge and collections made were given in earlier issues of the Official Year Book (*see* No. 40, p. 675).

The various Wool (Contributory Charge) Acts were repealed by the Wool Tax Assessment Act of 1952 and the charge superseded by the wool levy.

(l) *Wheat Export Charge and Wheat Tax.* A summary of the provisions of the Wheat Export Charge Acts 1946, 1948, 1952 and 1954 is contained in previous issues of the Official Year Book (*see* No. 40, p. 676, No. 41, p. 604 and No. 46, p. 820).

The Wheat Export Charge Act 1958 repealed the 1954 Wheat Export Charge Act and provided for an export charge on wheat and wheat products for the seasons 1958–59 to 1963–64 inclusive. The charge levied is the excess of the export price over the cost of production or 1s. 6d. per bushel whichever is the less. Under the Wheat Industry Stabilization Act 1958, to which the Wheat Export Charge is complementary, the Commonwealth Government guarantees a return to wheat-growers of the ascertained cost of production of up to 100 million bushels of wheat harvested each season exported from Australia. Collections from the wheat export charge are paid into the Wheat Prices Stabilization Fund, out of which payments will be made to the Australian Wheat Board, when required, for the purpose of building up the average export price for any season to the guaranteed price. If the fund is exhausted, additional payments will be made from the Consolidated Revenue Fund.

Collections of the wheat export charge amounted to £443,000 in 1957–58, £1,211,000 in 1958–59 and £1,000 in 1959–60, and were nil in 1956–57 and 1960–61.

The Wheat Tax Act of 1957 imposed a tax of  $\frac{1}{4}$ d. for each bushel of wheat—

- (a) which has been delivered to the Wheat Board on or after the first day of October, 1956, and before the date of commencement of the Act; or
- (b) which is delivered to the Wheat Board on or after that date.

The Act also provided that where, before the commencement of the Act, a person delivering to the Board wheat upon which tax is imposed by the Act authorized the Board to deduct an amount from the moneys payable to him and to pay the amount so deducted to a person, authority or association for the purposes of soil fertility research or other research likely to benefit the wheat industry, and the Board did so, the tax otherwise payable upon that wheat is to be reduced by the amount so deducted.

The Wheat Research Act 1957 provided for the establishment of a Wheat Research Trust Account to receive moneys payable under the Wheat Act 1957, and for the setting up of a Wheat Industry Research Council to direct the expenditure of moneys from that Trust Account for research, etc., to benefit the Wheat Industry.

Collections of Wheat Tax amounted to £185,000 in 1957–58, £207,000 in 1958–59, £187,000 in 1959–60 and £261,000 in 1960–61, and were paid to the Wheat Research Trust Account.

(m) *Miscellaneous Export Charges.* These consist of charges levied on exports of apples and pears (Apple and Pear Export Charges Act 1938–1960), canned fruits (Canned Fruits Export Charges Act 1926–1959), dairy produce (Dairy Produce Export Charges Act 1924–1937), dried fruits (Dried Fruits Export Charges Act 1924–1929), eggs (Egg

Export Charges Act 1947) and meat (Meat Export Charges Act 1935-1954) and on grapes used in the manufacture of wine (Wine Grapes Charges Act 1929-1954). The collections are paid into special funds to be applied, for the purposes of Export Boards established under various Acts, in controlling the quantity and quality of produce exported.

Collections for the last five years were as follows:—1956-57, £375,000; 1957-58, £390,000; 1958-59, £566,000; 1959-60, £540,000; and 1960-61, £529,000.

(n) *Stevedoring Industry Charge.* The Stevedoring Industry Charge Act 1947 and the Stevedoring Industry Charge Assessment Act 1947 imposed a charge of 4½d. a man-hour on the employer of a waterside worker after 22nd December, 1947.

The amounts received are paid to the Stevedoring Industry Board for the payment of attendance money to waterside workers and for other expenses of the Board.

Since 1947, the charge has been amended as follows:—11th October, 1949, a reduction to 2½d. a man-hour; 11th December, 1951, an increase to 4d. a man-hour; 28th October, 1952, an increase to 11d. a man-hour; 4th May, 1954, a reduction to 6d. a man-hour; 30th October, 1956, an increase to 1s. 7d. a man-hour; and from 21st May, 1957, an increase to 2s. a man-hour.

A further amendment under the Stevedoring Industry Charge Act 1958 which came into operation on 1st April, 1958, provided for an increase of the charge to 3s. a man-hour until 1st July, 1959, and a reduction to 2s. 6d. a man-hour on or after 1st July, 1959.

Collections during the years 1956-57 to 1960-61 were as follows:—1956-57, £1,926,000; 1957-58, £3,337,000; 1958-59, £4,572,000; 1959-60, £3,718,000; and 1960-61, £3,844,000.

(o) *Tobacco Industry Charge.* The Tobacco Charge Acts (Nos. 1, 2 and 3) 1955 and the Tobacco Charges Assessment Act 1955, which came into operation on 1st January, 1956, provided for charges on tobacco leaf grown in Australia.

The Tobacco Charge Act (No. 1) 1955 imposed a maximum charge of ¼d. a pound on all Australian tobacco leaf sold to a manufacturer.

The Tobacco Charge Act (No. 2) 1955 imposed a charge at twice the rate to be levied under the Tobacco Charge Act (No. 1) on all Australian tobacco leaf purchased by a manufacturer.

The Tobacco Charge Act (No. 3) 1955 imposed a charge on all Australian tobacco leaf grown by a manufacturer and appropriated by him for manufacturing purposes. Where the manufacturer grew, in Australia, not less than nine-tenths of the tobacco leaf used by him in manufacturing, the charge was at the rate imposed by the Tobacco Charge Act (No. 1). In other cases, the charge was at twice that rate.

The charges collected under the Tobacco Charges Assessment Act 1955 were paid into the Tobacco Industry Trust Account which was established by the Tobacco Industry Act, 1955. Moneys in this account are used for the promotion of the tobacco industry.

Collections in 1956-57, 1957-58, 1958-59, 1959-60 and 1960-61 amounted to £41,000, £61,000, £72,000, £112,000 and £136,000 respectively.

(p) *Dairy Produce Levy.* The Dairy Produce Levy Act 1958 imposed a levy on the manufacture of butter and cheese for the purpose of financing a research and sales promotion scheme for the dairy industry. The maximum rates of the levy are fixed at three-sixteenths of a penny a pound on butter and three-thirty-seconds of a penny on cheese. In 1958-59, 1959-60 and 1960-61, collections amounted to £151,000, £334,000 and £350,000.

(q) *Canning Fruit Charge.* The Canning Fruit Charge Act 1959 imposed a levy on apricots, peaches and pears accepted by canneries as of canning quality or for use in the production of canned fruit, for the purpose of promoting the sale of Australian canned fruits both overseas and in Australia. The rate of the charge was ten shillings per ton of fruit delivered to canneries or such lesser rate as may be prescribed from time to time. In 1959-60 and 1960-61, collections amounted to £35,000 and £30,000 respectively.

(r) *Cattle Slaughter Levy.* The Cattle Slaughter Levy Act 1960 imposed a levy upon the slaughter of cattle for human consumption at rates to be prescribed from time to time but not exceeding two shillings per head of cattle slaughtered. The proceeds of this levy may be expended on purposes associated with scientific, economic or technical research related to the raising of cattle or the production or distribution of beef and other products of the slaughter of cattle. In 1960-61, collections amounted to £84,000.

3. Business Undertakings.—(i) *Postmaster-General's Department.* Particulars of net receipts for each of the financial years 1956–57 to 1960–61 are given in the following table.

**POSTMASTER-GENERAL'S DEPARTMENT: NET RECEIPTS.**  
(£'000.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Private boxes and bags .. .. .	240	247	258	276	292
Commission on money orders and postal notes .. .. .	926	932	956	1,088	1,169
Telegraphs .. .. .	5,904	6,169	6,321	6,804	7,275
Telephones .. .. .	51,002	55,344	59,717	71,209	81,114
Postage .. .. .	29,464	31,339	33,165	39,167	42,750
Miscellaneous .. .. .	2,538	2,745	3,050	3,087	3,565
<b>Total .. .. .</b>	<b>90,074</b>	<b>96,776</b>	<b>103,467</b>	<b>121,631</b>	<b>136,165</b>

Further particulars of the Postmaster-General's Department's receipts to 1960–61 are given in Chapter XIV.—Transport and Communication, of this Year Book (*see p. 562*).

(ii) *Broadcasting and Television Services.* Following the amendment of the Australian Broadcasting Act 1942–1946 by Act No. 64 of 1948, the Australian Broadcasting Control Board was set up on 15th March, 1949. (*See also Chapter XIV.—Transport and Communication, pp. 572–8*).

Details of net receipts for the years 1956–57 to 1960–61 are shown in the following table.

**BROADCASTING AND TELEVISION SERVICES: NET RECEIPTS.**  
(£'000.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Listeners' Licence Fees .. .. .	4,866	5,371	5,693	5,656	5,536
Broadcasting Station Licence Fees .. .. .	66	80	85	88	104
Television Viewers' Licence Fees .. .. .	344	1,389	2,777	4,624	5,781
Television Station Licence Fees .. .. .	..	7	19	38	65
Miscellaneous .. .. .	25	29	44	54	67
<b>Total .. .. .</b>	<b>5,301</b>	<b>6,876</b>	<b>8,618</b>	<b>10,460</b>	<b>11,553</b>

(iii) *Commonwealth Railways.* The Commonwealth Government is responsible for four railways—the Trans-Australian, the Central Australia, the North Australia and the Australian Capital Territory. The following table shows the amounts paid to the credit of the Consolidated Revenue Fund on account of each of these railways for the years 1956–57 to 1960–61.

**COMMONWEALTH RAILWAYS REVENUE.**  
(£'000.)

Railway.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Trans-Australian .. .. .	2,887	2,821	2,927	3,249	4,091
Central Australia .. .. .	1,390	1,554	1,635	1,601	1,867
North Australia .. .. .	130	182	203	272	149
Australian Capital Territory .. .. .	21	19	46	25	42
<b>Total .. .. .</b>	<b>4,428</b>	<b>4,576</b>	<b>4,811</b>	<b>5,147</b>	<b>6,149</b>

Further particulars to 1960-61 are given in Chapter XIV.—Transport and Communication (*see* pp. 530-1 and 537-8).

4. **Other Sources of Revenue.**—Revenue derived by the Consolidated Revenue Fund from the Territories of the Commonwealth during 1960-61 amounted to £5,455,000 (Australian Capital Territory £3,712,000; Northern Territory £1,740,000; Cocos (Keeling) Islands £3,000). Of other sources of revenue, amounting to £53,816,000, the following are noteworthy:—Interest, £14,817,000; Defence £5,827,000; Net Profit on Australian Note Issue £12,930,000.

For details of the revenue of the Territories *see* Chapter V. of this Year Book.

### C. EXPENDITURE.

1. **Details of Expenditure from Consolidated Revenue.**—The following table shows details of expenditure from the Consolidated Revenue Fund during the years 1956-57 to 1960-61. In this table, particulars of interest, debt redemption, superannuation and pension charges are not shown separately, but are included with departmental, etc. expenditure. Separate figures for debt charges are shown in the table on page 832.

### COMMONWEALTH CONSOLIDATED REVENUE FUND: EXPENDITURE.

(£'000.)

Department, etc.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Defence Services(a) .. .. .	151,273	151,534	118,083	146,745	162,376
War (1914-18 and 1939-45) and Repatriation Services(b) .. .. .	112,296	127,924	128,162	137,480	149,357
Subsidies and Bounties .. .. .	15,014	15,660	17,294	17,345	17,562
Cost of Departments(c) .. .. .	102,264	111,486	134,154	143,403	143,157
National Welfare Fund .. .. .	223,923	247,485	278,227	299,363	330,604
Loan Consolidation and Investment Reserve Trust Account .. .. .	194,793	104,378	27,947	41,382	142,561
Business Undertakings—					
Postmaster-General .. .. .	87,418	93,116	96,681	107,777	110,136
Broadcasting and Television Services .. .. .	6,701	7,334	8,371	9,983	11,372
Railways .. .. .	3,620	3,673	3,725	4,088	4,616
Territories .. .. .	16,142	18,914	20,240	23,559	26,839
Capital Works and Services—					
Defence .. .. .	38,416	34,761	34,983	36,090	38,283
Repatriation .. .. .	30,167	35,206	35,308	35,242	35,386
Postmaster-General .. .. .	30,721	34,811	36,353	39,937	42,145
Broadcasting Services .. .. .	2,697	1,583	1,408	3,551	1,429
Railways .. .. .	3,422	2,545	1,281	1,091	1,248
Territories .. .. .	8,027	11,749	14,906	16,901	18,229
Other(d) .. .. .	32,488	36,868	41,785	42,732	39,112
Payments to or for States(e) .. .. .	244,589	271,336	287,974	324,963	357,296
Other Expenditure .. .. .	7,864	13,408	9,168	6,654	6,571
Grand Total .. .. .	1,311,835	1,323,771	1,296,050	1,438,286	1,638,279
Per Head of Population .. .. .	£ s. d. 137 12 4	£ s. d. 135 17 7	£ s. d. 130 5 7	£ s. d. 141 10 2	£ s. d. 157 13 4

(a) Excludes debt charges, audit charges, pension and superannuation payments and Defence Division of the Department of the Treasury. (b) Excludes audit charges and Government contributions under Superannuation Act.

(c) Includes audit charges relating to Defence and War and Repatriation Services; and excludes payments to the States for Cattle Tick Control, Dairy Industry Extension and Agricultural Advisory Services included under Payments to or for the States.

(d) Excludes expenditure from Capital Works votes on Grants for Railway Standardization included as payments to the States. (e) Includes payments to States from Departmental votes. *See* footnotes (c) and (d).

Further details of the expenditure in each section are given in paragraphs 2 to 12 following.

A graphical representation of the revenue and expenditure of the Commonwealth Consolidated Revenue Fund appears on page 845. In this diagram, debt charges (interest and debt redemption, etc.) are shown as a separate item, whereas in the table above these charges are included in the section to which they relate.

Details of Commonwealth expenditure on debt charges for 1956–57 to 1960–61 are shown in the following table.

**DEBT CHARGES(a): COMMONWEALTH EXPENDITURE.**

(£'000.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<i>War (1914–18 and 1939–45)(b)—</i>					
Interest and Exchange .. .. .	42,695	39,545	36,208	33,474	29,781
Redemption .. .. .	15,829	12,337	12,550	17,152	21,091
Other(c) .. .. .	279	163	594	242	512
<i>Total .. .. .</i>	<i>58,803</i>	<i>52,045</i>	<i>49,352</i>	<i>50,868</i>	<i>51,384</i>
<i>Works and other Purposes(d)—</i>					
Interest and Exchange .. .. .	10,703	12,378	11,497	13,147	13,712
Redemption .. .. .	2,091	1,935	1,654	2,038	2,013
Other(c) .. .. .	553	190	112	159	490
<i>Total .. .. .</i>	<i>13,347</i>	<i>14,503</i>	<i>13,263</i>	<i>15,344</i>	<i>16,215</i>
<i>Total—</i>					
Interest and Exchange .. .. .	53,398	51,923	47,705	46,621	43,493
Redemption .. .. .	17,920	14,272	14,204	19,190	23,104
Other(c) .. .. .	832	353	706	401	1,002
<i>Grand Total .. .. .</i>	<i>72,150</i>	<i>66,548</i>	<i>62,615</i>	<i>66,212</i>	<i>67,599</i>

(a) Excludes payments to or for the States under the Financial Agreement. See pages 841–2.  
 (b) Includes repatriation. (c) Redemption, conversion and loan management, etc., expenses.  
 (d) Includes amounts previously shown under Business Undertakings and Territories.

**2. Defence Services.**—Details of the expenditure on defence services, including capital works and services, but excluding debt charges, etc., by the Departments of Defence, Navy, Army, Air and Supply are shown in the following table. This table covers expenditure by the service and associated departments only, and includes the cost of maintaining forces in oversea posts.

The figures represent the combined expenditures from Consolidated Revenue and Loan Funds for the years 1956–57 to 1960–61. In previous issues of this Year Book, this table covered expenditure from Trust Funds also, but there has been no expenditure from this source on defence services in recent years.

## DEFENCE SERVICES(a): COMMONWEALTH EXPENDITURE FROM REVENUE AND LOAN FUNDS.

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Department of Defence</i> .. .. .	857	931	1,008	1,231	1,303
<i>Department of the Navy—</i>					
Naval Forces—Pay, maintenance, etc. . .	30,615	30,447	30,782	32,175	31,737
Naval construction and additions to the fleet .. .. .	3,392	5,825	5,220	5,557	7,898
Ships, Aircraft and Aircraft Engines .. .	2,086	4,090	2,576	1,937	2,151
Buildings, works, etc. .. .. .	1,448	1,603	1,548	1,165	1,745
Advances to States under Commonwealth-State Housing Agreement .. .. .	351	290	254	274	311
Administrative and miscellaneous expenditure .. .. .	1,127	1,159	1,296	1,420	1,693
<i>Total</i> .. .. .	39,019	43,414	41,676	42,528	45,535
<i>Department of the Army—</i>					
Military Forces—Pay, maintenance, etc. . .	41,858	38,496	41,184	44,210	42,162
Arms, armament, ammunition .. .. .	14,092	13,891	18,939	15,924	17,333
Buildings, works, etc. .. .. .	2,963	3,343	3,498	3,142	3,350
Advances to States under Commonwealth-State Housing Agreement .. .. .	493	498	456	394	568
Administrative and miscellaneous expenditure .. .. .	2,280	2,443	2,645	2,676	3,296
<i>Total</i> .. .. .	61,686	58,671	66,722	66,346	66,709
<i>Department of Air—</i>					
Air Force—Pay, maintenance, etc. .. .	25,200	27,736	27,038	29,711	31,662
Aircraft, equipment and stores .. .. .	23,130	22,629	25,874	26,011	25,064
Buildings, works, etc. .. .. .	2,662	2,869	4,147	3,650	3,833
Advances to States under Commonwealth-State Housing Agreement .. .. .	345	387	485	393	551
Administrative and miscellaneous expenditure .. .. .	1,906	2,096	2,296	2,472	3,137
<i>Total</i> .. .. .	53,243	55,717	59,840	62,237	64,247
<i>Department of Supply—</i>					
Defence research and development .. .	10,362	10,509	10,242	10,158	10,051
Buildings, works, etc. .. .. .	15,171	6,653	1,157	1,083	1,240
Administrative and miscellaneous expenditure .. .. .	8,651	9,377	8,595	9,542	9,682
<i>Total</i> .. .. .	34,184	26,539	19,994	20,783	20,973
<i>Economic assistance to support defence programme of S.E.A.T.O. member countries</i>	26	165	298	684	776
<i>Administration of National Service Act</i> .. .	206	186	159	93	..
<i>Civil Defence</i> .. .. .	130	95	102	105	112
<i>Recruiting Campaign</i> .. .. .	224	327	311	302	474
<i>Other</i> .. .. .	115	250	262	496	520
<i>Total Defence Services—</i>					
Consolidated Revenue Fund .. .. .	189,690	186,295	153,066	182,835	200,658
Loan Fund .. .. .	..	..	37,306	11,970	—9
<b>Grand Total</b> .. .. .	<b>189,690</b>	<b>186,295</b>	<b>190,372</b>	<b>194,805</b>	<b>200,649</b>

(a) Excludes expenditure on debt charges, audit charges, pension and superannuation payments and Defence Division of the Department of the Treasury.

3. War and Repatriation Services.—Expenditure from Consolidated Revenue and Loan Fund for War and Repatriation Services and Post-war Charges in relation to both the 1914-18 and 1939-45 Wars is shown in the following table for the years 1956-57 to 1960-61. Expenditure on the maintenance of forces in oversea posts and the cost of arms and equipment is included in Defence Services.

WAR AND REPATRIATION SERVICES AND POST-WAR CHARGES: COMMONWEALTH EXPENDITURE FROM CONSOLIDATED REVENUE AND LOAN FUNDS.

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Debt Charges—</i>					
Interest and Exchange .. ..	42,695	39,545	36,208	33,474	29,781
Debt Redemption .. ..	15,829	12,337	12,550	17,152	21,091
Other .. ..	279	163	594	242	512
<i>Total Debt Charges(a)</i> .. ..	<i>58,803</i>	<i>52,045</i>	<i>49,352</i>	<i>50,868</i>	<i>51,384</i>
War Gratuities .. ..	..	16	8	9	10
War and Service Pensions .. ..	(b) 36,763	55,982	57,107	61,470	68,476
Commonwealth Reconstruction Training Scheme .. ..	256	340	365	297	212
War Service Land Settlement .. ..	9,550	10,302	7,520	8,458	3,670
Re-establishment loans for agricultural purposes .. ..	83	65	63	58	37
<i>Repatriation Department—</i>					
Repatriation Benefits .. ..	13,069	14,182	15,988	18,119	20,686
Other benefits .. ..	555	730	738	788	887
Administration and general expenses .. ..	3,806	3,933	3,953	4,461	4,563
Expenditure recovered(c) .. ..	-1,128	-1,022	-942	-880	-717
<i>Total Repatriation Department</i> .. ..	<i>16,302</i>	<i>17,823</i>	<i>19,737</i>	<i>22,488</i>	<i>25,419</i>
War Service Homes—Salaries and general expenses .. ..	911	938	978	1,127	1,105
Other Departments—Miscellaneous expenditure .. ..	383	409	368	392	432
International Payments(d) .. ..	136	47	39	33	26
Other Administrations—Recoverable expenditure(e) .. ..	-2,872	-1,340	-1,675	-782	613
<i>Capital Works and Services—</i>					
Repatriation Department .. ..	167	206	308	242	386
War Service Homes Act 1918-1949 .. ..	30,000	35,000	35,000	35,000	35,000
<i>Total Capital Works and Services</i> .. ..	<i>30,167</i>	<i>35,206</i>	<i>35,308</i>	<i>35,242</i>	<i>35,386</i>
<i>Total War and Repatriation Services and Post-war Charges—</i>					
Consolidated Revenue Fund .. ..	142,463	163,130	163,470	172,722	184,743
Loan Fund .. ..	8,019	8,703	5,700	6,938	2,027
<b>Grand Total</b> .. ..	<b>150,482</b>	<b>171,833</b>	<b>169,170</b>	<b>179,660</b>	<b>186,770</b>

(a) Excludes interest and redemption of War (1914-18) Debt due to the United Kingdom Government, payment of which was suspended in 1931. (b) In addition, £13,400,000 was spent from balance of War Pensions Trust Fund. (c) From Service Departments and Australian Soldiers' Repatriation Trust Account. (d) Excludes International Monetary Fund charges. (e) Munitions stores, etc., supplied to the Government of the United Kingdom and other administrations. Includes repayments and waiver of war-time indebtedness of other administrations.

NOTE.—Minus sign (—) indicates excess of credits or repayments over expenditure.

4. **Subsidies and Bounties.**—The following table shows details of Commonwealth expenditure from revenue on subsidies, bounties and assistance to primary producers for the years 1956-57 to 1960-61. Expenditure on special relief such as drought, frost, flood and bush fire, etc., is not included here (included under items in table, para. 5), nor is expenditure from the proceeds of certain taxes on primary products and profits from marketing schemes, which have been paid to trust funds for the purpose of price or other stabilization schemes or for distribution to producers (see paragraph 12, p. 847). Payments to the States for Cattle Tick Control, Dairy Industry Extension and Agricultural Advisory Services are also not included under this heading, but under the heading Payments to or for the States (see para. 11, p. 841).

Further information relating to assistance to primary producers is given in Chapter XXII.—Agricultural Production. Details of price stabilization subsidies and of various forms of assistance to primary producers for earlier years may be found on pages 414 and 1014-15, respectively, of Official Year Book No. 38.

## SUBSIDIES AND BOUNTIES: COMMONWEALTH EXPENDITURE.

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Subsidies—</i>					
<i>Assistance to Primary Production—</i>					
<i>Dairy Industry(a) .. .. .</i>	13,500	13,500	13,500	13,500	13,500
<i>Assistance to Gold-mining Industry .. .. .</i>	495	660	898	838	699
<i>Total Subsidies .. .. .</i>	13,995	14,160	14,398	14,338	14,199
<i>Bounties—</i>					
<i>Tractor .. .. .</i>	158	467	415	621	941
<i>Sulphuric Acid .. .. .</i>	421	709	1,301	1,481	1,353
<i>Cellulose Acetate Flake .. .. .</i>	179	110	110	128	127
<i>Copper .. .. .</i>	..	..	768	408	405
<i>Other .. .. .</i>	261	214	302	369	537
<i>Total Bounties .. .. .</i>	1,019	1,500	2,896	3,007	3,363
<b>Grand Total .. .. .</b>	<b>15,014</b>	<b>15,660</b>	<b>17,294</b>	<b>17,345</b>	<b>17,562</b>

(a) Dairy products.

5. **Total Cost of Departments.**—Expenditure shown in this table covers expenditure on administrative services and other activities (i.e. what might be termed "running expenses") and includes miscellaneous expenditure (previously shown in a separate table) by departments other than the Defence and Repatriation Departments and business undertakings. Interest and debt redemption are included under expenditure by the Department of the Treasury.

Expenditure on defence, war and repatriation services, subsidies and bounties, social services paid from the National Welfare Fund, business undertakings, Commonwealth territories, and capital works and services is excluded.

Information on the function of departments and the Acts administered by the Ministers of departments was published in Official Year Book No. 37, pages 76-86, and particulars of subsequent changes in departmental structure were given in later issues (see No. 43, p. 81) and page 86 of this issue.

## COMMONWEALTH CONSOLIDATED REVENUE FUND: COST OF DEPARTMENTS.

(£'000.)

Department.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Governor-General .. .. .</i>	150	158	147	164	148
<i>Parliament—</i>					
<i>Cost of Parliament .. .. .</i>	1,673	1,768	1,910	2,236	2,277
<i>Electoral .. .. .</i>	526	612	911	702	694
<i>Total .. .. .</i>	2,199	2,380	2,821	2,937	2,971
<i>Prime Minister—</i>					
<i>Audit Office .. .. .</i>	603	622	623	709	725
<i>Public Service Board .. .. .</i>	589	619	667	755	829
<i>National Library .. .. .</i>	168	180	201	280	353
<i>High Commissioner's Office—United Kingdom .. .. .</i>	725	762	832	928	966
<i>Australian National University .. .. .</i>	965	1,196	1,404	1,684	2,389
<i>Australian Universities Commission .. .. .</i>	..	..	..	23	28
<i>Commonwealth Grants Commission .. .. .</i>	18	22	21	24	26
<i>Office of Education .. .. .</i>	302	310	408	385	412
<i>Security Services .. .. .</i>	425	483	498	578	669
<i>Commonwealth Scholarship Scheme .. .. .</i>	1,122	1,243	1,587	2,100	2,551
<i>Bush fire and flood relief, etc. .. .. .</i>	554	253	96	163	323
<i>Departmental, n.e.i. .. .. .</i>	1,229	743	757	1,080	854
<i>Total .. .. .</i>	6,700	6,433	7,094	8,709	10,125



COMMONWEALTH CONSOLIDATED REVENUE FUND: COST OF DEPARTMENTS—*continued.*  
(£'000.)

Department.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>External Affairs—</i>					
Oversea Representation .. .. .	1,483	1,569	1,655	1,983	2,320
United Nations and Allied Organizations	769	828	927	993	1,264
Advance to United Nations—Cost of Clearance Suez Canal .. .. .	449	..	..	..	..
Australian National Antarctic Research Expeditions .. .. .	342	389	527	738	764
International development and relief .. .. .	5,669	5,667	4,097	5,222	5,605
Departmental, n.e.i. .. .. .	757	828	954	1,003	1,197
<i>Total</i> .. .. .	<i>9,469</i>	<i>9,281</i>	<i>8,160</i>	<i>9,939</i>	<i>11,150</i>
<i>Treasury—</i>					
Taxation Branch .. .. .	7,810	8,117	8,362	9,585	9,862
Bureau of Census and Statistics .. .. .	861	1,217	1,493	1,841	2,188
Commonwealth Superannuation Board .. .. .	87	93	88	108	127
Interest .. .. .	10,700	10,924	10,091	11,786	13,681
Debt Redemption .. .. .	2,090	620	503	1,021	2,013
Departmental, n.e.i. .. .. .	8,659	12,193	29,475	24,731	12,164
<i>Total</i> .. .. .	<i>30,207</i>	<i>33,164</i>	<i>50,012</i>	<i>49,072</i>	<i>40,035</i>
<i>Attorney-General—</i>					
Crown Solicitor .. .. .	327	336	343	413	420
High Court .. .. .	115	111	131	148	158
Bankruptcy .. .. .	161	170	180	197	214
Conciliation and Arbitration Commission, Industrial Court and Registrar .. .. .	211	219	245	281	318
Patents, Trade Marks and Designs .. .. .	396	407	414	475	476
Other Branches .. .. .	375	365	396	516	533
Departmental, n.e.i. .. .. .	363	372	386	405	476
<i>Total</i> .. .. .	<i>1,948</i>	<i>1,980</i>	<i>2,095</i>	<i>2,435</i>	<i>2,595</i>
<i>Interior—</i>					
Meteorological Branch .. .. .	1,022	1,090	1,372	1,655	1,727
Ionospheric Prediction .. .. .	74	41	44	52	57
Forestry Branch .. .. .	125	154	144	190	195
News and Information .. .. .	394	410	417	453	479
Surveys .. .. .	..	..	..	97	92
Departmental, n.e.i. .. .. .	1,652	1,772	1,763	1,610	1,872
<i>Total</i> .. .. .	<i>3,267</i>	<i>3,467</i>	<i>3,740</i>	<i>4,057</i>	<i>4,422</i>
<i>Works</i> .. .. .	<i>2,249</i>	<i>2,296</i>	<i>2,244</i>	<i>2,970</i>	<i>2,938</i>
<i>Civil Aviation—</i>					
Maintenance and Development of Civil Aviation .. .. .	5,048	5,661	7,566	8,094	8,028
Meteorological Maintenance Services and Other .. .. .	583	565	653	776	828
Departmental, n.e.i. .. .. .	3,227	3,298	3,087	3,484	3,651
<i>Total</i> .. .. .	<i>8,858</i>	<i>9,524</i>	<i>11,306</i>	<i>12,354</i>	<i>12,507</i>
<i>Customs and Excise—</i>					
Refunds of Diesel Fuel Taxation .. .. .	..	1,315	989	278	115
Departmental .. .. .	4,010	4,246	4,427	5,208	5,873
<i>Total</i> .. .. .	<i>4,010</i>	<i>5,561</i>	<i>5,416</i>	<i>5,486</i>	<i>5,988</i>
<i>Health</i> .. .. .	<i>2,117</i>	<i>2,293</i>	<i>2,389</i>	<i>2,801</i>	<i>3,136</i>
<i>Trade—</i>					
Tariff Board .. .. .	73	89	134	166	175
Commercial Intelligence Services Abroad .. .. .	512	562	619	694	871
Departmental, n.e.i. .. .. .	1,845	1,617	2,376	2,037	2,199
<i>Total</i> .. .. .	<i>2,430</i>	<i>2,268</i>	<i>3,129</i>	<i>2,897</i>	<i>3,245</i>

COMMONWEALTH CONSOLIDATED REVENUE FUND: COST OF DEPARTMENTS—*continued.*

(£'000.)

Department.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Primary Industry—</i>					
Inspection of goods for export .. .. .	996	1,043	1,144	1,320	1,360
Division of Agricultural Economics .. .. .	127	142	133	157	172
Wool Use Promotion .. .. .	490	885	926	1,028	1,168
Departmental, n.e.i. .. .. .	794	807	826	781	787
<i>Total</i> .. .. .	<i>2,407</i>	<i>2,877</i>	<i>3,029</i>	<i>3,286</i>	<i>3,487</i>
<i>Social Services—</i>					
Compassionate Allowances .. .. .	867	952	1,889	1,996	2,294
Departmental .. .. .	2,839	3,181	3,338	3,831	3,950
<i>Total</i> .. .. .	<i>3,706</i>	<i>4,133</i>	<i>5,227</i>	<i>5,827</i>	<i>6,244</i>
<i>Shipping and Transport—</i>					
Marine Branch .. .. .	1,136	1,159	1,224	1,367	1,402
Ship Construction .. .. .	1,449	1,874	1,816	1,858	3,016
Departmental, n.e.i. .. .. .	576	564	538	737	553
<i>Total</i> .. .. .	<i>3,161</i>	<i>3,597</i>	<i>3,578</i>	<i>3,962</i>	<i>4,971</i>
<i>Territories</i> .. .. .	<i>215</i>	<i>266</i>	<i>274</i>	<i>343</i>	<i>379</i>
<i>Immigration—</i>					
Assisted migration .. .. .	5,725	6,835	7,188	7,567	7,348
Other migration activities .. .. .	1,936	1,870	1,862	1,811	1,994
Departmental, n.e.i. .. .. .	2,094	2,129	2,175	2,363	2,429
<i>Total</i> .. .. .	<i>9,755</i>	<i>10,834</i>	<i>11,225</i>	<i>11,741</i>	<i>11,771</i>
<i>Labour and National Service</i> .. .. .	<i>2,128</i>	<i>2,205</i>	<i>2,281</i>	<i>2,581</i>	<i>2,630</i>
<i>National Development—</i>					
Bureau of Mineral Resources .. .. .	586	1,050	1,247	1,387	2,745
Division of National Mapping .. .. .	230	307	312	415	417
Joint Coal Board .. .. .	387	195	170	175	187
Australian Atomic Energy Commission .. .. .	699	1,331	1,525	2,233	2,379
Departmental, n.e.i. .. .. .	272	289	446	352	875
<i>Total</i> .. .. .	<i>2,174</i>	<i>3,172</i>	<i>3,700</i>	<i>4,562</i>	<i>6,603</i>
<i>Commonwealth Scientific and Industrial Research Organization</i> .. .. .	<i>5,114</i>	<i>5,597</i>	<i>6,287</i>	<i>7,280</i>	<i>7,812</i>
<i>Total, All Departments</i> .. .. .	<i>102,264</i>	<i>111,486</i>	<i>134,154</i>	<i>143,403</i>	<i>143,157</i>

6. National Welfare Fund.—The National Welfare Fund was established for the purpose of providing a fund for the payment of Commonwealth social services benefits. During the year 1949-50, an amount equivalent to the total collections of pay-roll tax and social services contribution was paid to the fund from Consolidated Revenue. During 1950-51, the social services contribution was amalgamated with the normal income tax, and it became necessary to base the contributions on another formula. For the year 1950-51, the amount paid to the fund was the total of collections of pay-roll tax and social services contribution plus £30,000,000. In 1951-52, the amount paid to the fund was the amount paid in 1950-51 increased in the same proportion as collections of pay-roll tax increased over the collections of pay-roll tax in 1950-51. By an amendment to the National Welfare Fund Act 1943-1950, the amount to be paid to the fund in 1952-53 and subsequent years was changed to the amount of moneys paid out of the fund. In addition to these payments from Consolidated Revenue, the fund received a small amount of interest from investments.

In the following table, details are given of the income and expenditure of the National Welfare Fund and the balance in the fund at the end of each year for the years 1956–57 to 1960–61. For a detailed account of the establishment of the National Welfare Fund, the services provided and the numbers and amounts of benefits paid, see Chapter XVIII.—Welfare Services.

**NATIONAL WELFARE FUND: RECEIPTS, EXPENDITURE AND BALANCES.**

(£'000.)

Year.	Income.			Expenditure.	Balance in Fund at end of Year.
	Contribution from Consolidated Revenue.	Interest on Investments.	Total.		
1956–57 .. .. .	223,923	1,938	225,861	223,923	195,062
1957–58 .. .. .	247,485	1,958	249,443	247,485	197,020
1958–59 .. .. .	278,227	1,977	280,204	278,227	198,997
1959–60 .. .. .	299,363	2,002	301,365	299,363	200,999
1960–61 .. .. .	330,604	2,017	332,621	330,604	203,016

7. **Loan Consolidation and Investment Reserve Trust Account.**—The Loan Consolidation and Investment Reserve Act 1955 established the Loan Consolidation and Investment Reserve Trust Account for the purpose of repurchase or redemption of securities representing portion of the public debt of the Commonwealth.

Payments from the Consolidated Revenue Fund were made as follows:—1956–57, £194,793,000; 1957–58, £104,378,000; 1958–59, £27,947,000; 1959–60, £41,382,000; and 1960–61, £142,561,000. Expenditure from the Trust Account on repurchase of securities was £43,443,000 in 1956–57; £132,767,000 in 1957–58; £100,046,000 in 1958–59; £79,885,000 in 1959–60; and £30,899,000 in 1960–61. The major portion of the balance of the Trust Account at 30th June, 1961, was invested in Commonwealth securities in special loans to finance Commonwealth and State works programmes.

8. **Business Undertakings.**—(i) *Postmaster-General's Department.* Details of the expenditure of this Department for the years 1956–57 to 1960–61 are given in the following table.

**POSTMASTER-GENERAL'S DEPARTMENT: EXPENDITURE.**

(£'000.)

Item.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Salaries, stores and materials, mail, engineering services, etc. .. .. .	86,301	91,777	95,306	106,404	108,593
Rents, repairs, etc. .. .. .	1,117	1,339	1,375	1,373	1,543
<i>Total Working, etc., Expenses</i> .. .. .	<i>87,418</i>	<i>93,116</i>	<i>96,681</i>	<i>107,777</i>	<i>110,136</i>
Capital Works and Services .. .. .	30,721	34,811	36,353	39,937	42,145
<b>Grand Total</b> .. .. .	<b>118,139</b>	<b>127,927</b>	<b>133,034</b>	<b>147,714</b>	<b>152,281</b>

Further details of the Postmaster-General's Department expenditure for 1960-61 appear in Chapter XIV.—Transport and Communication, of this Year Book (*see* p. 563).

(ii) *Broadcasting and Television Services.* Details of expenditure for the years 1956-57 to 1960-61 are shown in the following table. Further details of broadcasting and television services appear in Chapter XIV.—Transport and Communication of this Year Book (*see* p. 571).

**COMMONWEALTH BROADCASTING AND TELEVISION SERVICES:  
EXPENDITURE.**

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Australian Broadcasting Control Board ..	153	153	192	258	301
Australian Broadcasting Commission— Salaries, general and programme expenses .. .. .	4,633	5,100	5,936	7,238	8,460
Technical and other Services—Postmaster- General—Sound Broadcasting ..	1,844	1,995	2,060	2,181	2,195
Television .. .. .	53	58	159	275	386
Repairs, maintenance, etc. .. .. .	18	28	24	31	30
<i>Total Working, etc., expenses</i> .. .. .	<i>6,701</i>	<i>7,334</i>	<i>8,371</i>	<i>9,983</i>	<i>11,372</i>
Capital Works and Services .. .. .	2,697	1,583	1,408	3,551	1,429
<b>Grand Total</b> .. .. .	<b>9,398</b>	<b>8,917</b>	<b>9,779</b>	<b>13,534</b>	<b>12,801</b>

(iii) *Railways.* The expenditure on railways for the years 1956-57 to 1960-61 is shown below.

**COMMONWEALTH RAILWAYS : EXPENDITURE.**

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Working expenses—					
Trans-Australian .. .. .	2,057	2,277	2,301	2,610	3,047
North Australia .. .. .	239	221	169	202	170
Central Australia .. .. .	1,238	1,090	1,168	1,185	1,288
Aust. Capital Territory .. .. .	50	50	50	52	59
Miscellaneous .. .. .	36	35	37	39	52
<i>Total Working, etc., ex- penses</i> .. .. .	<i>3,620</i>	<i>3,673</i>	<i>3,725</i>	<i>4,088</i>	<i>4,616</i>
Capital Works and Services .. .. .	3,422	2,545	1,281	1,091	1,248
<b>Grand Total</b> .. .. .	<b>7,042</b>	<b>6,218</b>	<b>5,006</b>	<b>5,179</b>	<b>5,864</b>

Additional details of the financial operations of the Commonwealth Railways to 1960-61 are given in Chapter XIV.—Transport and Communication (*see* pp. 531-533).

9. *Territories.*—The following table shows the expenditure on account of Commonwealth Territories for the years 1956-57 to 1960-61. The Australian Capital Territory is administered by the Department of the Interior, and the Department of Territories controls the Northern Territory and the external territories. The expenditure has been grouped in one table for convenience. Information in greater detail will be found in Chapter V.—The Territories of Australia, of this Year Book.

**COMMONWEALTH TERRITORIES : EXPENDITURE.**  
(£'000.)

Territory.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Administration and Maintenance of Services—</i>					
Aust. Capital Territory(a) ..	2,783	3,075	3,685	4,301	4,805
Northern Territory(a) ..	3,729	4,406	4,877	6,245	6,853
Papua and New Guinea ..	9,573	11,374	11,611	12,951	15,094
Norfolk Island ..	37	33	31	32	32
Cocos (Keeling) Islands ..	20	26	36	30	55
<i>Total</i> ..	<i>16,142</i>	<i>18,914</i>	<i>20,240</i>	<i>23,559</i>	<i>26,839</i>
<i>Capital Works and Services—</i>					
Aust. Capital Territory(a) ..	4,957	8,394	11,098	12,433	13,157
Northern Territory(a) ..	2,798	3,300	3,678	3,874	4,531
Papua and New Guinea ..	215	8	87	591	532
Cocos (Keeling) Islands ..	57	47	43	3	9
<i>Total</i> ..	<i>8,027</i>	<i>11,749</i>	<i>14,906</i>	<i>16,901</i>	<i>18,229</i>

(a) Excludes Railways, see para 8 (iii) page 839.

10. **Capital Works and Services.**—In the following table, details are given of Commonwealth expenditure on capital works and services during each of the years 1956-57 to 1960-61. The table covers all expenditure on capital works and services made from the Consolidated Revenue Fund and the Loan Fund. In previous issues of this Year Book, this table covered expenditure from Trust Funds also, but there has been no expenditure on capital works and services from this source in recent years.

**COMMONWEALTH EXPENDITURE ON CAPITAL WORKS AND SERVICES FROM REVENUE AND LOAN FUNDS.**

(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Defence and War—</i>					
Navy .. .. .	5,602	9,814	7,504	6,996	9,979
Army .. .. .	10,138	10,732	15,831	13,163	15,270
Air Force .. .. .	3,007	3,256	4,632	4,043	4,384
Munitions and other .. .. .	19,669	10,958	7,014	11,871	8,640
<i>Repatriation Services—</i>					
War Service Homes .. .. .	30,000	35,000	35,000	35,000	35,000
Other .. .. .	167	206	308	242	386
Postmaster-General's Department .. .. .	30,715	34,807	36,354	39,935	42,143
Broadcasting and Television Services .. .. .	2,697	1,583	1,407	3,551	1,429
<i>Railways—</i>					
Commonwealth .. .. .	3,422	2,542	1,239	1,071	1,229
<i>Territories—</i>					
Australian Capital Territory .. .. .	4,954	8,390	11,095	12,433	13,150
Northern Territory .. .. .	2,798	3,300	3,678	3,874	4,531
Papua-New Guinea .. .. .	215	8	87	591	532
Cocos (Keeling) Islands .. .. .	57	47	43	3	9
<i>Other—</i>					
Ships, yards and docks .. .. .	1,343	..	..	..	..
Civil Aviation .. .. .	3,657	4,098	5,688	4,801	5,999
Snowy Mountains Scheme .. .. .	18,000	18,350	24,000	28,250	18,500
Immigration .. .. .	253	297	270	350	391
Health .. .. .	384	549	678	811	789
Subscriptions to Capital .. .. .	1,500	1,750	4,750	1,300	2,680
Advances .. .. .	432	1,297	230	166	500
All other works, buildings, etc. .. .. .	6,919	10,528	6,149	7,050	10,239
<i>Total</i> .. .. .	<i>145,929</i>	<i>157,512</i>	<i>165,957</i>	<i>175,501</i>	<i>175,780</i>
<i>Source of Funds—</i>					
Consolidated Revenue Fund .. .. .	145,938	157,522	166,024	175,544	175,832
Loan Fund .. .. .	-9	-10	-67	-43	-52
<i>Total</i> .. .. .	<i>145,929</i>	<i>157,512</i>	<i>165,957</i>	<i>175,501</i>	<i>175,780</i>

NOTE.—Minus sign (-) indicates excess of credits or repayments over expenditure.

11. **Payments to or for the States.**—(i) *General.* An outline of the provisions of the Constitution requiring the Commonwealth to make payments to the States, and of the

systems which followed, is given in earlier issues of the Official Year Book (*see* No. 37, pp. 633 to 638). In the following paragraphs, reference is made to the arrangements at present in operation.

(ii) *Amounts Paid.* (a) *Year 1960-61.* The table below shows particulars of the amounts paid to each of the States as grants for the several purposes referred to in subsequent paragraphs.

**COMMONWEALTH PAYMENTS TO OR FOR THE STATES, 1960-61.(a)**  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Total.
Financial Agreement—							
Interest on States' Debts ..	2,918	2,127	1,096	704	473	267	7,585
Sinking Fund on States' Debts(b)	2,182	1,446	786	837	609	414	6,274
Special Grants ..					4,309	4,309	8,618
Financial Assistance Grants ..	91,988	67,371	39,951	30,727	27,977	11,980	269,994
Commonwealth Aid Roads(c)	12,870	9,184	8,428	5,128	8,090	2,300	46,000
Tuberculosis Act 1948—Reimbursement of Capital Expenditure ..	126	48	175	30	21	10	410
Mental Institutions—Contribution to Capital Expenditure ..	433	84	97	46	15	52	727
Western Australian Waterworks Grant ..					517		517
Coal Mining Industry—Long Service Leave(c)	308		50		16	6	380
Encouragement of Meat Production Grants to Universities ..	4,140	3,023	1,537	1,090	904	533	11,227
Cattle Tick Control ..	541						541
Dairy Industry Extension Grant ..	65	72	65	18	13	10	243
Expansion of Agricultural Advisory Services ..	75	60	57	26	27	19	264
Development of North Western Australia ..					1,208		1,208
Grants for Railway Standardization(d)		3,301					3,301
<b>Total .. .. .</b>	<b>115,646</b>	<b>86,716</b>	<b>52,247</b>	<b>38,606</b>	<b>44,181</b>	<b>19,900</b>	<b>357,296</b>

(a) Excludes relief to primary producers, subsidies and bounties, and other payments for medical research, etc. (b) Paid to National Debt Sinking Fund. (c) Paid to Trust Fund. (d) Grants only—excludes repayable advances.

(b) 1956-57 to 1960-61. The following table shows particulars of payments by the Commonwealth to or on behalf of the States during each of these years.

**COMMONWEALTH PAYMENTS TO OR FOR THE STATES.(a)**  
(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Financial Agreement—					
Interest on States' Debts ..	7,585	7,585	7,585	7,585	7,585
Sinking Fund on States' Debts(b)	4,640	5,065	5,386	5,942	6,274
Special Grants ..	18,500	19,500	20,750	8,326	8,618
Financial Assistance Grants ..	154,622	165,820	174,547	244,500	269,994
Special Financial Assistance ..	19,405	24,145	30,437		
Additional Financial Assistance ..		5,000			
Grants for Road Construction, etc.(c)	31,269	31,664	33,249	43,923	46,000
Commonwealth Aid Roads—Special Assistance ..		2,950	2,950		
Tuberculosis Act 1948—Reimbursement of Capital Expenditure ..	2,381	2,142	1,412	781	410
Mental Institutions—Contribution to Capital Expenditure ..	1,248	1,256	1,120	1,147	727
Western Australian Waterworks Grants ..	462	677	524	609	517
Coal Mining Industry—Long Service Leave(c)	597	590	525	484	380
Imported Houses—Grants ..	2				
Contribution to South Australia—Port Augusta to Port Pirie Railway ..	20				
Encouragement of Meat Production Grants to Universities ..	134	98	16	6	7
Cattle Tick Control ..	2,262	3,074	6,919	7,628	11,227
Dairy Industry Extension Grant ..	675	536	578	477	541
Expansion of Agricultural Advisory Services ..	237	219	261	247	243
Development of North Western Australia ..	270	265	236	218	264
Grants for Railway Standardization(d)			171	484	1,208
<b>Total .. .. .</b>	<b>244,589</b>	<b>271,335</b>	<b>287,974</b>	<b>324,963</b>	<b>357,296</b>

(a) Excludes relief to primary producers, subsidies and bounties, and other payments for medical research, etc. (b) Paid to National Debt Sinking Fund. (c) Paid to Trust Fund. (d) Grants only—excludes repayable advances.

Particulars of special Commonwealth grants for the relief of primary producers are not included in the foregoing tables. See para. 4, Subsidies and Bounties, page 834 and para. 12, Other Expenditure, page 847.

(iii) *Financial Agreement.* Details of the Financial Agreement between the Commonwealth and the States are given in Official Year Book No. 37, pages 685 to 690. Under this Agreement, the Commonwealth undertook to contribute £7,584,912 per annum towards interest payable on the State Loan Securities for a period of 58 years from 1st July, 1927. This amount is distributed among the States as follows:—New South Wales, £2,917,411; Victoria, £2,127,159; Queensland, £1,096,235; South Australia, £703,816; Western Australia, £473,432; Tasmania, £266,859.

These amounts are equal to the sums paid by the Commonwealth to each State in the year 1926–27 at the rate of 25s. per head of population, the rate at which the Commonwealth had contributed annually to the States since 1st July, 1910, as compensation for the States relinquishing, after Federation, the right to levy Customs and Excise Duties.

In addition, under the Financial Agreement, the Commonwealth agreed to make certain contributions to the National Debt Sinking Fund for redemption of State Loan Securities. Details of these are given in Division D of this Chapter, § 2, page 882.

(iv) *Special Grants.* The Constitution provides in Section 96 for the granting of special financial assistance to the States. Prior to 1933, financial assistance of varying amounts was granted by the Commonwealth to South Australia, Western Australia and Tasmania. Details of this may be found in earlier issues of the Official Year Book (see No. 40, p. 695).

In 1933, the Commonwealth Government appointed the Commonwealth Grants Commission of three members to inquire into and report upon claims made by any State for a grant of financial assistance and any matters relevant thereto.

Applications have been received from South Australia, Western Australia and Tasmania each year from 1933 onwards and the recommendations of the Commission in respect of the years 1957–58 to 1961–62 are shown in the following table. Commencing with 1949–50, the Commission has divided the grants recommended into two parts. One part is the Commission's estimate of the indispensable need of the claimant State for the year in which the payment is to be made after allowing a sufficient margin for safety. The other part is an adjustment of this estimate for an earlier year after an examination of the audited accounts for that year. Thus the grants for 1961–62 include an estimate of the indispensable need of the claimant State for 1961–62 and an adjustment to the estimated grant for 1959–60. South Australia agreed with the Commonwealth not to apply for special grants in other than exceptional circumstances after 1st July, 1959, when the new financial arrangements under the State Grants Act 1959 came into operation (see sub-para. (v) below).

**COMMONWEALTH GRANTS COMMISSION: GRANTS RECOMMENDED.**  
(£'000.)

Particulars.	1957–58.	1958–59.	1959–60.	1960–61.	1961–62.
<i>South Australia—</i>					
Estimated grant .. ..	4,858	5,201	..	..	..
Adjustment(a) .. ..	842	49	(b) 1,426	..	..
<i>Net grant recommended</i> ..	<i>5,700</i>	<i>5,250</i>	<i>1,426</i>	<i>..</i>	<i>..</i>
<i>Western Australia—</i>					
Estimated grant .. ..	9,828	9,758	3,149	3,700	5,200
Adjustment(a) .. ..	322	1,342	351	609	956
<i>Net grant recommended</i> ..	<i>10,150</i>	<i>11,100</i>	<i>3,500</i>	<i>4,309</i>	<i>6,156</i>
<i>Tasmania—</i>					
Estimated grant .. ..	4,466	4,414	2,597	3,400	4,100
Adjustment(a) .. ..	—816	—14	803	909	975
<i>Net grant recommended</i> ..	<i>3,650</i>	<i>4,400</i>	<i>3,400</i>	<i>4,309</i>	<i>5,075</i>
<b>Grand Total .. ..</b>	<b>19,500</b>	<b>20,750</b>	<b>8,326</b>	<b>8,618</b>	<b>11,231</b>

(a) Adjustment to estimated grant paid two years previously.  
payment of £1,027,000 in 1959–60.

(b) Includes the final adjusting

(v) *Financial Assistance Grants.* The States Grants Act 1959 repealed the States Grants (Tax Reimbursement) Acts of 1946, 1947 and 1948 and provided for payment to the States of financial assistance in 1959–60 amounting to £244,500,000 to be distributed amongst the States as follows:—New South Wales, £83,450,000; Victoria, £60,625,000; Queensland, £36,375,000; South Australia, £27,675,000; Western Australia, £25,462,000; Tasmania, £10,913,000. In subsequent years, the financial assistance grant payable to each State has been determined by increasing its grant for 1959–60 in accordance with a formula

which takes into account movements in population in each State and the increases (if any) in the level of average wages per person employed as shown in returns submitted under the Pay-roll Tax Assessment Act 1941-1961. In 1960-61, the grants determined according to this formula were as follows:—New South Wales, £91,988,000; Victoria, £67,371,000; Queensland, £39,951,000; South Australia, £30,727,000; Western Australia, £27,977,000; Tasmania, £11,980,000.

Details of the States Grants (Income Tax Reimbursement) Act 1942 and the States Grants (Entertainments Tax Reimbursement) Act 1942 are given in earlier issues of the Official Year Book (*see* No. 37, pp. 635 to 637). These Acts provided for grants to the States as compensation for vacating the fields of Income Tax and Entertainments Tax. Grants under these Acts ceased after 1945-46 and were replaced by grants under the States Grants (Tax Reimbursement) Act 1946-1948 which expired after 1958-59. *See* Official Year Book No. 46, pages 837-8.

(vi) *Special Financial Assistance Grants.* During the years 1954-55 to 1958-59, there were heavy additions to the financial needs of the States, and special assistance grants amounting to £19,902,000, £15,348,000, £19,405,000, £24,145,000 and £30,437,000 respectively were made. For details of amounts paid to each State *see* earlier issues of the Official Year Book or the annual bulletin *Finance, Part I.—Public and Private Finance.*

(vii) *Additional Financial Assistance.* The States Grants (Additional Assistance) Act 1958 provided for the payment of £5,000,000 from the Consolidated Revenue Fund for financial assistance to the States.

(viii) *Grants for Road Construction.* (a) *Main Roads Development Act 1923-25, Federal Aid Roads Acts 1926, 1931 and 1936, Federal Aid Roads and Works Act 1937, Commonwealth Aid Roads and Works Act 1947-1949, Commonwealth Aid Roads Act 1950, Commonwealth Aid Roads Act 1954, and Commonwealth Aid Roads (Special Assistance) Act 1957.* Details of these Acts are given in earlier issues of the Official Year Book (*see* No. 38, pp. 787-8, No. 41, p. 62 and No. 46, p. 838) and in the annual bulletin *Finance, Part I.—Public and Private Finance.*

(b) *Commonwealth Aid Roads Act 1959.* A new scheme of Commonwealth assistance to the States for roads was established by the Commonwealth Aid Roads Act 1959. Under this Act, which is to operate for a period of five years from 1st July, 1959, the Commonwealth has undertaken to make available up to £250,000,000 to the States for the construction, reconstruction, maintenance and repair of roads.

Of this amount, a total of £220,000,000 will be paid to the States as basic grants for roads over five years. The basic grants are fixed annual amounts which rise progressively by £2,000,000 a year from £40,000,000 in 1959-60 to £48,000,000 in 1963-64. In each year, the grants will be distributed between the States on the basis of 5 per cent. of the total to Tasmania and the balance shared between the other five States, one-third in proportion to their respective populations at the date of the last preceding Census, one-third in proportion to their respective areas and one-third in proportion to the respective number of motor vehicles registered in these States at 31st December preceding the year of payment.

The balance of up to £30,000,000 over the five years will be made available to the States as matching assistance for roads. The total amounts of matching assistance will increase by £2,000,000 a year from £2,000,000 in 1959-60 to £10,000,000 in 1963-64. Up to the limit of its share of the total matching assistance available in any year, each State qualifies for £1 of matching assistance from the Commonwealth for each £1 by which the amount it allocates in that year from its own resources for expenditure on roads exceeds the amount so allocated in 1958-59. The share of each State in the total matching assistance available in any year is determined by the same formula as is used to determine its share of the basic grant in that year.

The full amount of the matching assistance available to each State in any year is being paid during that year on the understanding that the road grants to the State in the following year will be adjusted if it is subsequently found that the State did not qualify in full for the matching assistance paid to it in that year.

The legislation relating to the years 1947-48 to 1958-59 provided for annual allocations to the Commonwealth for expenditure on strategic roads and the promotion of road safety practices. No such provisions are contained in the present legislation, the Commonwealth making separate provision for these purposes.

(ix) *Tuberculosis Act 1948.* The Tuberculosis Act 1948 provided for the reimbursement by the Commonwealth of capital expenditure incurred by the States in the provision of facilities for the diagnosis, treatment and control of tuberculosis, as from 1st July, 1948.



(x) *States Grants (Mental Institutions) Act 1955.* This Act provides for financial assistance to the States for capital expenditure on mental institutions to a maximum amount of £10,000,000. Each State is entitled to one-third of expenditure made on or after 1st July, 1955, on buildings or equipment of a mental institution.

(xi) *Other Payments.* (a) *Western Australian Waterworks.* The Western Australia Grant (Water Supply) Act 1948–1957 provides for grants to Western Australia not exceeding an aggregate of £5,000,000 for the development of the Agricultural Areas, Great Southern Towns and Goldfields Water Supply schemes. The amount provided by the Commonwealth is not to exceed half the total expenditure on the scheme.

(b) *Coal Mining Industry—Long Service Leave.* To provide funds for the payment for long service leave in the coal mining industry, the Commonwealth imposed an excise duty of 6d. a ton on coal produced from 1st November, 1949. The rate of duty was raised to 7d. a ton from 26th August, 1951, and to 8d. a ton from 30th May, 1952. The proceeds of this excise duty are paid to a trust fund out of which the States are reimbursed for expenditure incurred in granting long service leave to employees in the coal mining industry.

(c) *Imported Houses.* Under the States Grants (Imported Houses) Act 1950 the Commonwealth Government undertook to pay to the States a subsidy not exceeding £300 per house for houses imported by a State or a housing authority of a State after 12th October, 1949. Imports of houses under this scheme have now ceased.

(d) *Contribution to South Australia—Port Augusta to Port Pirie Railway.* The Port Augusta to Port Pirie Railway Act 1935–1950 approved an agreement between the Commonwealth and South Australia to provide for the extension of the Trans-Australian Railway by the construction of a railway in South Australia from Port Augusta to Port Pirie. As a contribution towards reimbursing South Australia for the cost of the section to be constructed by the State, and for any additional expense incurred by the State in carrying out the Agreement, the Act provided for a payment by the Commonwealth to the State of South Australia of £20,000 per annum for twenty years, the first payment being made in 1937–38 after the opening of the railway and the final payment in 1956–57.

(e) *Encouragement of Meat Production.* To develop meat production in Queensland and Western Australia, grants are made to these States for the provision and improvement of roads and other facilities for the movement of live-stock. Provision is made for the Commonwealth to meet the cost of the construction and improvement of certain specified roads in both States and the construction of eight cattle loading and unloading points in Queensland. Provision is also made for the Commonwealth to meet half the cost of improving watering facilities on specified stock routes in both States. The amount of the grants for improving watering facilities on stock routes is limited to £150,000 in Queensland and £50,000 in Western Australia.

(f) *Grants to Universities.* Payments to the States for universities were first introduced in 1951–52 under the States Grants (Universities) Act 1951, and were continued under similar legislation passed in 1953, 1955, 1956 and 1957. Following on the Government's acceptance of the main recommendations of the Committee on Australian Universities, the provisions of the 1957 Act relating to financial assistance for 1958 were superseded by the States Grants (Universities) Act 1958, which operated from 1st January, 1958.

This legislation authorized the Commonwealth to make payments to the States for universities of up to £21,400,000 over the three calendar years 1958 to 1960, inclusive, where certain conditions have been satisfied. These payments include increased contributions towards the running expenses of universities, new grants for capital works and equipment and new emergency grants.

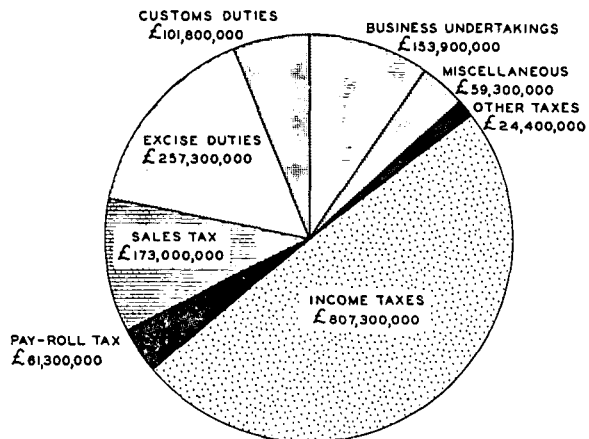
Under the States Grants (Universities) Act 1960, which carried on the principle of grants for capital works and equipment introduced in the 1958 legislation, payments of up to £42,000,000 over the three calendar years 1961, 1962 and 1963 are to be made to the States. (See also Chapter XV.—Education and Research, page 602.)

(g) *Cattle Tick Control.* Since 1926–27, the Commonwealth has subsidized the cost of eradication and control of cattle tick in New South Wales. From 1950–51, the subsidy was increased on a £1 for £1 basis up to an agreed maximum. The payments are charged to the departmental expenditure of the Department of Health.

(h) *Western Australia Northern Development.* The Commonwealth provides financial assistance of up to £5,000,000 to the State of Western Australia under the Western Australia Grant (Northern Development) Act 1958–59 in respect of developmental expenditure by the State in the area of Western Australia north of the twentieth parallel of latitude during the period of five years commencing on 1st July, 1958. Under the scheme, Commonwealth

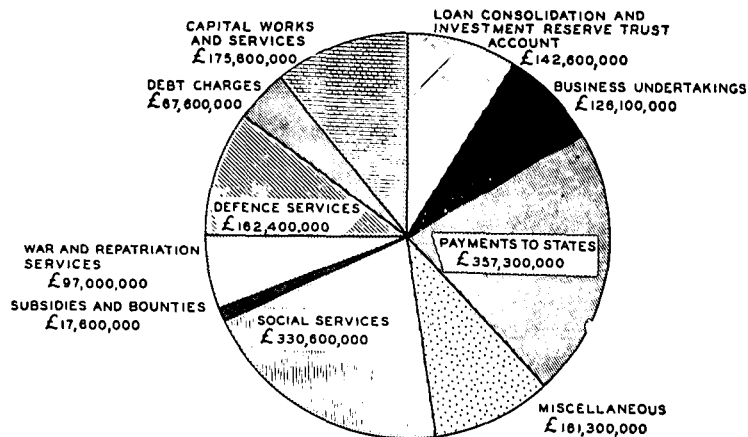
# COMMONWEALTH CONSOLIDATED REVENUE FUND, YEAR ENDED 30<sup>TH</sup> JUNE, 1961

REVENUE



TOTAL REVENUE  
£1,638,300,000

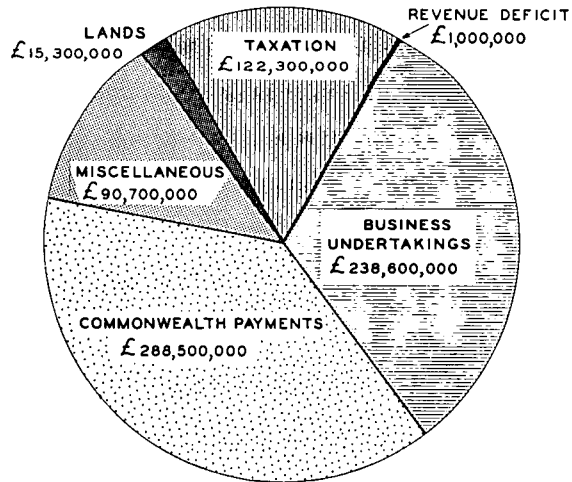
EXPENDITURE



TOTAL EXPENDITURE  
£1,638,300,000

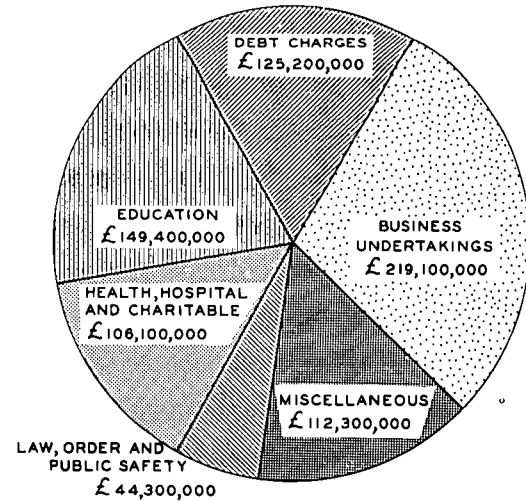
# STATE CONSOLIDATED REVENUE FUNDS, YEAR ENDED 30<sup>TH</sup>. JUNE, 1961

REVENUE



TOTAL REVENUE  
£756,400,000

EXPENDITURE



TOTAL EXPENDITURE  
£756,400,000

assistance is provided in respect of projects, nominated by the State, which the Commonwealth is satisfied will contribute to the development of the area and which could not reasonably be expected to be carried out during the period of five years without the grant of Commonwealth assistance.

Payments to the State during 1960-61 amounted to £1,208,000, bringing total payments by the Commonwealth in respect of the scheme to £1,863,000.

(i) *Dairy Industry Extension Grant.* The Commonwealth provides financial assistance, with a maximum annual limit of £250,000, to promote improved farm practices in the dairy industry. The grants are charged to the departmental expenditure of the Department of Primary Industry.

(j) *Expansion of Agricultural Advisory Services.* These payments were introduced in 1952-53 to encourage expansion of agricultural advisory services by the State Departments of Agriculture and to promote increased farm efficiency. The payments are charged to the departmental expenditure of the Department of Primary Industry.

(k) *Grants for Railway Standardization.—South Australia.* Under the Railway Standardization (South Australia) Agreement Act 1949, the Commonwealth is providing funds for the conversion of lines in the south-eastern division of the State as an initial step towards eventual standardization of 4' 8½" gauge. The State is to repay three-tenths of the cost of this work over a period of 50 years and is to bear the full cost of subsequent conversion from broad to standard gauge.

*Albury to Melbourne.* Under the Railway Standardization (New South Wales and Victoria) Agreement Act 1958 the Commonwealth provided funds for the construction of the standard gauge rail link between Albury and Melbourne on the basis that the States of Victoria and New South Wales will each bear 15 per cent. of the cost by instalments over a period of 50 years.

The total expenditure on Railway Standardization (the 30 per cent. advances to the States and the 70 per cent. grants to the States) is charged to the Capital Works and Services vote of the Department of Shipping and Transport.

12. **Other Expenditure.**—Expenditure under this item includes the proceeds of special industry taxes and profits from marketing schemes which are paid to trust funds or other authorities for the purposes of the industries concerned. Information relating to the taxes levied is given in sub-section B. Revenue, of this section (*see pp. 828-9*). Details of expenditure from the trust funds are included in § 3, Commonwealth Trust Funds. Details of expenditure from the Consolidated Revenue Fund during the last five years are given in the following table.

**OTHER EXPENDITURE FROM COMMONWEALTH CONSOLIDATED  
REVENUE FUND.**  
(£'000.)

Receipts from—	Expenditure on—	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Taxes—</i>						
Export Charges ..	Export Control Boards (a)	375	390	566	540	508
Stevedoring Industry Charge ..	Stevedoring Industry Board ..	1,926	3,337	4,572	3,718	3,542
Tobacco Charge ..	Tobacco Industry (b) ..	41	61	72	112	125
Wheat Export Charge	Wheat Industry Price Stabilization (c) ..	..	443	1,211	1	..
Wheat Tax .. ..	Wheat Research (d) ..	..	185	207	187	261
Wool Tax .. ..	Wool Use Promotion and Research ..	979	1,328	1,389	1,542	1,455
Dairy Produce Levy ..	Dairy Produce Research and Sales Promotion ..	..	..	151	369	421
Canning Fruit Charge	Canned Fruit Sales Promotion ..	..	..	..	35	27
Cattle Slaughter Levy ..	Cattle and Beef Research ..	..	..	..	..	82
<i>Total</i> .. ..	.. ..	<u>3,321</u>	<u>5,744</u>	<u>8,168</u>	<u>6,504</u>	<u>6,421</u>
<i>Other—</i>						
Meat Export Deficiency Payments—United Kingdom Government	Australian Meat Board ..	3,254	5,927	..	..	..
Strategic Roads and Road Safety Practices	.. ..	950	1,000	1,000	150	150
Other .. ..	.. ..	339	737	..	..	..
<i>Total</i> .. ..	.. ..	<u>4,543</u>	<u>7,664</u>	<u>1,000</u>	<u>150</u>	<u>150</u>
<b>Grand Total</b> ..	.. ..	<u>7,864</u>	<u>13,408</u>	<u>9,168</u>	<u>6,654</u>	<u>6,571</u>

(a) Paid to Apple and Pear Export Fund, Canned Fruits Export Fund, Dairy Produce Export Fund, Dried Fruits Export Fund, Egg Export Fund and Wine Export Fund. (b) Paid to Tobacco Industry Trust Fund. (c) Paid to Wheat Prices Stabilization Fund. (d) Paid to Wheat Research Fund.

## § 3. Commonwealth Trust Funds.

1. Receipts, Expenditure and Balances, 1960-61.—The following table shows the opening and closing balances and receipts and expenditure of some of the more important Trust Funds of the Commonwealth for the year ended 30th June, 1961.

## COMMONWEALTH TRUST FUNDS : RECEIPTS, EXPENDITURE AND BALANCES, 1960-61.

(£'000.)

Fund.	Balance at 30th June, 1960.	Year ended 30th June, 1961.		Balance at 30th June, 1961.
		Receipts.	Expenditure.	
Canadian Loan .. .. .	7,068	302	225	7,145
Coal Mining Industry Long Service Leave Coinage .. .. .	2,109	495	458	2,146
Commonwealth Aid Roads (Supplementary)	.. .. .	2,408	2,408	.. .. .
Defence Forces Retirement Benefits .. .. .	169	.. .. .	96	73
Insurance Deposits .. .. .	13,544	6,451	3,746	16,249
Interest Suspense .. .. .	6,016	907	399	6,524
International Development and Relief .. .. .	508	119,140	119,129	519
Korean Operations Pool .. .. .	156	360	446	70
Lend Lease Settlement .. .. .	11,464	12	12	11,464
Loan Consolidation and Investment Reserve	817	38	155	700
National Debt Sinking Fund .. .. .	208,310	151,480	30,932	328,858
National Welfare .. .. .	183,604	73,853	96,271	161,180
Parliamentary Retiring Allowances .. .. .	200,999	332,622	330,604	203,017
Pensions Suspense .. .. .	382	106	57	431
Post Office Stores and Services .. .. .	6,936	128,176	127,634	7,478
Superannuation .. .. .	545	53,992	54,328	209
Swiss Loan .. .. .	71,278	18,686	9,013	80,951
Taxation Funds Suspense .. .. .	14,584	558	.. .. .	15,142
Temple Society .. .. .	796	63,157	63,180	773
Tobacco Industry .. .. .	561	412	487	486
War Service Homes .. .. .	91	193	190	94
War Service Homes—Insurance .. .. .	.. .. .	36,125	36,125	.. .. .
Wheat Industry Stabilization .. .. .	747	254	207	794
Wheat Prices Stabilization .. .. .	266	.. .. .	.. .. .	266
Wheat Research .. .. .	11,030	462	6,532	4,960
Wine Research .. .. .	600	454	314	740
Wool Disposals Profit .. .. .	425	19	18	426
Wool Research .. .. .	79	—79	.. .. .	.. .. .
Other .. .. .	9,218	2,065	2,060	9,223
	15,528	66,973	68,308	14,193
<b>Total .. .. .</b>	<b>767,830</b>	<b>1,059,621</b>	<b>953,334</b>	<b>874,117</b>

2. Summary, 1956-57 to 1960-61.—In the following table, the balances and total receipts and expenditure of the Trust Funds are shown for each of these years.

## COMMONWEALTH TRUST FUNDS.

(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Balances brought forward .. .. .	818,390	904,447	888,033	810,099	767,830
Receipts .. .. .	907,151	910,244	880,171	915,830	1,059,621
Expenditure .. .. .	821,094	926,658	958,105	958,099	953,334
Balance carried forward .. .. .	904,447	888,033	810,099	767,830	874,117

## § 4. Commonwealth Loan Fund.

Brief historical notes relating to the Commonwealth Loan Fund are given in earlier issues of the Official Year Book (*see* No. 37, p. 640). In the following table, details are given of the net expenditure from the Commonwealth Loan Fund for the years 1956–57 to 1960–61 and of the aggregate expenditure to 30th June, 1961. The figures shown represent “net” loan expenditure, i.e., after adjustments have been made for refunds of amounts expended in earlier years.

COMMONWEALTH NET EXPENDITURE FROM LOAN FUND.  
(£'000.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.	Total to 30th June, 1961.
<b>War Loans—</b>						
Defence and War (1914–18, 1939–45)						
Services .. .. .	(a)8,019	(a)8,703	(a)5,700	(a)6,937	(a)2,027	2,044,726
Defence Services—						
General Services, Works, Armaments, etc.	..	..	37,308	11,987	..	49,295
<b>Other Loans—</b>						
Capital Works and Services—						
Defence(b) .. .. .	..	..	— 2	— 17	— 9	8,654
Repatriation Services(b)—						
War Service Homes(b) .. .. .	..	..	..	..	..	7,329
Other .. .. .	..	..	..	..	..	47
Postmaster-General's Department	..	..	..	..	..	40,412
Broadcasting Services .. .. .	..	..	..	..	..	104
Railways .. .. .	..	..	..	..	..	13,660
Territories(c) .. .. .	..	..	..	..	..	8,699
Other—						
Ships, Yards and Docks .. .. .	..	..	..	..	..	7,694
Civil Aviation .. .. .	..	..	..	..	..	213
Immigration .. .. .	..	..	..	..	..	1,681
Emergency Wheat Storage .. .. .	..	..	..	..	..	3,071
All other works, buildings, etc.	..	..	..	..	..	4,203
Other Purposes—						
Assistance to States—						
Farmers' Debt Adjustment .. .. .	..	..	..	..	..	7,967
Housing .. .. .	..	..	..	..	..	414,959
Other .. .. .	..	..	..	..	..	5,976
Wheat Bounty .. .. .	..	..	..	..	..	3,430
Loan (Qantas Empire Airways) .. .. .	..	..	..	..	..	19,462
Loan (Australian National Airlines Commission) .. .. .	..	..	..	..	..	2,229
Total Capital Works and Services and Other Purposes .. .. .	35,980	36,431	43,113	40,683	39,613	549,790
International Bank Dollar Loan(d) .. .. .	5,367	14,565	7,492	..	..	137,645
Swiss Loan(e) .. .. .	..	..	..	..	..	11,722
Canadian Loan(f) .. .. .	..	..	..	..	..	6,459
<b>Grand Total .. .. .</b>	<b>49,366</b>	<b>59,699</b>	<b>93,613</b>	<b>59,607</b>	<b>41,640</b>	<b>2,799,637</b>

(a) Financial assistance to the States in connexion with War Service Land Settlement. (b) Excludes amounts charged to War Loan Fund. (c) Includes administration and other public buildings, Australian Capital Territory. (d) Payment to National Debt Sinking Fund. (e) Payment to Swiss Loan Trust Account. (f) Payment to Canadian Loan Trust Account.

NOTE.—Minus sign (–) indicates excess of repayments to Loan Fund.

Information relating to the Commonwealth Government Securities on Issue is given in Division D. Commonwealth and State Government Securities on Issue, of this chapter.

## B. STATE FINANCE.

## § 1. General.

1. Functions of State Governments.—In comparing the financial returns of the States, allowances must be made for the various functions discharged by the respective Governments, and for local conditions in each case. Direct comparisons of the revenue, expenditure, and debt of the individual States are difficult, owing to the fact that functions which in

one State are assumed by the Central Government are in another delegated to municipal or semi-governmental bodies which are vested with certain defined borrowing powers and whose financial transactions are not included with those of the Central Government. Care is needed therefore in making comparisons, and the particulars contained in this chapter should be read with those contained in Chapter XIX.—Local Government. In many respects, moreover, the budgets of the Australian Governments differ materially from those of most European countries, owing to the inclusion therein of the revenue and expenditure of departments concerned with rendering public services, such as railways, tramways, water supply, etc., which in other countries are often left to private enterprise.

2. **Accounts of State Governments.**—The various financial transactions of the States are in each case mainly concerned with one or other of three Funds—the Consolidated Revenue Fund, the Trust Fund, and the Loan Fund. All revenue (except certain items paid into special funds) collected by a State is paid into its Consolidated Revenue Fund, from which payments are made under authority of an annual Appropriation Act passed by the Legislature, or by a permanent appropriation under a special act.

Figures in § 2 below relating to New South Wales represent the transactions of the Consolidated Revenue Fund and the business undertakings included in the annual budget papers. These latter are as follows:—Railways, Tramways and Omnibuses, and Sydney Harbour Trust Section of the Maritime Services Board. Adjustments have been made to the Budget figures, however, in order to eliminate duplications caused by inter-fund payments. Particulars for all other States relate to the transactions of the Consolidated Revenue Fund.

The Trust Fund comprises all moneys held in trust by the Government, and includes such items as superannuation funds, road funds, insurance companies' deposits, etc.

The Loan Fund is debited with all loan moneys raised by the State, and credited with the expenditure therefrom on public works or other purposes.

3. **Inter-relation of Commonwealth and State Finances.**—A statement in some detail, covering the inter-relation of Commonwealth and State finances during the period from the inception of Federation to the passing of the Financial Agreement Act 1928, was published in Official Year Book No. 22, pages 379–380. Changes in the financial relations between the Commonwealth and States since the passing of the Financial Agreement Act have been described in issues of the Official Year Book from year to year (*see also* pp. 864–6).

## § 2. State Consolidated Revenue Funds.

### A. REVENUE.

1. **General.**—The principal sources of State revenue are:—

(a) Taxation; (b) the business undertakings controlled by the State Governments; (c) sale of and rental from crown lands; (d) interest on advances; (e) payments by the Commonwealth Government under the Financial Agreement, Special Grants and Financial Assistance Acts, etc.; (f) Commonwealth National Welfare Fund payments; and (g) miscellaneous sources, comprising fines, fees, etc.

Of these sources, that yielding the largest revenue to the Consolidated Revenue Funds for the States as a whole in the year 1960–61 was Commonwealth payments under financial assistance and other grants (38.2 per cent. of the total revenue). Next in magnitude was the group of business undertakings (31.6 per cent.), the principal contributors being the government railways and tramways, followed by taxation receipts (16.2 per cent.). More than one-quarter of the total State taxation collections are not paid into Consolidated Revenue Funds, however, but into special funds (*see* para. 3 (ii) (b) following). Of the remaining sources of revenue, interest (n.e.i.) constituted 3.7 per cent., land revenue 2.0 per cent., and National Welfare Fund payments 1.5 per cent.

2. **Revenue Received.**—The following table shows particulars of the total amounts, and the amounts per head of population, of consolidated revenue received by the several States during the years 1956–57 to 1960–61.

## STATE CONSOLIDATED REVENUE.

Year.	N.S.W.(a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
TOTAL REVENUE. (£'000.)							
1956-57 ..	223,829	133,254	85,158	61,561	54,331	18,801	576,934
1957-58 ..	231,510	142,336	87,955	66,342	57,045	19,961	605,183
1958-59 ..	239,769	151,248	99,007	68,030	60,061	21,837	639,959
1959-60 ..	262,533	168,310	103,103	76,077	64,388	26,099	699,510
1960-61 ..	282,364	185,101	108,817	81,979	69,333	27,795	755,389

PER HEAD OF POPULATION.  
£ s. d.

1956-57 ..	62 7 3	50 15 0	61 1 8	71 9 4	79 15 9	57 18 2	60 17 8
1957-58 ..	63 4 10	52 19 4	61 16 9	74 17 7	82 5 3	60 3 10	62 10 2
1958-59 ..	64 5 11	54 19 11	68 5 1	74 18 0	85 2 0	64 9 9	64 15 2
1959-60 ..	69 3 0	59 14 0	69 15 1	81 9 9	89 15 3	72 18 9	69 6 8
1960-61 ..	72 17 0	63 19 6	72 7 4	85 13 0	95 0 2	79 8 0	73 5 4

(a) See § 1, para. 2, p. 850.

3. Sources of Revenue.—(i) *General.* Classifying the revenue of the several States in the manner indicated in para. 1 above, particulars for the year 1960-61 were as follows.

## STATE CONSOLIDATED REVENUE : SOURCES, 1960-61.

Source of Revenue.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas. (b)	Total.
TOTAL REVENUE. (£'000.)							
Taxation(c) .. ..	44,100	41,940	14,255	11,713	6,120	4,165	122,293
Business Undertakings ..	107,126	51,995	35,398	22,939	21,075	48	238,581
Lands .. ..	5,246	3,263	4,064	662	1,399	635	15,269
Interest, n.e.i. .. ..	2,222	6,662	4,614	6,822	3,026	4,624	27,970
Commonwealth Grants(d)—							
Financial Assistance ..	91,988	67,371	39,951	30,727	27,977	11,980	269,994
Other(e) .. ..	3,439	2,127	1,784	1,796	4,799	4,576	18,521
Commonwealth National							
Welfare Fund Payments(f)	6,113	1,143	2,617	877	537	284	11,571
Miscellaneous .. ..	22,130	10,600	6,134	6,443	4,400	1,483	51,190
Total .. ..	282,364	185,101	108,817	81,979	69,333	27,795	755,389

PER HEAD OF POPULATION.  
(£ s. d.)

Taxation(c) .. ..	11 7 7	14 9 11	9 9 7	12 4 9	8 7 9	11 18 0	11 17 2
Business Undertakings ..	27 12 9	17 19 5	23 10 10	23 19 4	28 17 7	0 2 9	23 2 10
Lands .. ..	1 7 1	1 2 7	2 14 1	0 13 10	1 18 4	1 16 4	1 9 7
Interest, n.e.i. .. ..	0 11 6	2 6 1	3 1 4	7 2 7	4 2 11	13 4 2	2 14 3
Commonwealth Grants(d)—							
Financial Assistance ..	23 14 8	23 5 8	26 11 4	32 2 1	38 6 9	34 4 5	26 3 9
Other(e) .. ..	0 17 9	0 14 8	1 3 9	1 17 6	6 11 6	13 1 5	1 15 11
Commonwealth National							
Welfare Fund Payments(f)	1 11 6	0 7 11	1 14 10	0 18 4	0 14 9	0 16 3	1 2 6
Miscellaneous .. ..	5 14 2	3 13 3	4 1 7	6 14 7	6 0 7	4 4 8	4 19 4
Total .. ..	72 17 0	63 19 6	72 7 4	85 13 0	95 0 2	79 8 0	73 5 4

(a) See § 1, para. 2, p. 850. (b) Tasmanian Transport Services are under separate control of the Transport Commission. (c) In all States, certain taxation collections are not paid into Consolidated Revenue Fund. For total collections see next page. (d) Excludes Commonwealth payments paid to Trust Funds. (e) Includes payments under Financial Agreement, Special Grants, Financial Assistance, Grants to Universities, etc. (f) Consolidated Revenue Fund receipts only. Excludes payments to Trust Funds.

(ii) *Revenue from Taxation.* (a) *General.* In the tables on taxation collections in these paragraphs, the collections have been grouped according to the nature of the tax rather than the method of collection. For example, stamp duties on betting tickets and bookmakers' licences have been included under "Racing Tax" instead of under "Stamp Duties" and "Licences" respectively.



Prior to federation, customs and excise duties were the principal source of revenue from taxation. Thereafter, until the introduction of the uniform income tax scheme in 1942-43, the most productive State taxes were the various income taxes which, in 1941-42, included unemployment relief, State development and hospital taxes. From 1942-43 to 1958-59, the States were reimbursed by the Commonwealth for the revenue lost by the discontinuance of these taxes. Commencing with 1959-60, however, a new scheme for the payment of financial assistance to the States was instituted (for details see C., para. 11 (v), p. 842). Information relating to the State income taxes which were levied prior to 1942-43 may be found in earlier issues of the Official Year Book.

(b) *Net Collections, 1960-61.* The following tables show, for the year 1960-61, details of the collections in each State from the various types of tax in operation, irrespective of whether such moneys have been paid into the Consolidated Revenue Funds or not. For this reason, the particulars hereunder differ from those shown in the tables relating to the Consolidated Revenue Funds and represent a comprehensive statement of all taxation collections by the Government in each State.

**STATE REVENUE FROM TAXATION : TOTAL NET COLLECTIONS(a), 1960-61.**  
(£'000.)

Tax.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<i>Motor—</i>							
Registration Fees and Taxes .. .. .	11,376	9,798	5,569	3,970	2,690	1,171	34,574
Drivers', etc., Licences .. .. .	1,414	514	314	387	303	112	3,044
Other .. .. .	5,013	4,172	1,809	86	72	156	11,308
<i>Total Motor</i> .. .. .	<i>17,803</i>	<i>14,484</i>	<i>7,692</i>	<i>4,443</i>	<i>3,065</i>	<i>1,439</i>	<i>48,926</i>
<i>Probate and Succession Duties</i> .. .. .	13,730	11,531	4,004	2,402	1,421	790	33,878
Stamp Duties, n.e.i. .. .. .	15,135	12,557	4,989	2,308	1,958	940	37,887
Land .. .. .	8,449	6,706	1,745	1,400	1,094	520	19,914
Liquor .. .. .	3,750	3,218	1,088	211	503	282	9,052
Lotteries .. .. .	.. .. .	3,237	322	.. .. .	.. .. .	73	3,652
Racing .. .. .	2,861	2,841	427	1,141	847	409	8,526
Entertainments .. .. .	.. .. .	1,037	.. .. .	.. .. .	207	157	1,421
Poker Machines Licence Fees .. .. .	1,677	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	1,677
Licences, n.e.i. .. .. .	171	292	208	85	71	13	840
Other .. .. .	4	3	2,226	112	352	.. .. .	2,697
<i>Grand Total</i> .. .. .	<i>63,580</i>	<i>55,946</i>	<i>22,701</i>	<i>12,102</i>	<i>9,518</i>	<i>4,623</i>	<i>168,470</i>

(a) From all sources of taxation irrespective of whether paid to Consolidated Revenue Fund or to other funds.

Of the total taxation collections detailed above, the following were paid into special funds.

**STATE REVENUE FROM TAXATION : PAYMENTS INTO SPECIAL FUNDS, 1960-61.**  
(£'000.)

Tax.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<i>Motor</i> .. .. .	17,803	13,602	6,404	.. .. .	3,046	276	41,131
Stamp Duties, n.e.i. .. .. .	.. .. .	209	.. .. .	.. .. .	.. .. .	.. .. .	209
Liquor .. .. .	.. .. .	182	.. .. .	.. .. .	.. .. .	.. .. .	182
Racing .. .. .	.. .. .	.. .. .	.. .. .	389	.. .. .	182	571
Poker Machines Licence Fees .. .. .	1,677	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	1,677
Other .. .. .	.. .. .	13	2,042	.. .. .	352	.. .. .	2,407
<i>Total</i> .. .. .	<i>19,480</i>	<i>14,006</i>	<i>8,446</i>	<i>389</i>	<i>3,398</i>	<i>458</i>	<i>46,177</i>

The table hereunder shows, for the year 1960-61, the proportions of collections under individual classes of tax to the total taxation revenue.

**STATE REVENUE FROM TAXATION: PROPORTIONS OF INDIVIDUAL TAXES TO TOTAL, 1960-61.**

(Per cent.)

Tax.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Motor .. .. .	28.00	25.89	33.88	36.71	32.20	31.12	29.04
Probate and Succession Duties .. .. .	21.59	20.61	17.64	19.85	14.92	17.10	20.11
Stamp Duties, n.e.i. .. .. .	23.80	22.45	21.98	19.07	20.57	20.33	22.48
Land .. .. .	13.29	11.99	7.69	11.57	11.51	11.26	11.82
Liquor .. .. .	5.90	5.75	4.79	1.74	5.28	6.09	5.37
Lotteries .. .. .	.. .. .	5.82	1.42	.. .. .	.. .. .	1.57	2.17
Racing .. .. .	4.50	5.08	1.88	9.43	8.90	8.86	5.06
Entertainments .. .. .	.. .. .	1.89	.. .. .	.. .. .	2.18	3.40	0.84
Poker Machines Licence Fees .. .. .	2.64	.. .. .	.. .. .	.. .. .	.. .. .	.. .. .	1.00
Licences, n.e.i. .. .. .	0.27	0.52	0.92	0.71	0.75	0.27	0.50
Other .. .. .	0.01	.. .. .	9.80	0.92	3.69	.. .. .	1.61
<b>Grand Total .. .. .</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

(c) *Net Collections, 1956-57 to 1960-61.* The total amounts and the amounts per head raised from all sources of taxation by the several State Governments, including amounts not paid into the Consolidated Revenue Fund, during the years 1956-57 to 1960-61 are shown in the following table.

**STATE REVENUE FROM TAXATION: TOTAL NET COLLECTIONS.(a)**

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<b>TOTAL NET COLLECTIONS.</b>							
(£'000.)							
1956-57 .. .. .	43,195	35,023	15,666	9,734	6,493	4,487	114,598
1957-58 .. .. .	48,552	40,177	17,371	10,173	7,761	4,086	128,120
1958-59 .. .. .	54,006	42,845	18,509	10,576	7,655	4,307	137,898
1959-60 .. .. .	61,451	51,713	22,913	11,522	9,014	4,428	161,041
1960-61 .. .. .	63,580	55,946	22,701	12,102	9,518	4,623	168,470

**PER HEAD OF POPULATION.**

(£ s. d.)

1956-57 .. .. .	12 0 8	13 6 9	11 4 9	11 6 0	9 10 9	13 16 5	12 1 11
1957-58 .. .. .	13 5 3	14 18 7	12 4 3	11 9 8	11 3 10	12 6 1	13 4 8
1958-59 .. .. .	14 9 8	15 11 7	12 15 2	11 12 10	10 16 11	12 14 5	13 19 1
1959-60 .. .. .	16 3 9	18 6 10	15 10 0	12 6 10	12 11 4	12 17 4	15 19 3
1960-61 .. .. .	16 8 1	19 6 9	15 1 11	12 12 10	13 0 10	13 4 2	16 6 10

(a) Excludes Commonwealth Tax Reimbursements up to 1958-59. See text on p. 852.

The following table shows for the years 1956-57 to 1960-61 the aggregate amounts collected by the several State Governments under the various forms of State taxation, and includes amounts paid to funds other than Consolidated Revenue.

**STATE REVENUE FROM TAXATION: TOTAL NET COLLECTIONS.(a)**  
(£'000.)

Tax.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Motor .. .. .	33,602	37,586	41,973	46,527	48,926
Probate and Succession Duties .. .. .	24,377	25,680	27,177	33,991	33,878
Stamp duties, n.e.i. .. .. .	21,336	24,527	28,317	36,901	37,887
Land .. .. .	11,826	15,396	15,424	17,220	19,914
Liquor .. .. .	7,220	8,095	8,483	8,623	9,052
Lotteries .. .. .	4,333	3,602	3,434	3,444	3,652
Racing .. .. .	7,495	7,870	7,540	8,262	8,526
Entertainments .. .. .	1,838	1,982	1,846	1,609	1,421
Poker Machines Licence Fees .. .. .	764	835	906	1,265	1,677
Licences and all other .. .. .	1,807	2,547	2,798	3,199	3,537
<b>Total .. .. .</b>	<b>114,598</b>	<b>128,120</b>	<b>137,898</b>	<b>161,041</b>	<b>168,470</b>

(a) From all sources of taxation irrespective of whether paid to Consolidated Revenue or to other funds. Excludes Commonwealth Tax Reimbursements up to 1958-59. See text on p. 852.

Details of taxation collections paid into special funds and included in the table above are shown below:

**STATE REVENUE FROM TAXATION: PAYMENTS INTO SPECIAL FUNDS.**  
(£'000.)

Tax.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Motor .. .. .	27,866	31,659	35,814	39,604	41,131
Stamp Duties, n.e.i. .. .. .	190	188	220	225	209
Land .. .. .	100	100	..	..	..
Liquor .. .. .	193	219	168	193	182
Lotteries .. .. .	82	60	31	10	..
Racing .. .. .	596	573	521	544	571
Poker Machines Licence Fees .. .. .	764	835	906	1,265	1,677
Other .. .. .	846	1,510	1,741	2,093	2,407
<b>Total .. .. .</b>	<b>30,637</b>	<b>35,144</b>	<b>39,401</b>	<b>43,934</b>	<b>46,177</b>

(iii) *Business Undertakings.* (a) 1960-61. A very large proportion of State gross revenue is made up of receipts from business undertakings under the control of the Governments. The most important of these are railways and tramways, harbour works, water supply and sewerage, and electricity supply, and, in addition, State batteries for the treatment of auriferous ores in Western Australia and various minor revenue-producing services rendered by the Governments of all States are included. For the year 1960-61, the revenue from these sources was £238,581,000 or 31.6 per cent. of the revenue from all sources. Details of revenue are as follows.

**STATE REVENUE FROM BUSINESS UNDERTAKINGS, 1960-61.**  
(£'000.)

Source.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Total.
Railways(b) .. .. .	89,751	42,624	35,398	13,386	16,279	..	197,438
Tramways and Omnibuses .. .. .	12,685	..	..	..	..	..	12,685
Harbours, Rivers, Lights .. .. .	4,690	(c) 708	..	2,700	605	..	8,703
Water Supply, Sewerage, Irrigation and Drainage.. .. .	..	4,453	..	6,667	3,875	..	14,995
Electricity Supply .. .. .	..	3,411	..	..	..	..	3,411
Other .. .. .	..	799	..	186	316	48	1,349
<b>Total .. .. .</b>	<b>107,126</b>	<b>51,995</b>	<b>35,398</b>	<b>22,939</b>	<b>21,075</b>	<b>48</b>	<b>238,581</b>

(a) Tasmanian transport services are under the separate control of the Transport Commission. (b) The following contributions to Railways revenue from Consolidated Revenue Fund are excluded—New South Wales, £1,000,000; South Australia, £4,300,000. (c) Includes Harbour Trust Fund contribution, £521,000.

(b) 1956-57 to 1960-61. The total revenue from business undertakings and the revenue per head in each State are shown in the following table.

## STATE REVENUE FROM BUSINESS UNDERTAKINGS.

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Total.
TOTAL REVENUE. (£'000.)							
1956-57 ..	95,836	44,393	35,583	19,484	19,057	..	214,353
1957-58 ..	91,153	43,775	34,135	20,778	17,751	..	207,592
1958-59 ..	92,186	46,258	35,129	20,303	18,620	..	212,496
1959-60 ..	99,850	47,518	34,846	20,690	19,891	58	222,853
1960-61 ..	107,126	51,995	35,398	22,939	21,075	48	238,581
PER HEAD OF POPULATION. (£ s. d.)							
1956-57 ..	26 14 2	16 18 2	25 10 6	22 12 5	27 19 9	..	22 12 5
1957-58 ..	24 18 0	16 5 10	24 0 0	23 9 0	25 11 10	..	21 8 10
1958-59 ..	24 14 5	16 16 5	24 4 4	22 7 0	26 7 7	..	21 10 1
1959-60 ..	26 6 0	16 17 1	23 11 6	22 3 3	27 14 7	0 3 4	22 1 9
1960-61 ..	27 12 9	17 19 5	23 10 10	23 19 4	28 17 7	0 2 9	23 2 10

(a) Tasmanian transport services are under the control of the Transport Commission.

In the table below, particulars of total State revenue from business undertakings for the various types of undertakings are shown for the years 1956-57 to 1960-61.

STATE REVENUE FROM BUSINESS UNDERTAKINGS.  
(£'000.)

Source.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Railways, Tramways and Omnibuses .. ..	194,753	185,817	189,773	198,709	210,123
Harbour Services .. ..	5,832	5,961	6,158	6,736	8,703
Water Supply, Sewerage, Irrigation and Drainage .. ..	9,903	11,835	12,315	12,922	14,995
Other .. ..	3,865	3,979	4,250	4,486	4,760
<b>Total .. ..</b>	<b>214,353</b>	<b>207,592</b>	<b>212,496</b>	<b>222,853</b>	<b>238,581</b>

For further information on the finances of the various types of business undertakings in the States, see Chapters XIV.—Transport and Communication and XIX.—Local Government of this Year Book.

(iv) *Lands.* The revenue from the sale and rental of Crown lands has, with few exceptions, been treated from the earliest times as forming part of the Consolidated Revenue Funds, and has been applied to meet ordinary expenses. The following table shows the revenue from sales and rentals of Crown lands for the year 1960-61.

STATE LAND REVENUE, 1960-61.  
(£'000.)

Source.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
Sales .. ..	471	174	..	95	56	45	841
Conditional Purchases .. ..	206	..	..	5	121	..	332
Rentals(a) .. ..	3,141	595	3,563	229	288	42	7,858
Forestry .. ..	1,335	2,309	258	..	934	538	5,374
Other .. ..	93	185	243	333	..	10	864
<b>Total .. ..</b>	<b>5,246</b>	<b>3,263</b>	<b>4,064</b>	<b>662</b>	<b>1,399</b>	<b>635</b>	<b>15,269</b>

(a) Includes mining royalties, rents, etc.

The total land revenue for all States for the years 1956–57 to 1960–61 respectively was:—£15,455,000, £15,050,000, £12,890,000, £14,324,000 and £15,269,000.

(v) *Commonwealth Grants.* Commonwealth grants to the States represent a considerable proportion of the States' Revenue. In 1960–61, the total amount (excluding sundry minor items) paid to the Consolidated Revenue Funds of the States was £288,515,000 (38.2 per cent.). Details were as follows:—Contribution towards interest on States' debts under the Financial Agreement, £7,585,000; special grants to the States of Western Australia and Tasmania, £8,618,000; financial assistance, £269,994,000; grants to universities, £1,778,000; and other grants, £540,000.

In addition to these, the States receive a number of other grants which are paid to trust funds. The main items in this class are the contribution to the sinking fund on States' debts (£6,274,000 in 1960–61) paid to the National Debt Sinking Fund, grants for Commonwealth Aid Roads (£46,000,000 in 1960–61), and grants for Universities (£9,449,000 in 1960–61) paid to State trust funds.

More detailed information concerning Commonwealth grants to the States is given on pages 840–7.

(vi) *Commonwealth National Welfare Fund Payments.* The States also receive payments from the Commonwealth in respect of hospital and pharmaceutical benefits, nutrition of children and reimbursement of maintenance expenditure on tuberculosis sanatoria. These receipts are paid into Consolidated Revenue Funds or Trust Funds according to the varying accounting procedures in the States. In 1960–61, the total amount paid to State Consolidated Revenue Funds was £11,571,000 (1.5 per cent.). This amount was made up of hospital benefits, £4,174,000; pharmaceutical benefits, £1,810,000; nutrition of children, £1,279,000; tuberculosis—reimbursement of maintenance expenditure, £4,266,000; other, £42,000.

(vii) *Interest and Miscellaneous.* In addition to the foregoing, there are in each State several miscellaneous sources of revenue, including such items as interest, fines, fees, etc. Interest, mainly from loans to local governing bodies, on public account balances, and for soldier land settlement amounted to £27,970,000 in 1960–61, while "Miscellaneous" revenue, which includes fines of the courts and fees for services, amounted to £51,190,000 in 1960–61.

## B. EXPENDITURE.

1. *General.*—The principal heads of State expenditure from Consolidated Revenue Funds are:—

- (a) Interest, exchange and debt redemption charges in connexion with debt;
- (b) working expenses of business undertakings; (c) education; (d) health and charitable expenditure; (e) justice; (f) police; (g) penal establishments; and
- (h) all other expenditure, under which heading are included public works, lands and surveys, agriculture and forestry, legislative and general administration, pensions, and miscellaneous.

The working expenses of railways and tramways are the largest item of State Government expenditure. In 1960–61, the working expenses of the railways, tramways and omnibuses were 26.3 per cent. of the total expenditure from the State Consolidated Revenue Funds; next in magnitude were education, 19.7 per cent.; debt charges, 16.6 per cent.; charitable, public health and hospitals, 14.0 per cent.; and law, order and public safety, 5.9 per cent.

As stated at the beginning of this division, figures relating to New South Wales represent the transactions of the Consolidated Revenue Fund and the business undertakings included in the annual budget papers. These latter are as follows:—Railways, Tramways and Omnibuses, and Sydney Harbour Trust Section of the Maritime Services Board. Adjustments have been made to the Budget figures, however, in order to eliminate duplications caused by inter-fund payments. Particulars for all other States relate to the transactions of the Consolidated Revenue Fund.

2. Total Expenditure.—The total expenditure from the Consolidated Revenue Funds of the several States and the expenditure per head of population during each of the years 1956-57 to 1960-61 are shown in the following table.

## STATE EXPENDITURE : CONSOLIDATED REVENUE FUNDS.

Year.	N.S.W.(a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
TOTAL EXPENDITURE. (£'000.)							
1956-57 ..	223,700	137,565	85,142	61,610	56,243	19,615	583,875
1957-58 ..	231,464	145,549	89,470	66,742	58,177	20,798	612,200
1958-59 ..	239,727	153,796	100,198	69,057	61,753	22,745	647,276
1959-60 ..	262,463	167,997	103,267	76,389	65,794	26,131	702,041
1960-61 ..	282,701	184,932	109,435	80,791	70,537	27,993	756,389

## PER HEAD OF POPULATION.

(£ s. d.)

1956-57 ..	62 6 7	52 7 10	61 1 6	71 10 6	82 11 11	60 8 4	61 12 4
1957-58 ..	63 4 7	54 3 4	62 18 0	75 6 7	83 17 8	62 12 9	63 4 7
1958-59 ..	64 5 9	55 18 5	69 1 6	76 0 6	87 9 8	67 3 4	65 10 0
1959-60 ..	69 2 8	59 11 7	69 17 3	81 16 4	91 14 5	75 18 9	69 11 8
1960-61 ..	72 18 9	63 18 3	72 15 6	84 8 2	96 13 2	79 19 3	73 7 3

(a) See para. 1, page 856, for transactions included.

3. Details of Expenditure.—(i) 1960-61. The following tables show the total expenditure and expenditure per head of population for each of the principal items.

## STATE EXPENDITURE: DETAILS, 1960-61.

Particulars.	N.S.W.(a)	Vic.	Q'land.	S.Aust.	W.Aust.	Tas.(b)	Total.
TOTAL EXPENDITURE. (£'000.)							
Debt (interest, ex- change, debt redemption, etc.) .. .. .	35,761	31,993	16,891	19,305	12,881	8,386	125,217
Railways .. .. .	74,924	39,899	37,400	14,005	16,978	1,013	184,219
Tramways and Omnibuses ..	13,726	..	..	..	535	299	14,560
Harbours and Rivers, etc. ..	3,484	647	..	1,475	692	15	6,313
Water Supply, Sewerage, Irrigation and Drainage ..	..	3,837	..	3,905	3,235	234	11,211
Other Business and Indust- rial Undertakings .. .. .	..	836	142	196	1,500	90	2,764
Education .. .. .	58,690	40,411	17,779	14,926	11,644	5,898	149,348
Health and Charitable .. ..	37,897	27,009	17,689	9,571	9,978	3,850	105,994
Justice .. .. .	4,205	2,361	1,411	543	641	288	9,449
Police .. .. .	10,194	7,844	4,684	2,389	2,014	1,014	28,139
Penal establishments .. .. .	2,424	1,143	469	599	440	236	5,311
Public Safety .. .. .	665	14	414	110	161	54	1,418
All other expenditure .. .. .	40,731	28,938	12,556	13,767	9,838	6,616	112,446
<b>Total .. .. .</b>	<b>282,701</b>	<b>184,932</b>	<b>109,435</b>	<b>80,791</b>	<b>70,537</b>	<b>27,993</b>	<b>756,389</b>

(a) See para. 1, page 856, for transactions included. (b) Tasmanian transport services are under the separate control of the Transport Commission. Figures shown for relevant items represent payments to the Commission.

STATE EXPENDITURE: DETAILS, 1960-61—*continued.*

Particulars.	N.S.W. (a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(b)	Total.
PER HEAD OF POPULATION. (£ s. d.)							
Debt (interest, exchange, debt redemption, etc.)	9 4 6	11 1 2	11 4 8	20 3 4	17 13 0	23 19 1	12 2 11
Railways .. ..	19 6 7	13 15 9	24 17 5	14 12 8	23 5 4	2 17 10	17 17 4
Tramways and Omnibuses	3 10 10	..	..	..	0 14 8	0 17 1	1 8 3
Harbours and Rivers, etc.	0 18 0	0 4 6	..	1 10 10	0 19 0	0 0 10	0 12 3
Water Supply, Sewerage, Irrigation and Drainage	..	1 6 6	..	4 1 7	4 8 8	0 13 4	1 1 9
Other Business and Industrial Undertakings	..	0 5 9	0 1 11	0 4 1	2 1 1	0 5 2	0 5 4
Education .. ..	15 2 10	13 19 4	11 16 6	15 11 11	15 19 1	16 17 0	14 9 8
Health and Charitable .. ..	9 15 7	9 6 8	11 15 3	10 0 0	13 13 6	10 19 11	10 5 8
Justice .. ..	1 1 8	0 16 4	0 18 9	0 11 4	0 17 7	0 16 6	0 18 4
Police .. ..	2 12 7	2 14 3	3 2 3	2 9 11	2 15 2	2 17 11	2 14 7
Penal establishments	0 12 6	0 7 11	0 6 3	0 12 6	0 12 1	0 13 6	0 10 4
Public safety .. ..	0 3 6	0 0 1	0 5 6	0 2 4	0 4 5	0 3 1	0 2 9
All other expenditure	10 10 2	10 0 0	8 7 0	14 7 8	13 9 7	18 18 0	10 18 1
<b>Total</b>	<b>72 18 9</b>	<b>63 18 3</b>	<b>72 15 6</b>	<b>84 8 2</b>	<b>96 13 2</b>	<b>79 19 3</b>	<b>73 7 3</b>

(a) See para. 1, page 856, for transactions included. (b) Tasmanian transport services are under the separate control of the Transport Commission. Figures shown for relevant items represent payments to the Commission.

For further information on the finances of the various types of business undertakings in the States, see Chapters XIV.—Transport and Communication and XIX.—Local Government of this Year Book.

(ii) 1956-57 to 1960-61. Combined expenditure by the several States for these years on each of the principal items is shown in the following table.

## STATE EXPENDITURE.

(£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Debt (interest, exchange, debt redemption, etc.) .. ..	86,693	97,123	105,051	116,850	125,217
Railways, Tramways and Omnibuses (working expenses) ..	191,921	185,083	182,958	193,282	198,779
Harbours and Rivers etc. ..	4,359	4,537	4,354	4,786	6,313
Water Supply, Sewerage, Irrigation and Drainage .. ..	8,393	9,498	9,500	10,976	11,211
Other Business and Industrial Undertakings .. ..	4,150	4,701	3,977	2,688	2,764
Education .. ..	95,687	104,702	116,546	130,641	149,348
Health and Charitable .. ..	78,633	84,449	92,057	99,406	105,994
Justice .. ..	6,599	7,099	7,602	8,435	9,449
Police .. ..	20,721	22,276	23,888	25,904	28,139
Penal Establishments .. ..	3,779	4,084	4,340	4,676	5,311
Public Safety .. ..	1,702	1,118	1,371	1,262	1,418
All other expenditure .. ..	81,238	87,530	95,632	103,135	112,446
<b>Total</b> .. ..	<b>583,875</b>	<b>612,200</b>	<b>647,276</b>	<b>702,041</b>	<b>756,389</b>

## C. SURPLUS REVENUE.

The following table shows for each of the years 1956-57 to 1960-61 the total amount and amount per head of population of the surplus or deficit of each State.

## STATE SURPLUS REVENUE.

Year.	N.S.W.(a)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
TOTAL AMOUNT. (£'000.)							
1956-57 ..	129	-4,311	16	- 49	- 1,912	- 814	- 6,941
1957-58 ..	46	-3,213	-1,515	- 400	- 1,123	- 812	- 7,017
1958-59 ..	42	-2,548	-1,191	-1,027	- 1,685	- 908	- 7,317
1959-60 ..	70	313	- 164	- 312	- 1,406	-1,032	- 2,531
1960-61 ..	- 337	169	- 618	1,188	- 1,204	- 198	- 1,000

## PER HEAD OF POPULATION.

(£ s. d.)

1956-57 ..	0 0 8	-1 12 11	0 0 2	-0 1 2	-2 16 2	-2 10 2	-0 14 8
1957-58 ..	0 0 3	-1 4 0	-1 1 3	-0 9 0	-1 12 5	-2 8 11	-0 14 5
1958-59 ..	0 0 2	-0 18 6	-0 16 5	-1 2 6	-2 7 8	-2 13 7	-0 14 10
1959-60 ..	0 0 4	-0 2 5	0 2 2	-0 6 7	-1 19 2	-3 0 0	-0 5 0
1960-61 ..	-0 1 9	-0 1 3	0 8 2	1 4 10	-1 13 0	-0 11 3	-0 1 11

(a) See para. 1, page 856.

NOTE.—Minus sign (-) indicates deficit.

## § 3. State Trust Funds.

In addition to the moneys received as revenue and paid to the credit of the Consolidated Revenue Funds, considerable sums are held in trust for various purposes by the State Governments. The balances of trust funds held at 30th June for each of the years 1957 to 1961 were as follows.

## STATE TRUST FUND BALANCES.

(£'000.)

At 30th June—	N.S.W.(a)	Vic.	Q'land.	S. Aust.	W.Aust.	Tas.	Total.
1957 .. ..	45,392	32,138	48,034	4,718	14,537	1,151	145,970
1958 .. ..	51,776	34,415	53,921	5,650	14,565	1,560	161,887
1959 .. ..	55,093	38,635	53,828	5,057	16,569	2,148	171,330
1960 .. ..	62,686	44,183	56,022	5,742	18,102	1,930	188,665
1961 .. ..	65,186	50,285	59,569	6,701	20,706	1,265	203,712

(a) Special Deposits Account and Special Accounts.



## § 4. State Loan Funds.

1. **General.**—State public borrowing is due mainly to the fact that the State Governments, in addition to ordinary administrative duties, undertake functions such as the construction and operation of the railway systems, which in other countries are usually entrusted to local authorities or left to private enterprise. Loan moneys have also been largely used for improvements to harbours and rivers, and for the construction of roads, water supply and sewerage works. The State debt thus consists chiefly of moneys raised and expended with the object of assisting the development of the resources of the country, and is to a very large extent represented by tangible assets.

Statements relating to "gross" loan expenditure are shown below. The gross expenditure represents the amounts disbursed during each year. Details of "net" loan expenditure, i.e., gross expenditure less any credits to the Loan Fund during the year on account of repayments of advances to local governing bodies, settlers, etc., the sale of assets, and transfers from other funds, may be found in *Finance, Part I.—Public and Private Finance*, Bulletin No. 52, 1960–61. Such moneys are credited to the Loan Fund in the year of repayment irrespective of when the advance was made.

2. **Gross Loan Expenditure.**—(i) 1960–61. Particulars of gross loan expenditure on works, services, etc., are shown in the following table.

**STATE GROSS LOAN EXPENDITURE ON WORKS, SERVICES, ETC., 1960–61.**  
(£'000.)

Particulars.	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<i>Public Works and Services—</i>							
Railways ..	9,200	7,564	5,193	2,624	2,717	566	27,864
Tramways and Omnibuses ..	1,115	..	..	..	367	237	1,719
Roads ..	723	{ 375	{ 27	{ 90	{ ..	{ ..	{ ..
Bridges ..	..	{ 1,067	{ ..	{ ..	{ ..	{ ..	{ ..
Harbours and Rivers ..	3,974	{ 471	{ 1	{ 1,442	{ 1,280	{ 2,567	{ 12,017
Lights and Lighthouses ..	..	..	..	..	..	..	..
Water Supply ..	7,661	{ 8,095	{ 250	{ 6,844	{ 3,190	{ 322	{ 29,983
Sewerage ..	..	{ 523	{ ..	{ 2,273	{ 825	{ ..	{ ..
Electricity Supply ..	8,700	{ 6,750	{ ..	{ 2,300	{ 200	{ 6,320	{ 24,270
Gas Supply ..	..	{ 80	{ ..	{ ..	{ ..	{ ..	{ 80
Public Buildings ..	23,414	20,935	8,298	7,604	5,290	3,856	69,397
Loans and Grants to Local Bodies ..	311	510	9,471	..	466	152	10,910
Housing(b) ..	268	536	2,042	3,640	1,146	110	7,742
Other Public Works, etc.	91	312	..	68	836	311	1,618
<i>Primary Production—</i>							
Soldier Settlement ..	1,569	703	-1,211	..	..	36	1,097
Land for Settlement ..	..	1,136	-624	27	..	89	628
Advances to Settlers ..	..	50	..	311	..	256	617
Water Conservation ..	..	..	..	115	62	..	..
Irrigation and Drainage..	6,576	..	1,748	{ 675	{ 1,111	{ ..	{ 10,287
Vermyn-proof Fencing ..	..	3	15	(c)	..	..	18
Agriculture ..	600	..	109	..	269	..	978
Agricultural Bank ..	..	..	2,205	..	457	..	2,662
Forestry ..	400	764	1,962	1,300	100	361	4,887
Mines and Mineral Resources ..	278	105	150	812	201	..	1,546
Other ..	302	771	..	26	1	188	1,288
<i>Other Purposes</i> ..	..	(d) 955	50	1,234	835	1,396	4,470
<b>Total Public Works, Services, etc.</b> ..	<b>65,182</b>	<b>51,705</b>	<b>29,686</b>	<b>31,385</b>	<b>19,353</b>	<b>16,767</b>	<b>214,078</b>
<b>Per Head of Population..</b>	<b>£16 16 4</b>	<b>£17 17 5</b>	<b>£19 14 10</b>	<b>£32 15 10</b>	<b>£26 10 5</b>	<b>£47 17 11</b>	<b>£20 15 3</b>

(a) Expenditure from Loan Funds and on account of Loans; includes expenditure from Loan Funds, from Treasurer's Advance Account and from State Loans Repayment Fund. (b) Excludes expenditure from Commonwealth Loans under Commonwealth-State Housing Agreement. (c) Included with Advances to Settlers. (d) Includes Rural Finance Corporation, for advances to rural industries, £550,000.

NOTE.—The negative amounts shown for Queensland represent transfers of liability on account of expenditure incurred in earlier years. The amounts involved have been debited against the item Loans and Grants to Local Bodies, and included in the expenditure shown for 1960–61.

(ii) 1956-57 to 1960-61. Particulars of gross loan expenditure on works, etc., for these years are shown in the following table.

## STATE GROSS LOAN EXPENDITURE ON WORKS, SERVICES, ETC.

Year.	N.S.W.	Vic.(a)	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
GROSS LOAN EXPENDITURE. (£'000.)							
1956-57 ..	54,296	40,950	22,976	26,385	17,936	11,233	173,776
1957-58 ..	57,597	41,338	23,190	24,772	15,914	10,882	173,693
1958-59 ..	60,052	44,421	26,531	27,262	17,689	12,859	188,814
1959-60 ..	63,651	49,491	29,362	28,245	18,016	14,470	203,235
1960-61 ..	65,182	51,705	29,686	31,385	19,353	16,767	214,078

PER HEAD OF POPULATION.  
(£ s. d.)

1956-57 ..	15 2 7	15 11 11	16 9 6	30 12 8	26 6 10	34 12 0	18 6 9
1957-58 ..	15 14 8	15 7 8	16 6 1	27 19 2	22 18 11	32 15 5	17 18 10
1958-59 ..	16 2 1	16 3 1	18 5 10	30 0 3	25 1 2	37 19 6	19 2 1
1959-60 ..	16 15 4	17 11 0	19 17 4	30 5 1	25 2 4	42 1 0	20 2 10
1960-61 ..	16 16 4	17 17 5	19 14 10	32 15 10	26 10 5	47 17 11	20 15 3

(a) See footnote (a) to previous table.

The tables above do not include particulars of expenditure on loan discounts and flotations, the funding of deficits, the retirement of treasury bills, and similar items of a nature other than works, services, etc. Summaries of the gross and net expenditure and repayments in respect of all loan purposes for the years 1958-59 to 1960-61 are shown in the next paragraph.

3. Total Loan Expenditure.—The following table shows particulars, in summary form, of the total loan expenditure in each State during each of the years, 1958-59 to 1960-61.

STATE LOAN EXPENDITURE: SUMMARY.  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
1958-59.							
<i>Works and Services—</i>							
Gross Expenditure ..	60,052	44,421	26,531	27,262	17,689	12,859	188,814
Net Expenditure ..	54,496	41,491	21,025	24,159	16,171	11,673	169,015
Repayments ..	5,556	2,930	5,506	3,103	1,518	1,186	19,799
<i>Other than Works, etc.(a)—</i>							
Gross Expenditure ..	-1,691	3,000	..	705	- 22	946	2,938
Net Expenditure ..	-1,691	3,000	400	628	-111	883	3,109
Repayments ..	..	..	-400	77	(b) 89	63	-171
<b>Total Loan Expenditure—</b>							
Gross ..	58,361	47,421	26,531	27,967	17,667	13,805	191,752
Net ..	52,805	44,491	21,425	24,787	16,060	12,556	172,124
Repayments ..	5,556	2,930	5,106	3,180	1,607	1,249	19,628

For footnotes see next page.

STATE LOAN EXPENDITURE: SUMMARY—*continued.*  
(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
1959-60.							
<i>Works and Services—</i>							
Gross Expenditure ..	63,651	49,491	29,362	28,245	18,016	14,470	203,235
Net Expenditure ..	57,966	43,674	22,223	25,149	16,252	13,208	178,472
Repayments ..	5,685	5,817	7,139	3,096	1,764	1,262	24,763
<i>Other than Works, etc.(a)—</i>							
Gross Expenditure ..	-1,166	1,670	..	40	1,082	95	1,721
Net Expenditure ..	-1,166	1,670	580	..	1,017	14	2,115
Repayments ..	..	..	-580	40	(b) 65	81	-394
<b>Total Loan Expenditure—</b>							
Gross ..	62,485	51,161	29,362	28,285	19,098	14,565	204,956
Net ..	56,800	45,344	22,803	25,149	17,269	13,222	180,587
Repayments ..	5,685	5,817	6,559	3,136	1,829	1,343	24,369
1960-61.							
<i>Works and Services—</i>							
Gross Expenditure ..	65,182	51,705	29,686	31,385	19,353	16,767	214,078
Net Expenditure ..	60,076	48,588	23,853	26,543	17,709	15,185	191,954
Repayments ..	5,106	3,117	5,833	4,842	1,644	1,582	22,124
<i>Other than Works, etc.(a)—</i>							
Gross Expenditure ..	-2,739	-2,331	..	71	-107	166	-4,940
Net Expenditure ..	-2,739	-2,331	650	..	-174	120	-4,474
Repayments ..	..	..	-650	71	(b) 67	46	466
<b>Total Loan Expenditure—</b>							
Gross ..	62,443	49,374	29,686	31,456	19,246	16,933	209,138
Net ..	57,337	46,257	24,503	26,543	17,535	15,305	187,480
Repayments ..	5,106	3,117	5,183	4,913	1,711	1,628	21,658

(a) Includes exchange, discounts and flotation expenses, revenue and general cash deficits.  
(b) From Consolidated Revenue Fund.

NOTE.—Minus sign (—) indicates excess of repayments to loan fund.

Information relating to the State Government Securities on Issue is given in division D. Commonwealth and State Government Securities on Issue (*see* p. 864)

### C. COMMONWEALTH AND STATE FINANCE.

1. Revenue and Expenditure.—(i) *Consolidated Revenue Funds.* The following tables show the aggregate revenue and expenditure of the Consolidated Revenue Funds of the Commonwealth and States for each of the years 1956-57 to 1960-61. In these tables, the combined Commonwealth and State totals have been adjusted to exclude major duplications, but the separate Commonwealth and State figures are as shown in other divisions of this chapter. The items excluded from the total figures are:—payments made by the Commonwealth to the States and included in the State Consolidated Revenue Funds on account of tax reimbursements up to 1958-59, and financial assistance grants in 1959-60 and 1960-61, interest under the Financial Agreement, special grants, special financial assistance, coal strike emergency grants, price control reimbursements, grants to universities, cattle tick control, tuberculosis capital expenditure, National Welfare Fund payments, and estimated payments of pay-roll tax by the States to the Commonwealth. There are other relatively minor payments for which adjustments have not been made, and the adjusted figures are therefore still slightly overstated.

#### COMMONWEALTH AND STATES : REVENUE AND EXPENDITURE.

Year ended 30th June—	Revenue.			Expenditure.		
	Commonwealth.	States.	Total.	Commonwealth.	States.	Total.
	£'000.	£'000.	£m.	£'000.	£'000.	£m.
1957.. ..	1,311,835	576,934	1,672.4	1,311,835	583,875	1,679.4
1958.. ..	1,323,771	605,183	1,690.7	1,323,771	612,200	1,697.7
1959.. ..	1,296,050	639,959	1,682.9	1,296,050	647,276	1,690.3
1960.. ..	1,438,286	699,510	1,857.3	1,438,286	702,041	1,859.8
1961.. ..	1,638,279	755,389	2,085.3	1,638,279	756,389	2,086.3

(ii) *Loan Expenditure.* The aggregate gross loan expenditures of the Commonwealth and States on works and services for the years 1956-57 to 1960-61 are shown in the following table.

**COMMONWEALTH AND STATE GROSS LOAN EXPENDITURE: WORKS AND SERVICES.(a)**  
(£'000.)

Gross Loan Expenditure.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Commonwealth(b) .. ..	44,068	45,174	86,190	59,650	41,692
State .. .. .	173,776	173,693	188,814	203,235	214,078
<b>Total .. .. .</b>	<b>217,844</b>	<b>218,867</b>	<b>275,004</b>	<b>262,885</b>	<b>255,770</b>

(a) Excludes expenditure on loan flotations, funding deficits, etc. (b) Includes expenditure on Defence, War (1939-45) and Repatriation Services. Excludes payments to the National Debt Sinking Fund from proceeds of the loan from the International Bank for Reconstruction and Development, payments to the Swiss Loan Trust account from proceeds of the Swiss Loan, and payments to the Canadian Loan Trust account from proceeds of the Canadian Loan.

2. *Taxation.*—The following table shows the combined Commonwealth and State taxation collections, and the amount per head of population, for the years 1956-57 to 1960-61. Taxation collections by the State Governments which are not paid into the Consolidated Revenue Funds are included.

**COMMONWEALTH AND STATE TAXATION: TOTAL NET COLLECTIONS.(a)**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>NET COLLECTIONS.</b> (£'000.)					
Customs and Excise Duties .. .. .	286,037	303,051	307,925	336,492	359,120
Sales Tax .. .. .	125,752	137,777	143,617	164,185	173,016
Land Tax .. .. .	11,827	15,407	15,424	17,220	19,914
Pay-roll Tax .. .. .	48,675	48,552	49,619	55,162	61,260
Income Taxes .. .. .	620,321	650,452	608,675	671,302	807,273
Probate and Succession Duties .. .. .	37,089	39,477	40,486	47,744	48,685
Stamp Duties, n.e.i. .. .. .	21,336	24,527	28,317	36,901	37,887
Motor Taxes .. .. .	33,602	37,586	41,973	46,527	48,926
Liquor Taxes .. .. .	7,220	8,095	8,483	8,623	9,052
Racing .. .. .	7,495	7,870	7,540	8,262	8,526
Entertainments Tax .. .. .	1,838	1,982	1,846	1,609	1,421
Licences, n.e.i., and other Taxes .. .. .	12,142	14,877	17,291	16,804	18,531
Commonwealth .. .. .	1,098,736	1,161,533	1,133,298	1,249,790	1,425,141
States .. .. .	114,598	128,120	137,898	161,041	168,470
<b>Total .. .. .</b>	<b>1,213,334</b>	<b>1,289,653</b>	<b>1,271,196</b>	<b>1,410,831</b>	<b>1,593,611</b>

**PER HEAD OF POPULATION.**  
(£ s. d.)

Customs and Excise Duties .. .. .	30 0 1	31 2 2	30 19 1	33 2 2	34 11 3
Sales Tax .. .. .	13 3 10	14 2 11	14 8 9	16 3 1	16 13 0
Land Tax .. .. .	1 4 10	1 11 8	1 11 0	1 13 11	1 18 4
Pay-roll Tax .. .. .	5 2 1	4 19 8	4 19 9	5 8 7	5 17 11
Income Taxes .. .. .	65 1 6	66 15 3	61 3 8	66 0 11	77 13 10
Probate and Succession Duties .. .. .	3 17 10	4 1 0	4 1 5	4 13 11	4 13 9
Stamp Duties, n.e.i. .. .. .	2 4 9	2 10 4	2 16 11	3 12 7	3 12 11
Motor Taxes .. .. .	3 10 6	3 17 2	4 4 5	4 11 6	4 14 2
Liquor Taxes .. .. .	0 15 2	0 16 7	0 17 0	0 17 0	0 17 5
Racing .. .. .	0 15 9	0 16 2	0 15 2	0 16 3	0 16 5
Entertainments Tax .. .. .	0 3 10	0 4 1	0 3 8	0 3 2	0 2 8
Licences, n.e.i., and other Taxes .. .. .	1 5 6	1 10 6	1 14 9	1 13 1	1 15 8
Commonwealth .. .. .	115 5 3	119 4 6	113 18 4	122 19 3	137 3 1
States .. .. .	12 1 11	13 4 8	13 19 1	15 19 1	16 6 10
<b>Total .. .. .</b>	<b>127 5 8</b>	<b>132 7 6</b>	<b>127 15 7</b>	<b>138 16 2</b>	<b>153 7 4</b>

(a) For separate details of Commonwealth and State taxation collections, see pages 823 and 852.

**D. GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH AND STATES.**

**NOTE.**—The term “public debt” formerly used to describe the subject matter of this division has been replaced by the term “government securities on issue” for the following reasons.

Government securities on issue, as set out in the tables in this division, may not be aggregated without adjustment to indicate what is sometimes described as the “public debt” or “net public debt” of the Commonwealth and State Governments.

There are forms of debt not evidenced by the issue of securities. Again, some of the securities included in the tables are held by the Governments themselves. For example, a State Government may hold temporarily, or even for long periods, securities issued by the Commonwealth Government. The Commonwealth Government itself, through such institutions as the National Debt Commission, or through the Trust Funds, holds large investments in securities issued, either directly by itself or on behalf of the States. In addition, some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government. From the point of view of the aggregate net debt of the Commonwealth and the States, it would thus involve duplication if the sum of the securities on issue were to be regarded as representing the “net public debt”.

No change has occurred in the content of the subject matter dealt with in this division, and the figures in the following sections are entirely comparable with those shown in previous issues of this Year Book.

**§ 1. General.**

Under the Financial Agreement between the Commonwealth and the States in 1927, the Commonwealth Government accepted responsibility for the securities of the State Governments then on issue, and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth securities for all money borrowed. The Commonwealth is reimbursed by the States for interest, exchange, etc., paid on their behalf, and the securities are redeemed from the National Debt Sinking Fund to which both the Commonwealth and State Governments make contributions.

In the statistical tables relating to Government securities, the units of currency for securities on issue and interest payable, except in § 3, para. 5, are:—Maturing in Australia—£ Australian; maturing in London—£ Sterling; maturing in New York—£ (converted from dollars at the rate of \$4.8665 to £1); maturing in Canada—£ (converted from dollars at the rate of \$4.8665 to £1); Maturing in Switzerland—£ (converted from Swiss francs at the rate of 1,000 Swiss francs = £A.102 1s. 10d.).

The totals shown represent the total “face” or “book” value of the securities without adjustment on account of the differences in currency mentioned above.

In § 3, para. 5 only, details of the securities on issue on account of the Commonwealth and each State are given in Australian currency.

**§ 2. The Financial Agreement between the Commonwealth and the States.**

**1. General.**—Full details of the Financial Agreement between the Commonwealth and the States are given in earlier issues of the Official Year Book (*see* No. 37, pp. 685–690). In this issue, a summary of the main provisions only is given.

2. **Australian Loan Council.**—The Australian Loan Council was set up to co-ordinate the borrowings of the Commonwealth and the States. It consists of the Prime Minister of the Commonwealth, or another Minister nominated by him in writing, as Chairman, and the State Premiers, or Ministers nominated by them in writing. Each year, the Loan Council examines the loan programmes of the Commonwealth and the States and determines the total amount to be borrowed during the year. Borrowings by the Commonwealth for defence purposes are not subject to decisions of the Loan Council.

3. **Loan Raisings for the Commonwealth and States.**—Subject to the decisions of the Loan Council, the Commonwealth arranges for all borrowings for or on behalf of the Commonwealth or any State, and for all conversions, renewals, redemptions, and consolidations of the securities issued on behalf of the Commonwealth and of the States.

If the Loan Council unanimously decides, however, a State may borrow outside Australia in its own name, and may issue securities for the amount so borrowed. The Commonwealth then guarantees that the State will fulfil all its obligations to bond-holders in respect of the money so borrowed, and the money is deemed to be borrowed by the Commonwealth for and on behalf of the State.

Subject to any maximum limits decided upon by the Loan Council for interest, brokerage, discount and other charges, the Commonwealth or any State may—

- (i) borrow within its own territory, for any purpose, money from any authorities, bodies, funds or institutions (including Savings Banks) constituted or established under Commonwealth or State law or practice;
- (ii) borrow from the public by means of counter sales of securities; and
- (iii) use any available public moneys.

However, any securities issued for money so borrowed or used must be Commonwealth securities on terms approved by the Loan Council.

4. **Taking over of State Government Securities.**—The Commonwealth took over on 1st July, 1929—

- (a) securities issued by each State existing on 30th June, 1927; and
- (b) all other securities of each State existing on 1st July, 1929, for money borrowed by that State deemed by the Agreement to be money borrowed by the Commonwealth for and on behalf of the State,

and in respect of these securities assumed, as between the Commonwealth and the States, the liabilities of the States to bond holders.

5. **Transferred Properties.**—In relation to State properties transferred to the Commonwealth under Section 85 of the Constitution, the States as from 1st July, 1929, were discharged from any liability in respect of principal, interest or redemption on so much of the securities bearing interest at 5 per cent. per annum taken over by the Commonwealth as amounted to the agreed value of these properties, namely £10,924,323.

6. **Payment of Interest.**—For a period of 58 years from 1st July, 1927, the Commonwealth agreed to contribute the sum of £7,584,912 each year towards the interest payable on the State securities. The balance of the interest payable on the State securities is paid to the Commonwealth by the States.

7. **Sinking Fund.**—(i) *State Securities existing at 30th June, 1927.* A sinking fund at the rate of 7s. 6d. per annum for each £100 of the securities of the States existing on 30th June, 1927, and conversions thereof, was established under the terms of the Agreement.

The Commonwealth contributes annually from revenue 2s. 6d. per £100 on the securities of the States existing at 30th June, 1927, and each State contributes annually 5s. per £100 on the securities of such State at 30th June, 1927. The payments of the Commonwealth and of all States except New South Wales will continue for a period of 58 years from 1st July, 1927, and those of New South Wales for a similar period from 1st July, 1928.

(ii) *New Borrowings.* On new borrowings after 1st July, 1927 (except those for redemptions or conversions, or funding a State deficit), a sinking fund at the rate of 10s. per £100 per annum was established, and the State and the Commonwealth contribute from revenue equal shares for a period of 53 years from the date of raising. (New South Wales did not commence sinking fund contributions in respect of new loans raised in the financial year 1927–28 until 1st July, 1928.)

(iii) *Loans raised to meet a Revenue Deficit.* In respect of any loan (except any of the loans referred to in para. (iv) below) raised by a State after 30th June, 1927, to meet a revenue deficit accruing after that date, no sinking fund contribution is made by the Commonwealth, but the State makes a sinking fund contribution at the rate of not less than 4 per cent. per annum of the loan for a period sufficient to provide for the redemption of the loan, the contributions being deemed to accumulate at the rate of 4½ per cent. per annum compound interest.

(iv) *Loans raised to meet Revenue Deficits between 30th June, 1927, and 1st July, 1935.* Special contributions are payable in respect of loans raised by a State or by the Commonwealth on behalf of a State, on the security of Commonwealth Treasury Bills, to meet a revenue deficit which accrued after 30th June, 1927, and before 1st July, 1935. Details of these contributions are given in Official Year Book No. 37, pages 688 and 689.

(v) *National Debt Commission.* The sinking funds established are controlled by the National Debt Commission, which may arrange with any State to act as its agent in connexion with payments due to bond holders. Except where the conditions relating to sinking funds, redemption funds, and funds of a like nature held by a State on 30th June, 1929, precluded such transfer, all such funds were transferred to the National Debt Commission.

(vi) *Operation of Sinking Fund.* Sinking fund contributions made in respect of the securities of a State, and funds of that State transferred to the National Debt Commission, are not accumulated, but must be applied, whenever expedient, to the redemption and repurchase of loan securities. When such a loan security is repurchased or redeemed by the National Debt Commission, it is cancelled, and the State, in addition to sinking fund contributions otherwise payable, pays a further annual sinking fund contribution at the rate of 4½ per cent. on the face value of the cancelled security for the balance of the period during which the original contribution is payable in respect of that debt.

(vii) *Oversea Securities on Issue.* Sinking fund contributions in respect of oversea securities shall be calculated at the mint par of exchange prevailing on 1st July, 1927.

**8. Borrowing by Semi-Governmental Authorities.**—It was realized from the inception of the Loan Council that, in the interests of co-ordinated borrowing, the Council should be advised of the borrowing of large amounts by semi-governmental authorities. In May, 1936, all resolutions passed by the Loan Council in connexion with semi-governmental borrowings were consolidated into one set of rules, which superseded all previous resolutions. This set of rules provides, *inter alia*, for the submission of annual loan programmes in respect of semi-governmental authorities proposing to raise £100,000 or more in a year, for the consideration of such programmes in conjunction with the loan programme of the Government concerned, and for the fixing of the terms of individual semi-governmental loans coming within the scope of the annual programme.

§ 3. Government Securities on Issue : Commonwealth and States.

1. Government Securities on Issue, Annual Interest Payable and Average Rate of Interest at 30th June, 1961.—In the following table, details are given of the Commonwealth and State Government Securities on Issue, annual interest payable and average rate of interest at 30th June, 1961.

GOVERNMENT SECURITIES ON ISSUE AND ANNUAL INTEREST PAYABLE AT 30th JUNE, 1961: COMMONWEALTH AND STATES.

Particulars	Maturing in—					Total.
	Australia.	London.	New York.	Canada.	Switzer-land.	
<b>SECURITIES ON ISSUE.</b>						
<i>Commonwealth—</i>	£A.'000.	£Stg.'000.	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)
<i>War (1914-18)(b)—</i>						
Stock and Bonds .. .. .	52,737	7,534	..	..	..	60,271
Other(c) .. .. .	67	..	..	..	..	67
<i>Total War (1914-18)</i>	<i>52,804</i>	<i>7,534</i>	<i>..</i>	<i>..</i>	<i>..</i>	<i>60,338</i>
<i>War (1939-45)—</i>						
Stock and Bonds .. .. .	487,411	5,655	..	..	..	493,066
Treasury Bills, Internal ..	240,290	..	..	..	..	240,290
Treasury Bills, Public ..	152,690	..	..	..	..	152,690
Other(d) .. .. .	6,914	..	..	..	..	6,914
<i>Total War (1939-45)</i>	<i>887,305</i>	<i>5,655</i>	<i>..</i>	<i>..</i>	<i>..</i>	<i>892,960</i>
<i>Works and Other Purposes—</i>						
Stock and Bonds .. .. .	342,225	62,150	16,576	3,273	19,367	443,591
Treasury Bills, Internal ..	10,810	..	..	..	..	10,810
Treasury Bills, Public ..	33,310	..	..	..	..	33,310
International Bank Dollar Loans .. .. .	..	..	51,825	..	..	51,825
Serial Notes .. .. .	..	..	5,751	..	..	5,751
<i>Total Works and Other Purposes ..</i>	<i>386,345</i>	<i>62,150</i>	<i>74,152</i>	<i>3,273</i>	<i>19,367</i>	<i>545,287</i>
<i>Total Commonwealth</i>	<i>1,326,454</i>	<i>75,339</i>	<i>74,152</i>	<i>3,273</i>	<i>19,367</i>	<i>1,498,585</i>
<i>States—</i>						
Stock and Bonds .. .. .	2,357,489	262,450	36,629	3,445	5,135	2,665,148
Debentures .. .. .	32,375	..	..	..	..	32,375
Balance of Securities of States taken over by Commonwealth and still represented by State Securities ..	..	4,241	..	..	..	4,241
<i>Total States</i>	<i>2,389,864</i>	<i>266,691</i>	<i>36,629</i>	<i>3,445</i>	<i>5,135</i>	<i>2,701,764</i>
<i>Grand Total Commonwealth and States .. .. .</i>	<i>3,716,318</i>	<i>342,030</i>	<i>110,781</i>	<i>6,718</i>	<i>24,502</i>	<i>4,200,349</i>

(a) See § 1, p. 864. (b) Excludes War (1914-18) Debt due to United Kingdom Government (£79,724,000). Repayment of this debt and interest thereon (£3,919,774) was suspended in 1931. (c) War and Peace Savings Certificates and Stamps and War Gratuity Bonds. (d) Advance Loan Subscriptions, National Savings Bonds, War Savings and Savings Certificates, War Savings and National Savings Stamps.



GOVERNMENT SECURITIES ON ISSUE AND ANNUAL INTEREST PAYABLE AT  
30th JUNE, 1961: COMMONWEALTH AND STATES—continued.

Particulars.	Maturing in—					Total.
	Australia.	London.	New York.	Canada.	Switzer-land.	

## SECURITIES ON ISSUE PER HEAD OF POPULATION.

	£ s. d. (Aust.)	£ s. d. (Stg.)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)
<i>Commonwealth—</i>						
War (1914–18)(b) .. ..	5 0 6	0 14 4	..	..	..	5 14 10
War (1939–45) .. ..	84 8 10	0 10 9	..	..	..	84 19 7
Works and Other Purposes ..	36 15 4	5 18 3	7 1 2	0 6 3	1 16 10	51 17 10
<i>Total Commonwealth</i>	<i>126 4 8</i>	<i>7 3 4</i>	<i>7 1 2</i>	<i>0 6 3</i>	<i>1 16 10</i>	<i>142 12 3</i>
<i>Total States</i> .. ..	<i>229 6 1</i>	<i>25 11 9</i>	<i>3 10 3</i>	<i>0 6 8</i>	<i>0 9 10</i>	<i>259 4 7</i>
<i>Grand Total Commonwealth and States</i> .. ..	<i>353 13 2</i>	<i>32 11 0</i>	<i>10 10 10</i>	<i>0 12 9</i>	<i>2 6 8</i>	<i>399 14 5</i>

## ANNUAL INTEREST PAYABLE.

	£A.'000.	£Stg.'000.	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)
<i>Commonwealth—</i>						
War (1914–18)(b) .. ..	2,077	227	..	..	..	2,304
War (1939–45) .. ..	25,426	226	..	..	..	25,652
Works and Other Purposes ..	15,774	2,941	3,409	143	795	23,062
<i>Total Commonwealth</i>	<i>43,277</i>	<i>3,394</i>	<i>3,409</i>	<i>143</i>	<i>795</i>	<i>51,018</i>
<i>Total States</i> .. ..	<i>104,072</i>	<i>10,355</i>	<i>1,623</i>	<i>198</i>	<i>231</i>	<i>116,479</i>
<i>Grand Total Commonwealth and States</i> .. ..	<i>147,349</i>	<i>13,749</i>	<i>5,032</i>	<i>341</i>	<i>1,026</i>	<i>167,497</i>

## ANNUAL INTEREST PAYABLE PER HEAD OF POPULATION.

	£ s. d. (Aust.)	£ s. d. (Stg.)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)
<i>Commonwealth—</i>						
War (1914–18)(b) .. ..	0 3 11	0 0 5	..	..	..	0 4 4
War (1939–45) .. ..	2 8 5	0 0 5	..	..	..	2 8 10
Works and Other Purposes ..	1 10 1	0 5 7	0 6 6	0 0 3	0 1 6	2 3 11
<i>Total Commonwealth</i>	<i>4 2 5</i>	<i>0 6 5</i>	<i>0 6 6</i>	<i>0 0 3</i>	<i>0 1 6</i>	<i>4 17 1</i>
<i>Total States</i> .. ..	<i>9 19 8</i>	<i>0 19 10</i>	<i>0 3 1</i>	<i>0 0 5</i>	<i>0 0 6</i>	<i>11 3 6</i>
<i>Grand Total Commonwealth and States</i> .. ..	<i>14 0 6</i>	<i>1 6 2</i>	<i>0 9 7</i>	<i>0 0 8</i>	<i>0 1 11</i>	<i>15 18 10</i>

## AVERAGE RATE OF INTEREST PAYABLE (PER £100 PER ANNUM).

	£ s. d. (Aust.)	£ s. d. (Stg.)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)
<i>Commonwealth—</i>						
War (1914–18)(b) .. ..	3 18 10	3 0 5	..	..	..	3 16 6
War (1939–45) .. ..	2 17 4	4 0 0	..	..	..	2 17 6
Works and Other Purposes ..	4 1 9	4 14 8	4 11 11	4 7 1	4 2 1	4 4 8
<i>Total Commonwealth</i>	<i>3 5 4</i>	<i>4 10 1</i>	<i>4 11 11</i>	<i>4 7 1</i>	<i>4 2 1</i>	<i>3 8 2</i>
<i>Total States</i> .. ..	<i>4 7 1</i>	<i>3 17 8</i>	<i>4 8 8</i>	<i>5 15 0</i>	<i>4 10 0</i>	<i>4 6 3</i>
<i>Grand Total Commonwealth and States</i> .. ..	<i>3 19 4</i>	<i>4 0 5</i>	<i>4 10 10</i>	<i>5 1 5</i>	<i>4 3 9</i>	<i>3 19 9</i>

(a) See § 1, p. 864. (b) Excludes War (1914–18) Debt due to United Kingdom Government (£79,724,000). Repayment of this debt and interest thereon (£3,919,774) was suspended in 1931.

2. Government Securities on Issue and Annual Interest Payable, 1957 to 1961.—In the following table, details are given of the Government securities on issue and annual interest payable, including the average rate of interest, at 30th June, 1957 to 1961. A dissection of securities on issue for these years into securities maturing in Australia, London, New York, Canada and Switzerland may be found in the annual bulletin *Finance, Part I.—Public and Private Finance.*

**GOVERNMENT SECURITIES ON ISSUE AND ANNUAL INTEREST PAYABLE AT 30th JUNE: COMMONWEALTH AND STATES.**

Particulars.	1957.	1958.	1959.	1960.	1961.
<b>SECURITIES ON ISSUE.</b>					
(£'000.) (a)					
<i>Commonwealth—</i>					
War (1914–18) .. .. .	120,140	104,674	97,333	77,883	60,338
War (1939–45) .. .. .	1,339,818	1,196,213	1,049,252	949,845	892,960
Works and Other Purposes .. .. .	425,473	433,989	502,695	525,604	545,287
<i>Total Commonwealth</i> .. .. .	<i>1,885,431</i>	<i>1,734,876</i>	<i>1,649,280</i>	<i>1,553,332</i>	<i>1,498,585</i>
<i>States</i> .. .. .	<i>2,106,477</i>	<i>2,247,932</i>	<i>2,391,621</i>	<i>2,544,904</i>	<i>2,701,764</i>
<b>Grand Total Commonwealth and States</b>	<b>3,991,908</b>	<b>3,982,808</b>	<b>4,040,901</b>	<b>4,098,236</b>	<b>4,200,349</b>

**ANNUAL INTEREST PAYABLE.**

(£'000.) (a)

<i>Commonwealth—</i>					
War (1914–18) .. .. .	4,158	3,792	3,556	2,912	2,304
War (1939–45) .. .. .	36,132	31,529	28,786	26,554	25,652
Works and Other Purposes .. .. .	16,598	17,674	19,595	21,490	23,062
<i>Total Commonwealth</i> .. .. .	<i>56,888</i>	<i>52,995</i>	<i>51,937</i>	<i>50,956</i>	<i>51,018</i>
<i>States</i> .. .. .	<i>79,739</i>	<i>88,074</i>	<i>95,864</i>	<i>104,521</i>	<i>116,479</i>
<b>Grand Total Commonwealth and States</b>	<b>136,627</b>	<b>141,069</b>	<b>147,801</b>	<b>155,477</b>	<b>167,497</b>

**AVERAGE RATE OF INTEREST PAYABLE (PER £100 PER ANNUM).**

(£ s. d.) (a)

<i>Commonwealth—</i>					
War (1914–18) .. .. .	3 9 3	3 12 6	3 13 1	3 14 10	3 16 6
War (1939–45) .. .. .	2 14 0	2 12 9	2 14 11	2 16 0	2 17 6
Works and Other Purposes .. .. .	3 18 0	4 1 7	3 18 1	4 1 10	4 4 8
<i>Total Commonwealth</i> .. .. .	<i>3 0 4</i>	<i>3 1 2</i>	<i>3 3 1</i>	<i>3 5 8</i>	<i>3 8 2</i>
<i>States</i> .. .. .	<i>3 15 9</i>	<i>3 18 4</i>	<i>4 0 2</i>	<i>4 2 2</i>	<i>4 6 3</i>
<b>Grand Total Commonwealth and States</b>	<b>3 8 6</b>	<b>3 10 10</b>	<b>3 13 2</b>	<b>3 15 11</b>	<b>3 19 9</b>

(a) See § 1, p. 864.

3. Government Securities on Issue on Account of States and Annual Interest Payable at 30th June, 1961.—In paragraphs 1 and 2, government securities on issue on account of the States are shown in total only. In the following tables, the total for each State and the amounts on issue per head of population at 30th June, 1961, the annual interest payable, the average rate of interest payable, are shown according to the place of flotation.

**GOVERNMENT SECURITIES ON ISSUE ON ACCOUNT OF THE STATES  
AND ANNUAL INTEREST PAYABLE AT 30th JUNE, 1961.**

State.	Maturing in Australia.	Maturing Overseas.					Grand Total.(a)
		London.	New York.	Canada.	Switzerland.	Total Overseas.	

SECURITIES ON ISSUE.

	£A.'000.	£Stg.'000.	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)
New South Wales ..	799,929	111,434	15,258	1,085	1,616	129,393	929,322
Victoria ..	583,055	41,170	7,407	872	1,300	50,749	633,804
Queensland ..	290,783	44,539	6,038	438	652	51,667	342,450
South Australia ..	320,107	31,785	3,791	464	692	36,732	356,839
Western Australia ..	227,969	30,432	2,607	333	497	33,869	261,839
Tasmania ..	168,021	7,331	1,528	253	378	9,490	177,511
<b>Total ..</b>	<b>2,389,864</b>	<b>266,691</b>	<b>36,629</b>	<b>3,445</b>	<b>5,135</b>	<b>311,900</b>	<b>2,701,764</b>

SECURITIES ON ISSUE PER HEAD OF POPULATION.

	£ s. d. (Aust.)	£ s. d. (Stg.)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)
New South Wales ..	204 4 5	28 9 0	3 17 11	0 5 6	0 8 3	33 0 8	237 5 1
Victoria ..	198 19 9	14 1 0	2 10 8	0 5 11	0 8 10	17 6 5	216 6 2
Queensland ..	191 9 1	29 6 6	3 19 6	0 5 8	0 8 7	34 0 3	225 9 4
South Australia ..	330 4 8	32 15 10	3 18 2	0 9 7	0 14 3	37 17 10	368 2 6
Western Australia ..	309 9 6	41 6 3	3 10 10	0 9 0	0 13 6	45 19 7	355 9 1
Tasmania ..	479 11 10	20 18 6	4 7 3	0 14 6	1 1 6	27 1 9	506 13 7
<b>Total ..</b>	<b>229 6 1</b>	<b>25 11 9</b>	<b>3 10 3</b>	<b>0 6 8</b>	<b>0 9 10</b>	<b>29 18 6</b>	<b>259 4 7</b>

ANNUAL INTEREST PAYABLE.

	£A.'000.	£Stg.'000.	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)	£'000.(a)
New South Wales ..	34,652	4,685	650	62	73	5,470	40,122
Victoria ..	25,775	1,704	342	50	59	2,155	27,930
Queensland ..	12,371	1,614	255	25	29	1,923	14,294
South Australia ..	14,068	1,076	179	27	31	1,313	15,381
Western Australia ..	9,894	1,005	122	19	22	1,168	11,062
Tasmania ..	7,312	271	75	15	17	378	7,690
<b>Total ..</b>	<b>104,072</b>	<b>10,355</b>	<b>1,623</b>	<b>198</b>	<b>231</b>	<b>12,407</b>	<b>116,479</b>

(a) See § 1, p. 864.

GOVERNMENT SECURITIES ON ISSUE ON ACCOUNT OF THE STATES AND ANNUAL INTEREST PAYABLE AT 30th JUNE, 1961—*continued.*

State.	Maturing in Australia.	Maturing Overseas.					Grand Total.(a)
		London.	New York.	Canada.	Switzerland.	Total Overseas.	

AVERAGE RATE OF INTEREST PAYABLE (PER £100 PER ANNUM).

	£ s. d. (Aust.)	£ s. d. (Stg.)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)	£ s. d. (a)
New South Wales ..	4 6 8	4 4 1	4 5 3	5 15 0	4 10 0	4 4 7	4 6 4
Victoria ..	4 8 5	4 2 10	4 12 4	5 15 0	4 10 0	4 4 11	4 8 2
Queensland ..	4 5 1	3 12 5	4 4 4	5 15 0	4 10 0	3 14 5	4 3 6
South Australia ..	4 7 11	3 7 9	4 14 5	5 15 0	4 10 0	3 11 6	4 6 3
Western Australia ..	4 6 10	3 6 0	4 13 9	5 15 0	4 10 0	3 9 0	4 4 6
Tasmania ..	4 7 0	3 14 0	4 18 7	5 15 0	4 10 0	3 19 8	4 6 8
<b>Total ..</b>	<b>4 7 1</b>	<b>3 17 8</b>	<b>4 8 8</b>	<b>5 15 0</b>	<b>4 10 0</b>	<b>3 19 7</b>	<b>4 6 3</b>

(a) See § 1, p. 864

4. Government Securities on Issue on Account of the States, 1957 to 1961.—In the following table, the Government securities on issue on account of each State and the amounts on issue per head of population at 30th June, 1957 to 1961, are shown.

GOVERNMENT SECURITIES ON ISSUE ON ACCOUNT OF THE STATES.

30th June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
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SECURITIES ON ISSUE.

(£'000.) (a)

1957 .. ..	742,696	481,819	269,320	274,913	205,145	132,584	2,106,477
1958 .. ..	787,462	518,213	285,947	294,821	218,428	143,061	2,247,932
1959 .. ..	832,367	555,012	303,470	314,828	232,119	153,825	2,391,621
1960 .. ..	880,200	594,122	322,424	335,848	246,787	165,523	2,544,904
1961 .. ..	929,322	633,804	342,450	356,839	261,838	177,511	2,701,764

SECURITIES ON ISSUE PER HEAD OF POPULATION.

(£ s. d.) (a)

1957 .. ..	204 17 8	181 7 10	190 11 10	314 16 11	288 6 11	406 10 9	219 17 1
1958 .. ..	213 5 10	190 12 6	198 13 8	328 15 0	312 4 8	429 10 7	229 17 5
1959 .. ..	221 7 8	199 4 5	206 13 10	341 17 5	325 19 6	453 5 1	239 9 9
1960 .. ..	229 13 5	207 18 6	215 10 8	355 5 6	341 15 5	481 6 0	249 11 5
1961 .. ..	237 5 1	216 6 2	225 9 4	368 2 6	355 9 1	506 13 7	259 4 7

(a) See § 1, p. 864.

In some States, certain public utilities such as tramways, water supply and sewerage, harbour services, etc., are controlled by boards or trusts, which, in addition to receiving advances from the central Government, raise loans by borrowing on their own behalf, while in other States these services are controlled by the central Government. Comparison of the Government securities on issue on account of the States is therefore difficult, but on page 876 figures showing the aggregate securities on issue of the States, including those of local and semi-governmental authorities, are shown for the years 1955-56 to 1959-60.

5. **Government Securities on Issue and Interest Payable in Australian Currency.**—In the foregoing tables relating to Commonwealth and State securities on issue, the securities maturing in London are expressed in sterling, those maturing in New York and Canada are expressed in pounds converted from dollars at the rate of \$4.8665 to £1, and those maturing in Switzerland are expressed in pounds converted from Swiss francs at the rate of 1,000 Swiss francs = £A.102 1s. 10d. This method of showing the securities on issue does not indicate the amount that the Australian Government would have to find to redeem the securities at current rates of exchange. In the following tables, the securities and the interest payable are shown in terms of Australian currency throughout. Securities maturing in London, New York, Canada and Switzerland have been converted to Australian currency at the selling rate of exchange on 30th June, 1961.

**COMMONWEALTH AND STATE GOVERNMENT SECURITIES ON ISSUE  
AND INTEREST PAYABLE AT 30th JUNE, 1961: AUSTRALIAN CURRENCY.**

(£A.'000.)

Particulars.	Maturing in—					Total.
	Australia.	London. (a)	New York. (b)	Canada. (c)	Switzer- land. (d)	
<b>SECURITIES ON ISSUE.</b>						
<i>Commonwealth—</i>						
War (1914-18) .. ..	52,804	9,455	..	..	..	62,259
War (1939-45) .. ..	887,305	7,097	..	..	..	894,402
Works and Other Purposes ..	386,345	77,998	162,594	6,936	19,863	653,736
<i>Total Commonwealth</i> ..	<i>1,326,454</i>	<i>94,550</i>	<i>162,594</i>	<i>6,936</i>	<i>19,863</i>	<i>1,610,397</i>
<i>States—</i>						
New South Wales .. ..	799,929	139,850	33,456	2,299	1,658	977,192
Victoria .. ..	583,055	51,668	16,241	1,848	1,333	654,145
Queensland .. ..	290,783	55,896	13,240	928	669	361,516
South Australia .. ..	320,107	39,891	8,312	983	709	370,002
Western Australia .. ..	227,969	38,192	5,718	706	509	273,094
Tasmania .. ..	168,021	9,200	3,350	537	388	181,496
<i>Total States</i> .. ..	<i>2,389,864</i>	<i>334,697</i>	<i>80,317</i>	<i>7,301</i>	<i>5,266</i>	<i>2,817,445</i>
<i>Commonwealth and States—</i>						
Short-term .. ..	437,100	..	..	..	..	437,100
Other .. ..	3,279,219	429,247	242,911	14,237	25,128	3,990,742
<i>Grand Total Common- wealth and States</i> ..	<i>3,716,319</i>	<i>429,247</i>	<i>242,911</i>	<i>14,237</i>	<i>25,128</i>	<i>4,427,842</i>

For footnotes see next page.

GOVERNMENT SECURITIES ON ISSUE AND INTEREST PAYABLE AT 30th JUNE, 1961: COMMONWEALTH AND STATES—AUSTRALIAN CURRENCY—continued. (£A.'000.)

Particulars.	Maturing in—					Total.
	Australia.	London. (a)	New York. (b)	Canada. (c)	Switzerland. (d)	
<b>ANNUAL INTEREST PAYABLE.</b>						
<i>Commonwealth—</i>						
War (1914-18)(e) .. .. .	2,077	286	..	..	..	2,363
War (1939-45) .. .. .	25,426	284	..	..	..	25,710
Works and Other Purposes .. .. .	15,774	3,690	7,475	302	815	28,056
<i>Total Commonwealth</i> .. .. .	<i>43,277</i>	<i>4,260</i>	<i>7,475</i>	<i>302</i>	<i>815</i>	<i>56,129</i>
<i>States—</i>						
New South Wales .. .. .	34,652	5,880	1,426	132	75	42,165
Victoria .. .. .	25,775	2,139	750	106	60	28,830
Queensland .. .. .	12,371	2,025	558	53	30	15,037
South Australia .. .. .	14,068	1,351	392	57	32	15,900
Western Australia .. .. .	9,894	1,261	268	41	23	11,487
Tasmania .. .. .	7,312	340	165	31	17	7,865
<i>Total States</i> .. .. .	<i>104,072</i>	<i>12,996</i>	<i>3,559</i>	<i>420</i>	<i>237</i>	<i>121,284</i>
<b>Grand Total Commonwealth and States</b> .. .. .	<b>147,349</b>	<b>17,256</b>	<b>11,034</b>	<b>722</b>	<b>1,052</b>	<b>177,413</b>

(a) Converted at rate of £Stg.100 = £A.125 10s. (b) Converted at rate of \$2.2194 = £A.1.  
 (c) Converted at rate of \$2.2963 = £A.1. (d) Converted at rate of 9.551 francs = £A.1. (e) See footnote (b), page 868.

6. Government Securities on Issue at each Rate of Interest.—The following table shows particulars of the securities on issue for Commonwealth and State purposes at 30th June, 1961, at each rate of interest.

GOVERNMENT SECURITIES ON ISSUE AT 30th JUNE, 1961: COMMONWEALTH AND STATES—AMOUNTS AT EACH RATE OF INTEREST.

Rate of Interest.	Maturing in—								Total.	
	Australia.		London.		New York.		Other Overseas.		Commonwealth.	States.
	Commonwealth.	States.	Commonwealth. (a)	States.	Commonwealth.	States.	Commonwealth.	States.	Commonwealth.	States.
Per cent.	£A.'000.	£A.'000.	£Stg.'000	£Stg.'000	£'000.(b)	£'000.(b)	£'000.(b)	£'000.(b)	£'000.(b)	£'000.(b)
6.0.. .. .	..	..	15,652	34,273	..	..	..	..	15,652	34,273
5.75 .. .. .	..	..	..	..	1,092	..	(c)665	(c)3,445	1,757	3,445
5.5.. .. .	..	..	21,481	32,360	5,137	..	..	..	26,618	32,360
5.375 .. .. .	9,891	80,137	..	..	..	..	..	..	9,891	80,137
5.25 .. .. .	24,658	207,244	..	..	1,674	8,601	..	..	26,332	215,845
5.0.. .. .	332,282	550,319	..	1	1,895	6,569	..	..	334,177	556,889
4.75 .. .. .	87,976	151,214	..	..	31,576	4,067	..	..	119,552	155,281
4.625 .. .. .	..	..	..	..	9,478	..	..	..	9,478	..
4.5.. .. .	131,595	616,138	..	11,790	230	4,292	(d)7,116	(d)5,135	138,941	637,355
4.25 .. .. .	9,946	36,109	..	..	16,238	..	..	..	26,184	36,109
4.0.. .. .	32,706	128,483	5,655	21,835	..	195	(e)8,734	..	47,095	150,513
3.875 .. .. .	37	703	..	..	..	..	..	..	37	703
3.75 .. .. .	7,771	69,886	..	..	2,772	1,397	(d)6,125	..	16,668	71,283
3.625 .. .. .	..	107	..	..	..	..	..	..	107	..
3.5.. .. .	..	5,073	5,652	25,134	1,033	6,663	..	..	6,685	36,870
3.4875 .. .. .	..	2	..	..	..	..	..	..	2	..
3.375 .. .. .	..	..	..	..	3,027	4,845	..	..	3,027	4,845
3.25 .. .. .	95,623	40,163	17,129	51,276	..	..	..	..	112,752	91,439
3.2391 .. .. .	3,847	..	..	..	..	..	..	..	3,847	..
3.125 .. .. .	115,874	373,248	..	..	..	..	..	..	115,874	373,248
3.1.. .. .	..	3,441	..	..	..	..	..	..	..	3,441
3.0.. .. .	..	27,839	9,770	55,784	..	..	..	..	9,770	83,623
2.8347 .. .. .	2,143	..	..	..	..	..	..	..	2,143	..
2.75 .. .. .	..	..	..	15,795	..	..	..	..	..	15,795
2.7125 .. .. .	..	319	..	..	..	..	..	..	..	319
2.5.. .. .	..	2	..	18,441	..	..	..	..	..	18,443
2.325 .. .. .	..	1,425	..	..	..	..	..	..	..	1,425
1.5.. .. .	..	3,102	..	..	..	..	..	..	..	3,102
1.0.. .. .	437,100	32,375	..	..	..	..	..	..	437,100	32,375
Special Bonds	33,276	62,535	..	..	..	..	..	..	33,276	62,535
Miscellaneous(f)	1,729	..	..	2	..	..	..	..	1,729	2
<b>Total</b> .. .. .	<b>1,326,454</b>	<b>2,389,864</b>	<b>75,339</b>	<b>266,691</b>	<b>74,152</b>	<b>36,629</b>	<b>22,640</b>	<b>8,580</b>	<b>1,498,585</b>	<b>2,701,764</b>

(a) Excludes War (1914-18) Debt due to United Kingdom, £79,724,000 (rate of interest, 4.91667 per cent.).  
 (b) See § 1, p. 864. (c) Securities maturing in Canada. (d) Securities maturing in Switzerland.  
 (e) Securities maturing in Switzerland, £6,126,000; securities maturing in Canada, £2,608,000. (f) Consists of overdue debt, War (1914-18) and (1939-45) Savings Stamps and National Savings Stamps, etc.

7. Dates of Maturity.—(i) *Commonwealth.* In the following table, the Government securities on issue on account of the Commonwealth at 30th June, 1961, are classified according to the earliest and the latest years of maturity.

GOVERNMENT SECURITIES ON ISSUE AT 30th JUNE, 1961(a): COMMONWEALTH—CLASSIFIED ACCORDING TO EARLIEST AND LATEST YEARS OF MATURITY.

Year of Maturity.	Earliest Year.					Latest Year.				
	Maturing in—				Total.	Maturing in—				Total.
	Aus- tralia.	Lon- don.	New York.	Other Overseas.		Aus- tralia.	Lon- don.	New York.	Other Overseas.	
£A.'000.	£Stg. '000.	£'000b	£'000.(b)	£'000.(b)	£A.'000.	£Stg. '000.	£'000b	£'000.(b)	£'000.(b)	
Before 30th June.										
1961 ..	95,622	5,655	4,060	..	105,337	..	..	..	..	105,337
1961-62(c) ..	532,600	5,652	..	..	538,252	574,397	..	3,027	..	577,424
1962-63 ..	115,868	..	..	..	115,868	74,580	..	..	..	74,580
1963-64 ..	7,783	..	..	..	7,783	53,825	5,655	..	..	59,480
1964-65 ..	19,532	122	..	(d) 6,125	25,779	60,820	..	..	..	60,820
1965-66 ..	8,836	17,007	..	(d) 6,125	31,968	16,619	..	..	..	16,619
1966-67 ..	54,493	..	..	..	54,493	54,493	5,652	1,033	..	61,178
1967-68 ..	56,040	..	..	..	56,040	56,040	..	..	..	56,040
1968-69 ..	68,112	..	..	..	68,112	68,112	..	(d) 6,125	..	74,237
1969-70 ..	23,208	..	2,772	(d) 6,126	32,106	23,208	17,007	2,772	(d) 6,125	49,112
1970-71 ..	13,945	6,951	229	(de) 3,599	24,724	13,945	..	229	(e) 2,608	16,782
1971-72 ..	..	..	1,098	..	1,098	..	..	1,098	..	1,098
1972-73 ..	26,767	..	809	..	27,576	26,767	6,951	809	..	34,527
1973-74 and later ..	262,557	39,952	7,608	(e) 665	310,782	262,557	40,074	7,608	(de) 7,782	318,021
Special Bonds(f)	33,276	..	..	..	33,276	33,276	..	..	..	33,276
Miscellaneous(g)	7,815	..	h 57,576	..	65,391	7,815	..	h 57,576	..	65,391
<b>Total ..</b>	<b>1,326,454</b>	<b>75,339</b>	<b>74,152</b>	<b>22,640</b>	<b>1,498,585</b>	<b>1,326,454</b>	<b>75,339</b>	<b>74,152</b>	<b>22,640</b>	<b>1,498,585</b>

(a) See note (a) to previous table. (b) See § 1, p. 864. (c) Includes short-term debt.  
 (d) Securities maturing in Switzerland. (e) Securities maturing in Canada. (f) See § 4 following.  
 (g) Consists of advance loan subscriptions, overdue securities, securities redeemable in half-yearly instalments, War Savings and Savings Certificates, War Savings Stamps, National Savings Stamps and Peace Savings Certificates. (h) International Bank Dollar Loans £51,825,000 being repaid in half-yearly instalments from 1st September, 1955, to 1st September, 1975, 1st June, 1957, to 1st December, 1972, 1st March, 1957, to 1st March, 1969, 15th March, 1958, to 15th March, 1970, 15th July, 1959, to 15th January, 1972, and from 1st June, 1964, to 1st December, 1966; and Serial and Other Notes, £5,751,000 to be repaid in half-yearly instalments from 31st December, 1960, to 30th September, 1968.

(ii) *States.* Particulars of Government securities on issue on account of the States at 30th June, 1961, have been classified in the following table according to the earliest and the latest years of maturity.

GOVERNMENT SECURITIES ON ISSUE ON ACCOUNT OF THE STATES AT 30th JUNE, 1961: CLASSIFIED ACCORDING TO EARLIEST AND LATEST YEARS OF MATURITY.

Year of Maturity.	Earliest Year.					Latest Year.				
	Maturing in—				Total.	Maturing in—				Total.
	Aus- tralia.	London.	New York.	Other Overseas.		Aus- tralia.	London.	New York.	Other Overseas.	
£A.'000.	£Stg. '000.	£'000.(a)	£'000.(a)	£'000.(a)	£A.'000.	£Stg. '000.	£'000.(a)	£'000.(a)	£'000.(a)	
Before 30th June, 1961	130,316	24,601	11,508	..	166,425	..	..	..	..	
1961-62 .. ..	302,417	23,294	..	..	325,711	155,201	..	4,845	..	
1962-63 .. ..	516,631	12,655	..	..	529,286	414,003	11,790	..	160,046	
1963-64 .. ..	4,076	9,590	..	..	13,666	106,497	..	..	425,793	
1964-65 .. ..	82,536	12,616	..	..	95,152	257,646	12,656	..	106,497	
1965-66 .. ..	62,972	64,044	..	..	127,016	165,601	9,590	..	270,302	
1966-67 .. ..	129,379	..	..	..	129,379	129,379	..	6,663	175,191	
1967-68 .. ..	168,271	15,795	..	..	184,066	168,271	25,384	..	159,336	
1968-69 .. ..	205,786	..	..	..	205,786	205,786	..	..	193,655	
1969-70 .. ..	71,289	18,441	1,397	..	91,127	71,289	40,500	1,397	205,786	
1970-71 .. ..	84,320	..	4,292	5,135	93,747	84,320	10,971	4,292	113,186	
1971-72 .. ..	2,177	12,175	2,694	..	17,046	2,177	15,794	2,694	99,583	
1972-73 .. ..	75,761	10,000	4,067	..	89,828	75,761	10,000	4,067	20,665	
1973-74 .. ..	5,521	..	..	..	5,521	5,521	12,175	..	89,828	
1974-75 .. ..	53,683	16,000	..	..	69,683	53,683	31,057	..	17,696	
1975-76 .. ..	90,424	28,810	..	..	119,234	90,424	2,174	..	84,740	
1976-77 .. ..	6,001	..	..	..	6,001	6,001	16,000	..	97,733	
1977-78 .. ..	7,088	13,925	..	..	21,013	7,088	..	..	22,001	
1978-79 .. ..	8,359	..	3,875	..	12,234	8,359	26,636	3,875	7,088	
1979-80 .. ..	106,736	..	4,295	..	111,031	106,736	..	4,295	38,870	
1980-81 .. ..	86,287	..	4,306	3,445	94,038	86,287	13,925	4,306	111,031	
1981-82 .. ..	58,272	2,174	..	..	60,446	58,272	..	..	107,963	
1982-83 and later	45,107	..	..	..	45,107	45,107	2,174	..	58,272	
Special Bonds(b)	62,535	..	..	..	62,535	62,535	..	..	47,281	
Miscellaneous(c)	23,920	2,571	195	..	26,686	23,920	2,571	195	62,535	
<b>Total</b>	<b>2,389,864</b>	<b>266,691</b>	<b>36,629</b>	<b>8,580</b>	<b>2,701,764</b>	<b>2,389,864</b>	<b>266,691</b>	<b>36,629</b>	<b>8,580</b>	<b>2,701,764</b>

(a) See § 1, p. 864. (b) See § 4 following. (c) Consists of overdue, indefinite and interminable securities, securities due at Treasurer's option, and half-yearly drawings.

8. Short-term Securities on Issue.—(i) Amount. Particulars of the short-term securities (Treasury Bills and Debentures) of the Commonwealth and States in London and in Australia at intervals from 30th June, 1957, to 30th June, 1961, are shown in the following table. These securities are included in the Government securities on issue as shown elsewhere.

COMMONWEALTH AND STATE SHORT-TERM SECURITIES ON ISSUE.(a)

Date.	Maturing in Australia. (£A.'000.)			
	Commonwealth.		States.	Total.
	Treasury Bills.	Seasonal Securities.		
30th June, 1957 .. ..	150,000	..	..	150,000
"   "   1958 .. ..	140,000	..	..	140,000
"   "   1959 .. ..	171,000	..	..	171,000
30th September, 1959 .. ..	239,000	..	..	239,000
31st December, 1959 .. ..	299,000	23,498	3,000	325,498
31st March, 1960 .. ..	255,000	43,595	2,000	300,595
30th June, 1960 .. ..	201,000	..	..	201,000
30th September, 1960 .. ..	254,000	..	..	254,000
31st December, 1960 .. ..	320,000	30,227	..	350,227
31st March, 1961 .. ..	282,000	47,513	..	329,513
30th June, 1961 .. ..	186,000	..	..	186,000

(a) Excludes Overdrafts and Internal Treasury Bills.



(ii) *Australia.* The Treasury Bill rates in Australia were as follows:— $1\frac{1}{2}$  per cent. from 1st January, 1935;  $1\frac{1}{2}$  per cent. from 1st May, 1940;  $1\frac{1}{4}$  per cent. from 1st May, 1943; 1 per cent. from 1st March, 1945;  $\frac{3}{4}$  per cent. from 1st May, 1949; 1 per cent. from 1st August, 1952.

(iii) *Seasonal Securities.* In November, 1959, the Commonwealth Government issued a new form of short-term Commonwealth security called Seasonal Treasury Notes and Seasonal Inscribed Stock. The 1960-61 issues of seasonal securities, which were readily cashable, transferable and interchangeable at any time, were redeemable at par on maturity at the end of three months, and all such securities were redeemed and cancelled before 30th June, 1961. Seasonal securities were issued in multiples of £1,000 over the minimum subscription of £5,000 at a price of £99 5s. 0d. per cent., and yielded a return of approximately 3 per cent. if held for three months. Such increases in value were taxable, but carried the right of rebate of two shillings in the pound as with Commonwealth loan interest.

9. *Government Securities on Issue on Account of the States, Municipal and Semi-governmental Authority Securities on Issue.*—For the reasons indicated on page 872, direct comparisons of the securities on issue on account of the several States should be made with caution. The table following shows, for 1955-56 to 1959-60, particulars of the securities on issue on account of the States and the securities on issue by municipal and semi-governmental authorities in each State.

**GOVERNMENT SECURITIES ON ISSUE ON ACCOUNT OF THE STATES;  
MUNICIPAL AND SEMI-GOVERNMENTAL AUTHORITY SECURITIES ON ISSUE.**

State.	State.	Municipal. (a)	Semi-Gov- ernmental. (a)	Total.	
SECURITIES ON ISSUE. (£'000.)(b) 1959-60.					
New South Wales .. .. .	880,200	73,679	270,017	1,223,896	
Victoria .. .. .	594,122	41,434	429,770	1,065,326	
Queensland .. .. .	322,424	89,382	76,785	488,591	
South Australia .. .. .	335,848	5,365	32,424	373,637	
Western Australia .. .. .	246,787	11,199	18,483	276,469	
Tasmania .. .. .	165,523	12,933	15,201	193,657	
Total	1959-60 .. .. .	2,544,904	233,992	842,680	3,621,576
	1958-59 .. .. .	2,391,621	212,226	769,021	3,372,868
	1957-58 .. .. .	2,247,932	195,638	701,474	3,145,044
	1956-57 .. .. .	2,106,477	183,471	630,146	2,920,094
	1955-56 .. .. .	1,962,027	170,839	570,068	2,702,934

**SECURITIES ON ISSUE PER HEAD OF POPULATION.**

(£.) (b) 1959-60.					
New South Wales .. .. .	229.7	19.2	70.5	319.4	
Victoria .. .. .	207.9	14.5	150.4	372.8	
Queensland .. .. .	215.5	59.8	51.3	326.6	
South Australia .. .. .	355.2	5.7	34.3	395.2	
Western Australia .. .. .	341.8	15.5	25.6	382.9	
Tasmania .. .. .	481.3	37.6	44.2	563.1	
Total	1959-60 .. .. .	249.6	22.9	82.6	355.2
	1958-59 .. .. .	239.5	21.3	76.9	337.7
	1957-58 .. .. .	229.9	20.0	71.7	321.6
	1956-57 .. .. .	219.9	19.1	65.8	304.8
	1955-56 .. .. .	209.4	18.2	60.8	288.4

(a) Excludes amounts due to the Central Government. Includes bank overdrafts. (b) See § 1, p. 864.

## § 4. Commonwealth Loan Raisings.

1. General.—Under the Financial Agreement between the Commonwealth and the States, the Commonwealth is responsible for raising all loan moneys required either by the Commonwealth or by the State Governments. Details of loan transactions given in this section relate, therefore, to all loans raised for the Commonwealth and the States.

2. New Loans Raised, 1958-59 to 1960-61.—(i) *Australia*. The following table shows details of new loans raised in Australia by the Commonwealth during the three years 1958-59 to 1960-61.

## COMMONWEALTH NEW LOANS(a) RAISED IN AUSTRALIA.

Month of Raising.	Amount Invited.	Amount Subscribed.	Rate of Interest per annum.	Year of Maturity.	Price of Issue per £100.	Allocation of Proceeds.		
						Commonwealth.		States.
						War (1939-45) etc.	Other Purposes.	
£'000.	£'000.	%	£	£'000.	£'000.	£'000.		
1958-59—								
October (Loan No. 112) ..	30,000	{ 13,078 4,748 18,971	{ 4 4½ 5	{ 1960 1967 1974	{ 99½ 99½ 100	..	1	36,796
February (Loan No. 114) ..	25,000	{ 35,945 3,996 20,252	{ 4 4½ 5	{ 1961 1967 1974	{ 99½ 99½ 100	..	1	60,192
May (Loan No. 115) ..	35,000	{ 14,139 3,309 33,103	{ 4 4½ 5	{ 1962 1968 1979	{ 99½ 99½ 100	..	21,499	29,052
June (Loan No. 117)(b) ..	10,000	{ 10,000 5	{ 5 5	{ 1979 1979	{ 100 100	6,547	3,453	..
October-June (Special Bonds)(c) ..	..	27,142	4-5	1966	100	..	5,904	21,238
1959-60—								
September (Loan No. 118) ..	50,000	{ 12,993 6,698 38,878	{ 4 4½ 5	{ 1962 1968 1979	{ 100 99½ 100	..	12	58,557
February (Loan No. 120) ..	45,000	{ 5,989 16,799 17,528	{ 4 4½ 5	{ 1963 1969 1981	{ 99½ 99½ 100	..	25	40,291
May (Loan No. 121) ..	25,000	{ 1,794 10,563 9,258	{ 4 4½ 5	{ 1963 1969 1981	{ 99½ 99½ 100	..	9	21,606
June (Loan No. 123) (b) ..	55,000	{ 6,000 9,000 40,000	{ 4 4½ 5	{ 1963 1969 1981	{ 99½ 99½ 100	4,418	20,331	30,251
July-June (Special Bonds) (c) ..	..	26,177	4-5	{ 1966 1967	100	1,408	4,077	20,692
1960-61—								
September (Loan No. 124) ..	30,000	{ 12,568 6,847 13,542	{ 4½ 4½ 5	{ 1962 1969 1982	{ 100 98½ 100	..	24	32,933
February (Loan No. 126) ..	35,000	{ 23,638 3,692 7,584	{ 5½ 5½ 5½	{ 1963 1970 1981	{ 99½ 98½ 100	..	4	34,910
May (Loan No. 127) ..	25,000	{ 24,747 1,338 8,425	{ 5½ 5½ 5½	{ 1963 1970 1981	{ 99½ 98½ 100	..	9	34,501
June (Loan No. 129)(b) ..	90,000	{ 55,000 10,000 25,000	{ 5½ 5½ 5½	{ 1963 1970 1981	{ 99½ 98½ 100	1,304	31,614	57,082
July-June (Special Bonds) (c) ..	..	11,501	4-5	{ 1967 1968	100	2,216	1,502	7,783

(a) Includes loans raised for redemption of Treasury Bills, but excludes conversion loans, loans for redemption of debt maturing in London, short-term debt and certain miscellaneous debt (see p. 878).  
 (b) Special issue. For details see following paragraph. (c) Special Bonds open for continuous subscription, redeemable at prices commencing at par and increasing to a premium of £3 per cent. if held until maturity in 1966-68. Interest increases from 4 per cent. to 5 per cent. over period of currency.

The loans of £10,000,000, £55,000,000 and £90,000,000 raised in June, 1959, 1960 and 1961, respectively, were for the purpose of fulfilling an undertaking given by the Commonwealth that the States would have access to loan funds for their works programmes up to the approved Loan Council borrowing programmes. These programmes totalled £210,000,000 in 1958-59, £220,000,000 in 1959-60 and £230,000,000 in 1960-61. Subscriptions to these special loans for the three years covered came from the Loan Consolidation and Investment Reserve Trust Account.

Finance for the approved Loan Council programmes from 1958-59 to 1960-61 was provided from the following sources.

LOAN COUNCIL PROGRAMME(a): SOURCE OF FINANCE.

£.

Source.	1958-59.	1959-60.	1960-61.
Public loans, domestic raisings, etc. . . . .	177,300,000	148,300,000	117,900,000
Oversea loans and special Commonwealth assistance . . . . .	32,700,000	71,700,000	112,100,000
Total . . . . .	210,000,000	220,000,000	230,000,000

(a) Excludes amounts provided for emergency wheat storage, 1958-59, £6,547,000; 1959-60, £6,937,000 and for rehabilitation of the Mount Isa-Townsville-Collinsville railway line, £20,000,000.

In addition to the new loans raised as shown in the foregoing tables and the redemption and conversion loans shown in the following paragraph there were other miscellaneous loan operations during 1959-60, namely:—Savings Certificates and War Savings Certificates (Five and Seven Years' Series), a decrease of £2,216,000 and "Over the Counter Sales" (small amounts borrowed by the States by virtue of certain statutory rights), £4,452,000. Advance loan subscriptions in hand decreased from £1,558,000 at the end of 1959-60 to £781,000 at the end of 1960-61.

(ii) *London.* The following table gives details of cash loans raised in London in October, 1958, and in February, 1960.

COMMONWEALTH NEW LOANS RAISED IN LONDON.

Month of Raising.	Amount of Loan.	Rate of Interest per annum.	Price of Issue per £100 Stg.	Year of Maturity.	Allocation of Proceeds.	
					Commonwealth.	States.
	£Stg.'000.	%	£Stg.		£Stg.'000.	£Stg.'000.
1958-59— October . . . . .	15,000	5½	98	1978	2,560	12,440
1959-60— February . . . . .	12,000	5½	99	1980	12,000	..

(iii) *New York.* A cash loan was raised in New York in June, 1956. This was the first since May, 1928, except for loans raised from the International Bank for Reconstruction and Development (see para. 4. below). The following table gives details of the loans raised during the period 1957-58 to 1960-61.

## COMMONWEALTH NEW LOANS RAISED IN NEW YORK.

Month of Raising.	Amount of Loan.	Rate of Interest per annum.	Price of Issue per \$100.	Year of Maturity.	Allocation of Proceeds.	
					Commonwealth.	States.
	\$'000.	%	\$		\$'000.	\$'000.
1958-59—						
November ..	25,000	5	97½	1978	4,263	20,737
July-June ..	11,960	4½	100	a 1960-65	(b) 11,960	..
July-June ..	1,560	4½	100	a 1960-65	(b) 1,560	..
July-June ..	3,000	4½	100	a 1960-64	(c) 3,000	..
1959-60—						
September ..	25,000	5½	97	1979	25,000	..
April ..	25,000	5½	97½	1980	4,100	20,900
July-June ..	4,160	4½	100	a 1960-65	(b) 4,160	..
July-June ..	6,240	4½	100	a 1960-65	(b) 6,240	..
1960-61—						
September ..	25,000	5½	98	1980	4,044	20,956
July-June ..	3,517	5½	100	a 1962-68	(c) 3,517	..
July-June ..	2,000	5½	100	b 1961-65	(d) 2,000	..

(a) Repayable in half-yearly instalments. (b) Repayable in quarterly instalments. (c) Proceeds used for Qantas Empire Airways Loan. (d) Proceeds used for Australian National Airlines Loan.

3. Conversion and Redemption Loans, 1958-59 to 1960-61.—(i) *Australia*. Particulars of conversion loans raised in Australia during the three years 1958-59 to 1960-61 are given in the following table.

## COMMONWEALTH CONVERSION AND REDEMPTION LOANS RAISED IN AUSTRALIA.

Month of Raising.	Old Loan.		New Loan.				Increase in Annual Liability for Interest.
	Amount.	Rate of Interest per annum.	Amount.	Rate of Interest per annum.	Price of Issue per £100.	Year of Maturity.	
	£A.'000.	%	£A.'000.	%	£		£A.'000.
1958-59—							
October ..	218,192	3½	54,894	4	99½	1960	506
			24,543	4½	99½	1967	
			75,647	5	100	1974	
			a 11,332	4-5	100	1966	
			51,070	4	99½	1962	
May ..	108,189	4	21,563	4½	99½	1968	-288
			16,395	5	100	1979	
			(a) 3,805	4-5	100	1966	
			35,487	4	100	1962	
			35,531	4½	99½	1968	
1959-60—							
September ..	194,750	3½	69,072	5	100	1979	691
			(a) 8,605	4-5	100	1966	
			36,418	4	99½	1963	
			15,030	4½	99½	1969	
			24,105	5	100	1981	
May ..	100,848	4	(a) 2,270	4-5	100	1967	-567
			19,286	4½	100	1962	
			31,724	4½	98½	1969	
			52,954	5	100	1982	
			(a) 7,172	4½-5	100	1968	
1960-61—							
September ..	39,561	3½	5,000	5½	99½	1963	195
			118,431	3½	82,274	5½	
May ..	5,000	4	26,214	5½	98½	1970	63
			48,178	5½	100	1981	
			(a) 989	4½-5½	100	1968	
May ..	179,210	4					-678

(a) Special Bonds.  
NOTE.—Minus sign (-) indicates reduction in liability for interest.

(ii) *London*. The following table shows particulars of loans raised in London during the years 1957-58 and 1958-59, for the purpose of redeeming and converting London loans.

**COMMONWEALTH LOANS RAISED FOR THE CONVERSION AND  
REDEMPTION OF LOANS MATURING IN LONDON.**

Month of Raising.	Old Loan.			New Loan.			Increase in Annual Liability for Interest and Exchange. (a)	
	Amount.	Rate of Interest per annum.	Amount raised in—		Rate of Interest per annum.	Price of Issue per £100.		Year of Maturity.
			Australia.	London.				
	£Stg. '000.	%	£A. '000.	£Stg. '000.	%	£	£A. '000.	
1957-58— February ..	16,000	3	..	16,000	6	99½	1976	602
1958-59— March ..	20,675	3½	..	20,000	5½	99	{ 1973 1979 }	502
1960-61— July ..	13,925	3	..	13,925	6	98	{ 1977-80 1975 1981-83 }	524
January ..	20,579	3½	..	20,000	6	97½		666

(a) No account has been taken of the cost of issuing the conversion loans at a discount. Exchange calculated at £A. 125.375 = £Stg. 100.

(iii) *New York.* During 1946-47, four loans totalling \$128,000,000 were raised in New York to redeem loans which became due for redemption or which the Commonwealth had the option of redeeming. No further loans were raised in New York for this purpose until December, 1954. The most recent loan raised in New York for this purpose was in March, 1957, and amounted to \$17,114,000, at 5 per cent. interest, issued at par, maturing in 1972. No loans were raised for this purpose between 1957-58 and 1960-61.

4. *International Bank for Reconstruction and Development Loans.*—To provide dollar funds for the purchase of certain types of capital equipment and plant which were indispensable to the furtherance of development in Australia and which could be obtained only in the United States of America or Canada, the Commonwealth Government arranged six loans from the International Bank for Reconstruction and Development between August, 1950, and December, 1956, amounting to \$317,730,000, repayable over periods of from 10 to 25 years, at rates of interest of from 4½ to 4¾ per cent. The proceeds of the latest of these loans were finally drawn in March, 1959.

The capital equipment and plant purchased from the proceeds of these loans are made available to Commonwealth and State Government departments and agencies and private firms and individuals for use in the development of Australian resources. The goods are imported and distributed through normal channels and payment made through the Australian banking system.

5. *Swiss Loan.*—To foster industrial development in Australia and to stimulate trade relations between the two countries, the Commonwealth Government arranged for the issue in Switzerland in November, 1953, February, 1955, March, 1960, and March, 1961, of four public loans each of 60,000,000 Swiss francs. The loans were underwritten by a Swiss banking group headed by the Swiss Bank Corporation, the Credit Suisse and the Union Bank of Switzerland. Certain Swiss taxes connected with the issue and servicing of the loan were paid on an agreed basis by the Australian Government.

The first loan was for a period of 15 years with an option on the part of the Australian Government to repay the loan in full or in part after 12 years. The rate of interest was 4 per cent. and the issue price £99. Bondholders have the option of requiring payment either in Australian pounds or in the foreign currency equivalent of Australian pounds.

The second loan was for a period of 15 years with an option to redeem after 10 years. The rate of interest was 3¾ per cent. and the issue price £99 10s. Bonds and interest are payable only in Swiss francs. The third loan was for a period of fifteen years with an option to redeem after 10 years. The rate of interest was 4½ per cent. and the issue price £99. The fourth loan was issued at par in March, 1961, at the rate of 4½ per cent. maturing in April, 1976. Payments of interest and repayments of principal are to be made only in Swiss francs.

The loans were fully subscribed, and Swiss franc proceeds, after deducting borrowing expenses, were sold by the Commonwealth Government to the Commonwealth Bank in return for an equivalent amount of Australian currency.

6. *Canadian Loan.*—In October, 1955, the Commonwealth Government arranged for the issue in Canada of a public loan of 15,000,000 Canadian dollars raised to assist Australia's development programme. The loan was underwritten by Wood, Gundy & Company Limited of Toronto, Canada. The loan was for a period of 15 years with an option on the part of the Australian Government to repay the loan in full or in part at any time prior to 1st November, 1970. The rate of interest was 4 per cent. payable half-yearly and the issue price \$98.50. A second loan, of 2,000,000 Canadian dollars, was raised in April, 1961, on the security of Commonwealth of Australia, 5½ per cent. twenty year bonds being issued at the rate of 98½ per cent. Bonds and interest are payable in Canadian dollars in each case.

The loans were fully subscribed, and the net Canadian dollar proceeds were sold to the Commonwealth Bank for Australian currency.

7. Summary of Loan Transactions, 1956-57 to 1960-61.—The following table contains a summary of loan transactions on behalf of the Commonwealth and State Governments during the five years 1956-57 to 1960-61.

## COMMONWEALTH LOAN TRANSACTIONS: SUMMARY.

Details.	Year ended 30th June—				
	1957.	1958.	1959.	1960.	1961.
<b>New Loans—</b>					
New Loans (a) raised in—					
Australia .. .. £A.'000.	196,854	195,238	184,683	201,678	203,881
London .. .. £Stg.'000.	..	..	15,000	12,000	..
New York(b) .. .. \$'000.	23,536	65,091	58,351	60,400	30,517
Switzerland .. .. Francs '000.	..	..	..	60,000	60,000
Canada .. .. \$'000.	..	..	..	..	20,000
Miscellaneous Debt in Australia (c) .. .. £A.'000.	-3,214	1,229	3,230	5,224	3,676
<b>Net Increase in Short Term Debt—</b>					
Australia—Public .. .. £A.'000.	-15,000	-10,000	31,000	30,000	-15,000
Internal .. .. £A.'000.	20,200	12,500	5,300	-36,100	17,600
London .. .. £Stg.'000.	-26,068	..	..	..	..
<b>Loans raised for Conversion or Redemption of existing Securities maturing in—</b>					
Australia .. .. £A.'000.	228,260	344,417	259,249	226,518	273,791
London—					
Raised in Australia .. .. £A.'000.	32,708	..	..	..	..
London .. .. £Stg.'000.	6,951	16,000	20,000	..	33,925
New York .. .. \$'000.	17,114	..	..	..	..

(a) Includes loans raised for redemption of Treasury Bills. (b) Includes amounts drawn of \$100,000,000, \$50,000,000, \$54,000,000, \$54,500,000, \$9,230,000 and \$50,000,000, loans from International Bank for Reconstruction and Development. (c) "Over the Counter Sales", Instalment Stock, National Savings Bonds, War Savings and Savings Certificates and net increase in debt on account of advance loan subscriptions and, until the discontinuance of sales, War Savings and Savings Stamps and National Savings Stamps.

NOTE.—Minus sign (—) denotes a decrease in debt.

8. Commonwealth and State Government Securities Maturing in Australia, Classified by Holder.—The following table shows details of Commonwealth and State Securities maturing in Australia classified according to holder as at the 30th June, 1960 and 1961.

## COMMONWEALTH AND STATE SECURITIES ON ISSUE MATURING IN AUSTRALIA, CLASSIFIED BY HOLDER.(a)

(Source: Reserve Bank Statistical Bulletin.)

Holder.	At 30th June—			
	1960.		1961.	
	Amount £ million.	Proportion of Total.	Amount £ million.	Proportion of Total.
Reserve Bank .. .. .	470	13.0	487	13.0
Trading Banks .. .. .	275	7.6	288	7.7
Savings Banks .. .. .	799	22.1	794	21.4
Life Insurance Offices (b) .. .. .	226	6.2	227	6.1
Fire, Marine and General Insurance Offices .. .. .	80	2.2	78	2.1
Pension and Provident Funds .. .. .	87	2.4	91	2.4
Stabilization Funds .. .. .	11	0.3	3	0.1
Other Government Financial Institutions .. .. .	14	0.4	8	0.2
Commonwealth and State Governments .. .. .	687	19.0	782	21.0
Local and Semi-Government Bodies .. .. .	65	1.8	72	1.9
Trustee Offices .. .. .	97	2.6	95	2.6
Money Market Dealers .. .. .	80	2.2	102	2.8
All Other .. .. .	732	20.2	689	18.7
<b>Total .. .. .</b>	<b>3,623</b>	<b>100.0</b>	<b>3,716</b>	<b>100.0</b>

(a) Total Stock inscribed, bonds in circulation, amounts paid up on outstanding applications, in transit claims and advance applications, Commonwealth Treasury Bills, debentures, and Savings Certificates. (b) Holdings by State Government insurance offices are excluded from "Life Insurance" and included in "Fire, Marine, etc."

## § 5. National Debt Sinking Fund.

1. Securities on Issue on behalf of the Commonwealth.—Particulars relating to the creation of sinking funds are included in issues of the Official Year Book prior to No. 23.

The old sinking funds were merged in the National Debt Sinking Fund on 11th August, 1923. Particulars of receipts and expenditure of the Commonwealth Account for the years 1956-57 to 1960-61 were as follows.

**NATIONAL DEBT SINKING FUND: COMMONWEALTH ACCOUNT.**  
(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Receipts—</b>					
From Consolidated Revenue .. .. .	15,292	14,301	14,376	19,533	23,092
Loans and Advances Repaid .. .. .	2,986	2,881	3,213	3,398	3,751
War Service Homes Money Repaid .. .	5,660	6,566	7,560	9,589	9,808
Half Net Profit Commonwealth Bank ..	3,918	4,961	5,749	2,808	(c)
Reparation Moneys .. .. .	200	63	20	43	16
Interest on Investments .. .. .	(a) 9,169	(a) 9,413	(a) 9,015	(a) 8,303	(a) 7,830
Loan (International Bank for Reconstruction and Development) Act .. .. .	5,367	14,564	7,492	..	..
Other Contributions .. .. .	2	1	..	..	..
<b>Total Receipts .. .. .</b>	<b>42,594</b>	<b>52,750</b>	<b>47,425</b>	<b>43,674</b>	<b>44,497</b>
<b>Expenditure—</b>					
Securities Repurchased and Redeemed in—					
Australia .. .. .	32,891	60,001	64,799	59,357	58,539
London .. .. .	88	318	189	218	594
New York .. .. .	(b) 3,031	(b) 5,172	(b) 6,029	(b) 7,969	(b) 8,062
<b>Total Expenditure .. .. .</b>	<b>36,010</b>	<b>65,491</b>	<b>71,017</b>	<b>67,544</b>	<b>67,195</b>
<b>Balance at 30th June .. .. .</b>	<b>243,085</b>	<b>230,344</b>	<b>206,752</b>	<b>182,882</b>	<b>160,184</b>
<b>Face Value of Securities Repurchased and Redeemed in—</b>					
Australia .. .. .	34,718	61,017	65,421	59,556	59,354
London .. .. .	85	305	185	220	481
New York .. .. .	(b) 1,397	(b) 2,387	(b) 2,783	(b) 3,681	(b) 3,720
<b>Total Face Value .. .. .</b>	<b>36,200</b>	<b>63,709</b>	<b>68,389</b>	<b>63,457</b>	<b>63,555</b>

(a) Includes interest received under National Debt Sinking Fund (Special Payment) Act 1951, £4,205,000 in 1956-57, £3,936,000 in 1957-58, £3,382,000 in 1958-59, £3,082,000 in 1959-60 and £2,799,000 in 1960-61.

(b) Includes instalment repayments of loans from International Bank for Reconstruction and Development: 1956-57, net cost, £2,668,000; face value, £1,221,000; 1957-58, net cost, £4,733,000; face value, £2,173,000; 1958-59, net cost, £5,688,000; face value, £2,618,000; 1959-60, net cost, £7,235,000; face value, £3,326,000; 1960-61, net cost, £7,563,000; face value, £3,481,000.

(c) In 1960-61, an amount of £3,352,000 was transferred to the Commonwealth Consolidated Revenue Fund from the profits of the central banking business of the Reserve Bank.

2. Securities on Issue on behalf of States.—(i) States, 1960-61. A sinking fund for the redemption of the Securities on Issue on behalf of States was established under the Financial Agreement. Details of contributions to be made to this fund are given on page 865. Particulars of the transactions of the National Debt Sinking Fund (States' Account) for each State during the year 1960-61 are shown below.

**NATIONAL DEBT SINKING FUND: STATES' ACCOUNT, 1960-61.**  
(£'000.)

Item.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
<b>Receipts—</b>							
Contributions under Financial Agreement—							
Commonwealth .. .. .	2,182	1,447	785	837	609	414	6,274
States .. .. .	7,468	5,696	2,806	3,376	2,254	1,208	22,808
Interest from States on cancelled Securities .. .. .	5	7	1	2	1	1	17
Special Contributions by States .. .. .	86	53	9	88	1	1	238
Interest on Investments, etc. .. .. .	..	6	..	5	6	2	19
<b>Total Receipts .. .. .</b>	<b>9,741</b>	<b>7,209</b>	<b>3,601</b>	<b>4,308</b>	<b>2,871</b>	<b>1,626</b>	<b>29,356</b>
<b>Expenditure—</b>							
Securities Repurchased and Redeemed in—							
Australia .. .. .	8,583	6,801	3,269	3,420	2,667	1,551	26,291
London .. .. .	388	77	91	254	123	11	944
New York .. .. .	602	303	195	557	120	63	1,840
<b>Total Expenditure .. .. .</b>	<b>9,573</b>	<b>7,181</b>	<b>3,555</b>	<b>4,231</b>	<b>2,910</b>	<b>1,625</b>	<b>29,075</b>
<b>Balance at 30th June, 1960 .. .. .</b>	<b>359</b>	<b>213</b>	<b>151</b>	<b>150</b>	<b>47</b>	<b>82</b>	<b>1,002</b>
<b>Face Values of Securities Repurchased and Redeemed in—</b>							
Australia .. .. .	8,632	6,911	3,269	3,390	2,667	1,551	26,420
London .. .. .	40	53	44	208	59	10	414
New York .. .. .	288	144	94	258	57	30	871
<b>Total Face Value .. .. .</b>	<b>8,960</b>	<b>7,108</b>	<b>3,407</b>	<b>3,856</b>	<b>2,783</b>	<b>1,591</b>	<b>27,705</b>

(ii) *All States, 1956-57 to 1960-61.* The following table is a summary of the transactions of the National Debt Sinking Fund (States' Account) for the years 1956-57 to 1960-61.

## NATIONAL DEBT SINKING FUND: STATES' ACCOUNT.

(£'000.)

Item.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Receipts—</i>					
Contributions under Financial Agreement—					
Commonwealth .. .. .	4,640	5,065	5,386	5,942	6,274
States .. .. .	16,317	17,758	19,161	21,280	22,808
Interest from States on cancelled Securities .. .. .	9	11	8	14	17
Special Contributions by States .. .. .	90	193	239	227	238
Interest on Investments, etc. .. .. .	23	36	47	..	19
<i>Total Receipts .. .. .</i>	<i>21,079</i>	<i>23,063</i>	<i>24,841</i>	<i>27,463</i>	<i>29,356</i>
<i>Expenditure—</i>					
Securities Repurchased and Redeemed in—					
Australia .. .. .	20,312	16,567	21,359	24,570	26,291
London .. .. .	857	6,043	1,799	797	944
New York .. .. .	879	1,011	1,024	2,342	1,840
<i>Total Expenditure .. .. .</i>	<i>22,048</i>	<i>23,621</i>	<i>24,182</i>	<i>27,709</i>	<i>29,075</i>
<i>Balance at 30th June .. .. .</i>	<i>866</i>	<i>308</i>	<i>967</i>	<i>721</i>	<i>1,002</i>
<i>Face Value of Securities Repurchased and Redeemed in—</i>					
Australia .. .. .	20,431	16,102	21,435	24,617	26,420
London .. .. .	809	4,866	1,330	761	414
New York .. .. .	415	476	481	1,103	871
<i>Total Face Value .. .. .</i>	<i>21,655</i>	<i>21,444</i>	<i>23,246</i>	<i>26,481</i>	<i>27,705</i>

## E. TAXES ON INCOME.

1. *General.*—A description of the development of income taxes in Australia appeared in Official Year Book No. 35, page 926. Since July, 1942, the Commonwealth, under the uniform tax arrangement, has been the only authority imposing taxes on income. Taxes on income are assessed and imposed under the Income Tax and Social Services Contribution Assessment Act 1936-1960 and the Income Tax and Social Services Contribution Act 1960. The latter Act is an annual measure and its primary purpose is to declare the rates of tax and contribution payable for the financial year. The rates for the financial year are levied, in the case of individuals, on the income of that year and, in the case of companies, on the income of the preceding year. Thus tax for the financial year 1961-62 is levied on the income of individuals in 1961-62 and on the income of companies in 1960-61.

2. *Present Taxes.*—For individuals, a single tax known as the Income Tax and Social Services Contribution is levied. All companies are liable for primary income tax and, in addition, private companies are subject to tax on undistributed income.



3. **Assessable Income.**—Income taxes in Australia are levied, primarily, on all income derived from Australian sources by any person, rather than on income derived from all sources by Australian residents. Thus a non-resident is taxed on income derived in Australia, while a resident is, in general, not taxed on income other than dividends derived from overseas, if the income is taxed in the country in which it is derived.

Certain types of Australian income are exempt from tax in Australia, the more important being (i) pensions, child endowment and other payments under the Social Services Act 1947–1962 and the Tuberculosis Act 1948, (ii) income from gold-mining and uranium mining, (iii) twenty per cent. of certain mining profits, (iv) dividends paid out of exempt mining profits, and (v) income received from a scholarship, bursary or other education allowance.

No amount is included in assessable income on account of a house occupied by its owner. Profits derived from the sale of property are not assessable income if such property was not purchased with a view to resale at a profit.

Expenses incurred in earning income, certain subscriptions to business associations, and trade union dues, are allowable deductions. Losses incurred in previous years may be carried forward as a deduction.

Because of uncongenial climatic conditions, isolation, and high cost of living, taxpayers living in certain areas are allowed an additional deduction. Two zones have been prescribed, and the allowances are:—Zone A, £270 plus an amount equal to one half of the total deductions allowable to the taxpayer for the maintenance of dependants; and Zone B, £45 plus an amount equal to one twelfth of the deductions allowable to the taxpayer for the maintenance of dependants. A deduction equal to the deduction allowed to residents of Zone A is also allowed to members of the defence forces serving for more than one half of the year of income at declared localities outside Australia. The boundaries of Zones A and B are as defined in the Second Schedule, Income Tax and Social Services Assessment Act 1936–1961.

Income Tax and Social Services Contribution is levied on the taxable income remaining after making these deductions and the concessional deductions to which reference is made in the following paragraph.

4. **Concessional Deductions.**—Concessional allowances for dependants, medical expenses, life assurance and superannuation contributions, etc., are made by way of a deduction from income. The maximum deduction allowed for each dependant, for a parent or parent-in-law, or for a housekeeper employed by the taxpayer, for the financial year 1961–62, is shown in the following table.

#### CONCESSIONAL DEDUCTIONS FOR DEPENDANTS, ETC.(a)

(£.)

Dependant, etc. (Resident).	Maximum Deduction.
Spouse .. .. .	143
Daughter-housekeeper (b) .. .. .	143
Housekeeper (b) having care of taxpayer's children under 16 years of age .. .. .	143
Parent or Parent-in-law .. .. .	143
One child under 16 years of age .. .. .	91
Other children under 16 years of age .. .. .	65
Invalid relative(c) .. .. .	91
Child 16 to 21 years receiving full-time education (d) .. .. .	91

(a) These deductions are allowed only if the dependant, parent or parent-in-law is a resident of Australia. If the dependant is maintained for part only of the year, a partial deduction is allowed. (b) Of a widower or widow. (c) Child, step-child, brother or sister over 16 years of age. The amount of the deduction is reduced by any invalid pension received. (d) The amount of the deduction is reduced by the value of any assistance provided by the Commonwealth or a State.

When the dependant or person maintained derives separate income, the amount of the concessional deduction allowable is reduced as follows:—

In the case of a spouse or daughter-housekeeper, by £2 for every £1 by which the separate net income exceeds £65; for each parent or parent-in-law maintained, by £1 for each £1 of separate income; and for each dependent child or invalid relative, by £2 for every £1 by which the separate net income exceeds £52.

For the 1961–62 financial year, medical expenses paid by a taxpayer who is a resident, in respect of himself or dependants, including children under 21 years of age, up to £150 for each person, are allowed as a concessional deduction. Medical expenses include payments made to a legally qualified medical practitioner, nurse or chemist, or to a hospital, in respect of an illness or operation, payments for dental services not exceeding £30 for any one person, payment for therapeutic treatment and eye tests, expenditure on medical or surgical appliances, artificial limbs or eyes, hearing aids and spectacles, and the remuneration of an attendant of a person who is blind or confined to bed or invalid chair.

Other concessional deductions allowed to resident taxpayers include, (i) payments of life, etc., insurance premiums and contributions to superannuation funds and friendly societies, not exceeding an aggregate of £400, (ii) payments to medical or hospital benefits funds, (iii) funeral expenses of a dependant not exceeding £30 and (iv) expenditure incurred for the full-time education of children or dependants who are less than 21 years of age (maximum £100 per child or dependant).

In addition to concessional deductions, all taxpayers (residents and non-residents) are allowed a deduction from income of rates and taxes on land which are annually assessed, gifts to charitable, benevolent or patriotic funds and one-third of amounts paid as calls to certain mining, forestry and oil-prospecting companies. Resident taxpayers only are allowed a deduction from income of the full amount paid as calls and as application and allotment moneys to certain companies engaged in the search for oil in Australia and New Guinea.

5. **Effective Exemption from Tax.**—For the financial years 1950–51 to 1961–62, resident taxpayers without dependants were exempt from Income Tax and Social Services Contribution if their income did not exceed £104. The effect of the deductions for dependants was to exempt taxpayers up to the incomes shown hereunder.

#### RESIDENT TAXPAYERS: EFFECTIVE EXEMPTIONS FROM TAX.

(£.)

Taxpayer with—	Income Tax and Social Services Contribution— Financial Years 1950–51 to 1952–53.	Income Tax and Social Services Contribution— Financial Years 1953–54 to 1956–57.	Income Tax and Social Services Contribution— Financial Years 1957–58 to 1961–62.
No dependants .. .. .	104	104	104
Wife .. .. .	208	234	247
Wife and one child .. .. .	286	312	338
„ „ two children .. .. .	338	364	403
„ „ three children .. .. .	390	416	468
„ „ four children .. .. .	442	468	533

For the 1961–62 financial year, an aged person (i.e., a man who has attained the age of 65 years or a woman who has attained the age of 60 years) is exempt from Income Tax and Social Services Contribution if his net income (i.e., gross income less expenses of earning that income) does not exceed £455. A married couple both of whom qualify by age for the concession, are exempt from tax if their combined net incomes do not exceed £1,293.

6. **Rates of Income Tax and Social Services Contribution on Individuals.**—The following table shows the rates of income tax and social services contribution for the financial years 1953–54 to 1961–62.

**INCOME TAX AND SOCIAL SERVICES CONTRIBUTION—INDIVIDUALS: RATES  
OF INCOME TAX AND SOCIAL SERVICES CONTRIBUTION—1953-54 TO 1961-62.**

Total Taxable Income.		1953-54.		1954-55 to 1961-62.(a)	
Column 1.	Column 2.	Tax and Contribution on Amount in Column 1.		Tax and Contribution on Amount in Column 1.	
Exceeding—	Not Exceeding—				
£	£	£	s. d.	£	s. d.
Nil	100	Nil		Nil	
100	150	0	8 4	0	8 4
150	200	1	5 0	1	0 10
200	250	3	2 6	2	10 0
250	300	5	16 8	4	15 10
300	400	9	7 6	7	18 4
400	500	18	10 10	16	5 0
500	600	30	4 2	27	1 8
600	700	43	19 2	39	11 8
700	800	59	15 10	53	15 0
800	900	77	5 10	69	11 8
900	1,000	96	9 2	87	1 8
1,000	1,200	117	5 10	106	5 0
1,200	1,400	163	19 2	149	11 8
1,400	1,600	217	5 10	198	15 0
1,600	1,800	276	9 2	252	18 4
1,800	2,000	341	9 2	312	1 8
2,000	2,400	412	5 10	376	5 0
2,400	2,800	567	5 10	517	18 4
2,800	3,200	733	19 2	671	5 0
3,200	3,600	912	5 10	836	5 0
3,600	4,000	1,102	5 10	1,011	5 0
4,000	4,400	1,303	19 2	1,196	5 0
4,400	5,000	1,517	5 10	1,391	5 0
5,000	6,000	1,857	5 10	1,701	5 0
6,000	8,000	2,457	5 10	2,251	5 0
8,000	10,000	3,715	12 6	3,409	11 8
10,000	16,000	5,032	5 10	4,617	18 4
16,000	upwards	9,157	5 10	8,417	18 4

(a) For the 1959-60 and 1961-62 financial years provision was made for a rebate to reduce by 5 per cent. the income tax and social services contribution otherwise payable.

For primary producers, the rate of Income Tax and Social Services Contribution for the current year is determined by the average of the taxable incomes for the five years up to and including the current year. A taxpayer may elect not to have these averaging provisions applied to his assessment, but the election, once made, is irrevocable. The application of the averaging provisions is limited to that part of the taxable income which does not exceed £4,000, and when the taxable income exceeds £4,000, the balance is taxed at the ordinary rates applicable to that part. When the taxable income is less than £4,000, the rate of tax for averaging purposes is limited to the rate on a taxable income of £4,000.

Commencing with 1953-54, the taxable income, including any abnormal receipts, of actors, artists, composers and inventors, is taxed at the rate appropriate to the normal taxable income plus one-third of the abnormal receipts.

Interest on Commonwealth Loans issued prior to 1st January, 1940, is subject to the condition that it shall not be taxed at rates higher than those for 1930-31. Interest on Commonwealth Loans issued after 1st January, 1940, and interest on certain State semi-governmental loans issued free of State income tax are subject to a rebate of 2s. for each £1 included in the taxable income.

The minimum amount of Income Tax and Social Services Contribution payable is 10s. and the amounts payable and rebates are calculated to the nearest shilling.

7. **The Income Tax (International Agreements) Act 1953.**—This Act provided for relief from double taxation of incomes flowing between Australia and the United States of America. It also provided similar relief in respect of the United Kingdom, which had been covered by the Income Tax Assessment Act since 1947.

8. **Taxes on Specified Incomes.**—The following table shows the Income Tax and Social Services Contribution payable by taxpayers, with various incomes and numbers of dependants, on income derived in each year from 1954–55 to 1961–62.

**COMMONWEALTH TAXES ON INCOME.**  
(£.)

Income.	Income Tax and Social Services Contribution.				
	1954–55 to 1956–57 Financial Years.	1957–58 and 1958–59 Financial Years.	1959–60 Financial Year.(a)	1960–61 Financial Year.	1961–62 Financial Year.(a)

**INCOME FROM PERSONAL EXERTION.—TAXPAYER WITH NO DEPENDANTS.**

150	..	..	..	1.05	1.05	1.00	1.05	1.00
200	..	..	..	2.50	2.50	2.40	2.50	2.40
250	..	..	..	4.80	4.80	4.55	4.80	4.55
300	..	..	..	7.90	7.90	7.50	7.90	7.50
350	..	..	..	12.10	12.10	11.50	12.10	11.50
400	..	..	..	16.25	16.25	15.45	16.25	15.45
500	..	..	..	27.10	27.10	25.75	27.10	25.75
600	..	..	..	39.60	39.60	37.60	39.60	37.60
800	..	..	..	69.60	69.60	66.10	69.60	66.10
1,000	..	..	..	106.25	106.25	100.95	106.25	100.95
1,500	..	..	..	225.85	225.85	214.55	225.85	214.55
2,000	..	..	..	376.25	376.25	357.45	376.25	357.45
3,000	..	..	..	753.75	753.75	716.05	753.75	716.05
5,000	..	..	..	1,701.25	1,701.25	1,616.20	1,701.25	1,616.20

**INCOME FROM PERSONAL EXERTION.—TAXPAYER WITH DEPENDENT WIFE.**

150	..	..	..	..	..	..	..	..
200	..	..	..	..	..	..	..	..
250	..	..	..	0.65	0.50	0.50	0.50	0.50
300	..	..	..	1.60	1.25	1.20	1.25	1.20
350	..	..	..	3.60	2.80	2.65	2.80	2.65
400	..	..	..	6.05	5.25	5.00	5.25	5.00
500	..	..	..	13.75	12.65	12.00	12.65	12.00
600	..	..	..	23.85	22.40	21.30	22.40	21.30
800	..	..	..	49.50	47.65	45.25	47.65	45.25
1,000	..	..	..	81.85	79.55	75.55	79.55	75.55
1,500	..	..	..	191.35	188.20	178.80	188.20	178.80
2,000	..	..	..	334.55	330.35	313.85	330.35	313.85
3,000	..	..	..	700.10	694.75	660.00	694.75	660.00
5,000	..	..	..	1,634.10	1,627.35	1,546.00	1,627.35	1,546.00

(a) Provision was made for a rebate to reduce by 5 per cent. the amount of income tax and social services contribution otherwise payable.

COMMONWEALTH TAXES ON INCOME—*continued.*  
(£.)

Income.	Income Tax and Social Services Contribution.				
	1954-55 to 1956-57 Financial Years.	1957-58 and 1958-59 Financial Years.	1959-60 Financial Year.(a)	1960-61 Financial Year.	1961-62 Financial Year.(a)
<b>INCOME FROM PERSONAL EXERTION.—TAXPAYER WITH DEPENDENT WIFE AND ONE CHILD.</b>					
150 .. .. .	..	..	..	..	..
200 .. .. .	..	..	..	..	..
250 .. .. .	..	..	..	..	..
300 .. .. .	..	..	..	..	..
350 .. .. .	0.95	0.60	0.55	0.60	0.55
400 .. .. .	2.25	1.50	1.45	1.50	1.45
500 .. .. .	7.40	5.80	5.50	5.80	5.50
600 .. .. .	15.60	13.40	12.75	13.40	12.75
800 .. .. .	38.60	35.35	33.60	35.35	33.60
1,000 .. .. .	68.30	64.20	61.00	64.20	61.00
1,500 .. .. .	172.20	165.80	157.50	165.80	157.50
2,000 .. .. .	309.70	302.00	286.90	302.00	286.90
3,000 .. .. .	668.20	658.20	625.30	658.20	625.30
5,000 .. .. .	1,593.80	1,580.35	1,501.35	1,580.35	1,501.35
<b>INCOME FROM PERSONAL EXERTION.—TAXPAYER WITH DEPENDENT WIFE AND TWO CHILDREN.</b>					
150 .. .. .	..	..	..	..	..
200 .. .. .	..	..	..	..	..
250 .. .. .	..	..	..	..	..
300 .. .. .	..	..	..	..	..
350 .. .. .	..	..	..	..	..
400 .. .. .	0.90	..	..	..	..
500 .. .. .	4.35	2.55	2.40	2.55	2.40
600 .. .. .	11.25	8.00	7.60	8.00	7.60
800 .. .. .	32.10	27.20	25.85	27.20	25.85
1,000 .. .. .	60.10	53.90	51.20	53.90	51.20
1,500 .. .. .	159.40	149.85	142.35	149.85	142.35
2,000 .. .. .	294.35	282.80	268.65	282.80	268.65
3,000 .. .. .	648.25	633.30	601.65	633.30	601.65
5,000 .. .. .	1,566.90	1,546.75	1,469.40	1,546.75	1,469.40
<b>INCOME FROM PROPERTY.—TAXPAYER WITH NO DEPENDANTS.</b>					
150 .. .. .	1.05	1.05	1.00	1.05	1.00
200 .. .. .	2.50	2.50	2.40	2.50	2.40
250 .. .. .	4.80	4.80	4.55	4.80	4.55
300 .. .. .	7.90	7.90	7.50	7.90	7.50
350 .. .. .	12.10	12.10	11.50	12.10	11.50
400 .. .. .	16.25	16.25	15.45	16.25	15.45
500 .. .. .	27.10	27.10	25.75	27.10	25.75
600 .. .. .	39.60	39.60	37.60	39.60	37.60
800 .. .. .	69.60	69.60	66.10	69.60	66.10
1,000 .. .. .	106.25	106.25	100.95	106.25	100.95
1,500 .. .. .	225.85	225.85	214.55	225.85	214.55
2,000 .. .. .	376.25	376.25	357.45	376.25	357.45
3,000 .. .. .	753.75	753.75	716.05	753.75	716.05
5,000 .. .. .	1,701.25	1,701.25	1,616.20	1,701.25	1,616.20

(a) Provision was made for a rebate to reduce by 5 per cent. the amount of income tax and social services contribution otherwise payable.

9. *Pay-as-you-earn.*—(i) *Salary and Wage Earners.* Salary and wage earners are subject to instalment deductions for payment of tax at current rates out of weekly (or fortnightly) earnings. Employers are required to deduct tax and contribution from each payment of wages or salary to an employee at the appropriate rate, in accordance with a prescribed instalment scale. This scale shows the amount to be deducted according to the income and number of dependants of the employee.

Under the group scheme of deduction, which covers most employers of more than ten persons, the amount deducted is remitted to the Taxation Department, and after 30th June each year each employee is given a group certificate by his employer showing the amount of deductions made during the year. This certificate is forwarded to the Taxation Department with the employee's return of income for the year. If the tax assessed on the basis of this return is less than the amount shown on the group certificate, a refund is forwarded to the employee with his assessment. If the tax assessed is greater than the amount shown on the group certificate, the employee is required to pay the balance.

Under the stamp scheme used by small employers, a stamp deduction sheet in two parts is used. Each four weeks, the employer purchases stamps (also in two parts) for the amount of the deductions made each pay day and sticks one part on each half of the sheet. At the end of the year, the employer gives the employee one half of the sheet and sends the other half to the Taxation Department. The employee's half is then used in the same way as a group certificate.

(ii) *Taxpayers with Income other than Salary and Wages.* These taxpayers pay provisional tax in respect of income other than salary and wages. Collection of tax and contribution for the current year are made at the same time as collection and assessment for the previous year are adjusted. The notice of assessment shows an amount of provisional tax and contribution for the current year. This provisional amount is an approximation to the tax and contribution which will be payable after the return of income for the current year has been lodged. It is ascertained by assuming that the income of the current year will be the same as that for the previous year (for which a return has already been lodged), but the rates for the current year are applied to the income and not the rates for the year in which it was derived. The assessment notice shows the provisional tax and contribution paid in the previous year as a credit against the tax and contribution assessed on the basis of the return for that year. On receipt of his assessment, the taxpayer may elect to substitute his own estimate of income for the current year and pay tax on the basis of this estimate. To protect the revenue, a penalty is imposed if the taxpayer elects to pay provisional tax on an estimate of income more than 20 per cent. lower than the income of the previous year and he underestimates his income by more than 20 per cent.

An employee with income of £100 or more from sources other than salaries or wages is required to pay provisional tax in respect of that income.

10. *Lodgment of Returns and Assessment of Tax.*—All persons with assessable income in excess of £104 are required to lodge returns by 31st July each year (31st August for business incomes). The Income Tax and Social Services Contribution payable is assessed, and assessment notices showing the amounts payable are issued during the year following the year of income (in most cases from September to June following the lodgment of the return). The approximate amount payable, however, has already been collected during the income year—from employees by deductions from wages and from non-employees by a provisional tax. The amount shown on the assessment notice is therefore adjusted against the amount already paid and any difference either collected or refunded.

11. *Company Income Taxes.*—(i) *General.* For taxation purposes, companies are divided into two main groups—public and private. A private company is defined as a company in which all the issued shares are held by not more than twenty persons or which is capable of being controlled by not more than seven persons, and which is not a company in which the public is substantially interested or a subsidiary of a public company. All other companies are regarded as public companies. Both public and private companies pay primary Income Tax and Social Services Contribution assessed on a taxable income ascertained on the same principles as for individuals.

Dividends received are assessable income, but resident companies receive a rebate at the average rate on the amount of dividends included in the taxable income. This rebate is not allowed to non-resident companies.

(ii) *Rates of Tax.* The rates of Primary Tax, in the case of public companies, and Primary and Additional Tax for private companies, for the financial years 1956-57 to 1961-62 are shown in the table below.

Super Tax and Undistributed Income Tax ceased to be levied on public companies in the 1951-52 financial year and Additional Income Tax and Social Services Contribution ceased in the 1953-54 financial year. For details, see Official Year Book No. 39, page 846 and No. 40, page 743.

**RATES OF TAX: COMPANIES, 1956-57 TO 1961-62 FINANCIAL YEARS.**

(Pence per £.)

Type of Company.	Rate of Income Tax and Social Services Contribution—						Rate of Additional Tax on Undistributed Income.
	1956-57.		1957-58 to 1959-60.		1960-61 and 1961-62.		1953-54 to 1961-62.
	Up to £5,000.	On Remainder of Taxable Income.	Up to £5,000.	On Remainder of Taxable Income.	Up to £5,000.	On Remainder of Taxable Income.	Undistributed Amount—Additional Tax.
Private .. .. .	60	84	54	78	60	84	120
Co-operative .. .. .	72	96	66	90	72	96	..
Non-Profit(a)—							
Friendly Society Dispensaries .. .. .	72	96	66	66	72	72	..
Other(b) .. .. .	72	96	66	90	72	96	..
Life Assurance—							
Mutual .. .. .	60	84	54	78	60	84	..
Other—							
(1) Mutual Income .. .. .	60	84	54	78	60	84	..
(2) Other Income(c) .. .. .	(d) 84	96	(d) 78	90	84	96	..
Other .. .. .	(d) 84	96	(d) 78	90	84	96	..
Interest paid to a Non-Resident(e) .. .. .	96	96	90	90	96	96	..

(a) Incomes not exceeding £104 are exempt from tax. (b) Where the taxable income does not exceed £228 (1956-57) or £231 (1957-58 to 1959-60) or £260 (1960-61 and 1961-62) the tax may not exceed eleven-twentieths (1956-57) or one-half (1957-58 to 1961-62) of the amount by which the taxable income exceeds £104. (c) The rate of 84d. (1956-57, 1960-61 and 1961-62) or 78d. (1957-58 to 1959-60) is levied on the amount of £5,000 less the mutual income. (d) For non-resident companies dividends included in this part of taxable income are taxed at 72d. (1956-57, 1960-61 and 1961-62) and 66d. per £1 (1957-58 to 1959-60). (A resident company is allowed a rebate of tax in respect of dividends received.) (e) If the non-resident is not a company, tax is paid only on income in excess of £104.

A private company incurs liability for additional tax on its undistributed income if it fails to make a sufficient distribution of income within a specified period after the close of the year of income. The tax is levied on the undistributed amount which, for practical purposes, is the taxable income less—

- (a) Primary income tax and social services contribution payable;
- (b) Retention allowance (i.e., the proportion of the reduced distributable income which a company may retain without incurring liability for undistributed income tax); and
- (c) Certain dividends paid by the company.

For the financial years 1953-54 to 1958-59, the retention allowance was the following proportion of the reduced distributable income:—

- On the first £1,000 or part, 50 per cent.
- On the next £1,000 or part, 40 per cent.
- On the next £1,000 or part, 35 per cent.
- On the next £1,000 or part, 30 per cent.
- On the balance, 25 per cent., and
- Ten per cent. of distributable income from property, except dividends from other private companies.

For 1959-60 to 1961-62, the minimum retention allowance in relation to business profits has been increased to 35 per cent. The new rates are as follows:—

- On the first £1,000 or part, 50 per cent.
- On the next £1,000 or part, 40 per cent.
- On the balance, 35 per cent.

The retention allowance in respect of distributable income from property, except dividends from other private companies, is unchanged at 10 per cent.

For the financial years 1953-54 to 1961-62, the reduced distributable income is calculated by deducting from the taxable income the primary tax payable and the amount of all property income included in taxable income. The additional tax on undistributed income was imposed at a flat rate of 10s. in the £1 on the undistributed amount.

12. Yield of Income Taxes.—(i) *Collections from Income Taxes.* The following table shows the collections of taxes imposed on income for the years 1956-57 to 1960-61.

**INCOME TAX COLLECTIONS.**  
(£'000.)

Year.	Total.		
	Commonwealth.(a)	State.(b)	Total.
1956-57 .. .. .	620,298	23	620,321
1957-58 .. .. .	650,419	33	650,452
1958-59 .. .. .	608,660	15	608,675
1959-60 .. .. .	671,294	8	671,302
1960-61 .. .. .	807,266	7	807,273

(a) Includes Social Services Contribution, War Time (Company) Tax, Super Tax, Undistributed Profits Tax and Wool Deduction. (b) Amounts shown are arrears of State income taxes existing prior to the introduction of the uniform tax arrangement.

(ii) *Commonwealth Income Tax Assessed.* The amounts of Commonwealth Taxes assessed on the income of recent years are shown in the following table. The amounts are shown under the year in which most of the assessments were made, i.e., the year following the income year. Income taxes assessed on income for past years and for the years shown after the close of the normal assessing period, are not included.

**COMMONWEALTH INCOME TAXES ASSESSED.**  
(£'000.)

Tax.	1955-56.	1956-57.	1957-58.	1958-59.	1959-60.
<b>Individuals—</b>					
Income Tax and Social Services Contribution .. .. .	(a)324,448	346,355	390,596	355,064	378,219
<b>Companies—</b>					
Income Tax .. .. .	174,997	210,664	212,707	214,683	231,610
Additional Tax on Undistributed Income of Private Companies .. .. .	3,654	2,951	2,512	1,835	1,274
<b>Total .. .. .</b>	<b>503,099</b>	<b>559,970</b>	<b>605,815</b>	<b>571,582</b>	<b>611,103</b>

(a) Includes assessments issued to 30th June, 1959.



(iii) *Commonwealth Income Tax and Social Services Contribution, 1959-60 Assessment Year.* The following tables show, for the 1959-60 assessment year, details of the number of taxpayers, income, and net income tax and social services contribution assessed for individuals and resident and non-resident companies. For further information of this nature, see the annual bulletin *Finance, Part II.—Commonwealth Taxation* (No. 51) issued by this Bureau.

**COMMONWEALTH INCOME TAX AND SOCIAL SERVICES CONTRIBUTION: 1959-60 ASSESSMENT(a)—NUMBER OF TAXPAYERS, ACTUAL INCOME(b), TAXABLE INCOME(c) AND NET INCOME TAX AND SOCIAL SERVICES CONTRIBUTION ASSESSED—INDIVIDUALS.**

(Incomes derived in the year 1958-59.)

Grade of Actual Income(b) and State or Territory of Assessment.	Number of Taxpayers.			Actual Income. (b)	Taxable Income. (c)			Net Income Tax and Social Services Contribution Assessed.
	Males.	Females.	Total.	Total.	Salary and Wages.	Other Income.	Total.	
£            £	No.	No.	No.	£'000.	£'000.	£'000.	£'000.	£'000.
105- 199 ..	54,784	103,002	157,786	24,391	19,287	3,968	23,255	194
200- 299 ..	64,782	120,287	185,069	46,443	34,744	8,154	42,898	786
300- 399 ..	88,296	137,196	225,492	79,081	59,133	12,328	71,461	2,209
400- 499 ..	100,029	150,616	250,645	112,683	81,410	18,564	99,974	4,245
500- 599 ..	110,929	185,260	296,189	163,266	119,797	23,724	143,521	7,774
600- 699 ..	127,191	170,179	297,370	192,863	138,340	27,439	165,779	10,500
700- 799 ..	194,071	109,667	303,738	228,321	154,780	30,985	185,765	13,066
800- 899 ..	309,472	67,495	376,967	320,733	215,286	33,646	248,932	18,902
900- 999 ..	356,294	39,072	395,366	375,236	248,629	34,649	283,278	23,259
1,000-1,099 ..	321,740	24,993	346,733	363,182	231,540	35,363	266,903	23,456
1,100-1,199 ..	249,073	17,153	266,226	305,331	191,940	33,295	225,235	21,424
1,200-1,299 ..	186,432	12,190	198,622	247,648	150,309	31,848	182,157	18,526
1,300-1,399 ..	140,387	9,593	149,980	201,849	118,906	29,761	148,667	16,100
1,400-1,499 ..	103,238	7,239	110,477	159,892	91,177	27,507	118,684	13,701
1,500-1,999 ..	243,251	21,762	265,013	449,384	230,370	111,324	341,694	45,733
2,000-2,999 ..	113,251	14,734	127,985	127,985	109,334	134,037	243,371	43,667
3,000-3,999 ..	33,214	5,153	38,367	131,329	33,856	76,727	110,583	26,194
4,000-4,999 ..	15,063	2,234	17,297	76,736	17,054	49,078	66,132	18,706
5,000-9,999 ..	17,118	2,551	19,669	128,173	25,442	88,544	113,986	41,973
10,000-14,999 ..	2,131	356	2,487	29,638	5,677	21,246	26,923	12,721
15,000 and over	965	172	1,137	27,153	4,071	20,518	24,589	13,740
<b>Total Residents</b>	<b>2,831,711</b>	<b>1,200,904</b>	<b>4,032,615</b>	<b>3,967,218</b>	<b>2,281,082</b>	<b>852,705</b>	<b>3,133,787</b>	<b>376,876</b>
Central Office ..	8,128	5,613	13,741	37,695	7,270	25,161	32,431	10,410
New South Wales	1,057,074	458,110	1,515,184	1,514,897	912,625	287,142	1,199,767	143,456
Victoria ..	801,699	371,665	1,173,364	1,155,605	679,385	246,713	926,098	113,232
Queensland ..	395,051	143,441	538,492	510,810	262,758	128,135	390,893	44,853
South Australia	263,729	108,063	371,792	350,838	195,219	81,917	277,136	30,908
Western Australia	193,511	72,202	265,713	248,036	135,013	57,905	192,918	21,207
Tasmania ..	91,707	34,165	125,872	116,434	68,072	21,634	89,706	9,601
Nor. Territory ..	5,918	1,593	7,511	9,258	4,885	1,090	5,975	697
Aust. Cap. Ter.	14,894	6,052	20,946	23,645	15,855	3,008	18,863	2,512
<b>Total Residents</b>	<b>2,831,711</b>	<b>1,200,904</b>	<b>4,032,615</b>	<b>3,967,218</b>	<b>2,281,082</b>	<b>852,705</b>	<b>3,133,787</b>	<b>376,876</b>
<b>Total Non-residents</b> ..	<b>2,707</b>	<b>2,540</b>	<b>5,247</b>	<b>6,671</b>	<b>829</b>	<b>5,387</b>	<b>6,216</b>	<b>1,343</b>
<b>Grand Total</b>	<b>2,834,418</b>	<b>1,203,444</b>	<b>4,037,862</b>	<b>3,973,889</b>	<b>2,281,911</b>	<b>858,092</b>	<b>3,140,003</b>	<b>378,219</b>

(a) Assessments in respect of 1958-59 incomes issued to 30th September, 1960. Assessments issued after that date are not included. (b) Actual income is defined briefly as "Gross income including exempt income less expenses incurred in gaining that income". (c) Taxable income is the income remaining after deducting from assessable income all allowable deductions.

COMMONWEALTH INCOME TAX AND SOCIAL SERVICES CONTRIBUTION,  
1959-60 ASSESSMENT(a)—NUMBER OF TAXPAYERS, ACTUAL INCOME(b),  
TAXABLE INCOME(c) AND NET TAX ASSESSED—RESIDENT AND NON-  
RESIDENT COMPANIES.

(Income derived in the year 1958-59.)

Grade of Taxable Income(c) and State or Territory of Assessment.		Number of Taxpayers.	Actual Income.(b)	Taxable Income.(c)	Net Tax Assessed.(d)
£	£	No.	£'000.	£'000.	£'000.
1-	999	13,833	12,442	4,785	1,074
1,000-	4,999	15,829	46,095	42,165	9,178
5,000-	9,999	6,299	45,820	43,543	10,552
10,000-	19,999	3,559	53,914	49,713	13,341
20,000-	49,999	2,543	81,421	79,093	22,906
50,000-	99,999	943	67,612	65,976	19,399
100,000-	199,999	584	84,031	81,891	24,651
200,000-	499,999	337	101,564	99,447	29,891
500,000-	999,999	103	73,786	70,895	21,373
1,000,000 and over		84	318,145	248,881	79,245
<i>Total</i>		<i>44,114</i>	<i>884,830</i>	<i>786,389</i>	<i>231,610</i>
Central Office		3,216	472,596	393,182	123,509
New South Wales		18,240	171,624	166,954	46,421
Victoria		12,493	127,160	123,545	32,415
Queensland		3,276	37,623	35,944	11,020
South Australia		3,917	35,390	34,704	9,228
Western Australia		1,564	25,220	17,120	5,216
Tasmania		838	10,250	10,118	2,947
Northern Territory		95	521	513	123
Australian Capital Territory		475	4,446	4,309	731
<i>Total</i>		<i>44,114</i>	<i>884,830</i>	<i>786,389</i>	<i>231,610</i>

(a) Assessments in respect of 1958-59 incomes issued to 31st December, 1960. Assessments issued after that date are not included. (b) Actual income is defined briefly as "Gross income including exempt income less expenses incurred in gaining that income". (c) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (d) Excludes additional tax levied on the undistributed income of Private Companies, £1,274,000.

(iv) *Commonwealth Income Tax on Residents—Grades of Income.* Individual income taxes assessed on residents are distributed according to grades of actual income in the following table. The year shown in each case refers to the year in which assessment was made, i.e., the year following the income year. The figures relate only to assessments made on the income of the previous year during the normal assessing period. Assessments issued after the normal assessing period are not included.

COMMONWEALTH INCOME TAXES AND SOCIAL SERVICE CONTRIBUTIONS  
ON RESIDENT INDIVIDUALS IN GRADES OF ACTUAL INCOME.(a)

Grade of Actual Income.		1956-57.		1957-58.		1958-59.		1959-60.	
		No. of Tax-payers.	Tax.	No. of Tax-payers.	Tax.	No. of Tax-payers.	Tax.	No. of Tax-payers.	Tax.
£	£	£'000.		£'000.		£'000.		£'000.	
105-199 ..		162,809	208	153,674	192	158,213	202	157,786	194
200-299 ..		206,419	911	191,438	828	188,743	827	185,069	786
300-399 ..		244,801	2,477	232,726	2,323	228,533	2,285	225,492	2,209
400-499 ..		273,853	4,822	262,023	4,540	256,931	4,427	250,645	4,245
500-599 ..		318,290	8,436	311,057	8,233	306,044	8,090	296,189	7,774
600-699 ..		303,339	10,570	295,767	10,376	295,996	10,366	297,370	10,500
700-799 ..		357,134	15,109	332,640	14,207	318,592	13,413	303,738	13,066
800-899 ..		395,107	20,164	396,438	20,317	388,292	18,856	376,967	18,902
900-999 ..		363,075	22,513	383,557	23,162	391,561	22,865	395,366	23,259
1,000-1,099 ..		290,610	21,376	313,847	22,607	327,691	22,593	346,733	23,456
1,100-1,199 ..		209,609	18,273	230,074	19,673	244,267	19,903	266,226	21,424
1,200-1,299 ..		151,068	15,327	167,944	16,777	177,799	16,857	198,622	18,526
1,300-1,399 ..		108,192	12,807	124,992	14,401	133,529	14,750	149,980	16,100
1,400-1,499 ..		76,105	10,365	89,650	11,874	94,540	12,148	110,477	13,701
1,500-1,999 ..		181,225	34,332	211,992	38,724	224,489	39,708	265,013	45,733
2,000-2,999 ..		95,565	35,939	113,643	40,897	109,571	38,476	127,985	43,667
3,000-3,999 ..		31,869	23,466	38,205	26,869	34,297	23,975	38,367	26,194
4,000-4,999 ..		14,879	17,166	18,037	20,084	15,512	17,199	17,297	18,706
5,000-9,999 ..		18,238	41,359	22,772	50,833	18,403	40,127	19,669	41,973
10,000-14,999 ..		2,586	13,491	3,643	19,101	2,553	13,114	2,487	12,721
15,000-29,999 ..		1,156	10,972	1,668	16,008	988	9,319	971	9,337
30,000-49,999 ..		145	2,765	215	4,227	130	2,522	123	2,384
50,000 and over		56	2,379	72	2,862	44	1,947	43	2,019
<b>Total ..</b>		<b>3,806,130</b>	<b>345,227</b>	<b>3,896,074</b>	<b>389,115</b>	<b>3,916,718</b>	<b>353,969</b>	<b>4,032,615</b>	<b>376,876</b>

(a) Actual income is defined briefly as "Gross Income including exempt income less expenses incurred in gaining that income".

## CHAPTER XXII.

## AGRICULTURAL PRODUCTION.

NOTE.—Values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b. port of shipment, except where otherwise indicated. The term "Short Ton" is used to denote a ton of 2,000 lb.

For greater detail on the subjects dealt with in this chapter, see the annual bulletins *Primary Industries, Part I.—Rural Industries* and *Part II.—Non-Rural Industries and Value of Production* published by this Bureau. For advance information on these subjects, the following mimeograph statistical bulletins should be consulted—*Rural Land Use and Crop Statistics* (annual), *Value of Production and Indexes of Price and Quantum of Farm Production* (annual), *Wheat Industry* (usually two per year), *Fruit Growing Industry* (annual), *Tractors on Rural Holdings* (annual), and *New Tractors: Receipts, Sales and Stocks* and *New Agricultural Machinery Statistics* (quarterly). The annual mimeograph *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia* contains details of the production, distribution and apparent consumption of foodstuffs obtained from the agricultural industry.

## § 1. Introductory.

In general, statistics in this chapter relating to agricultural production are derived from "census" returns supplied by approximately 250,000 farmers who utilize one acre or more of land for agricultural or pastoral purposes, and the latest figures available are those for the year 1960–61. The returns are collected on a substantially uniform basis in all States at 31st March, each year, and relate to areas sown and crops produced in the previous twelve months. Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed and in others for the inclusion of the total estimated yield expected from the complete harvest. In cases where additional data are available from marketing authorities or other sources, these are used in conjunction with the "census" returns. The statistics published in this chapter are therefore shown in "agricultural" years. For most purposes, there will be little error involved in considering them as applying to years ending on 30th June.

## § 2. Progress of Agriculture.

1. *Early Records.*—In an "Account of Live Stock and Ground under Crop in New South Wales, 19th August, 1797", Governor Hunter gives the acreage of crops as follows:—Wheat, 3,361 acres; maize, 1,527 acres; barley, 26 acres; potatoes, 11 acres; and vines, 8 acres.

The following details of crops were collected in 1808:—Wheat, 6,874 acres; maize, 3,389 acres; barley, 544 acres; oats, 92 acres; peas and beans, 100 acres; potatoes, 301 acres; turnips, 13 acres; orchards, 546 acres; and flax and hemp, 37 acres.

A brief reference to the attempts at cultivation by the first settlers in New South Wales and to the discovery of suitable agricultural land on the Parramatta and Hawkesbury Rivers prior to the year 1813 and west of the Blue Mountains thereafter is contained in early issues of the Official Year Book. (See No. 22, p. 670.)

By the year 1850, the area of crops had increased to 491,000 acres, of which 198,000 acres were cultivated in what is now the State of New South Wales, and 169,000 acres in Tasmania. At the end of 1850, the area under cultivation in Victoria, which was then the Port Phillip District of New South Wales, was 52,190 acres.

The gold discoveries of 1851 and subsequent years had at first a very disturbing effect on agricultural progress, the area of crops declining from 491,000 acres in 1850 to 458,000 acres in 1854. The demand for agricultural products occasioned by the large influx of population was, however, soon reflected in the increased area cultivated, for at the end of 1858 the land under crop in Australia exceeded a million acres.

2. **Progress of Cultivation.**—The following table shows the area of crops in each of the States and Territories of Australia at decennial intervals since 1860–61 and during each of the ten seasons 1951–52 to 1960–61. On page 911 there is a graph showing the area of crops in Australia from 1900–01 onward.

**AREA OF CROPS.**  
(’000 Acres.)

Season.	N.S.W.	Vic.	Q’land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1860–61 ..	246	387	4	359	25	153	..	..	1,174
1870–71 ..	385	693	52	802	55	157	..	..	2,144
1880–81 ..	606	1,549	114	2,087	64	141	..	..	4,561
1890–91 ..	853	2,032	225	2,093	70	157	..	..	5,430
1900–01 ..	2,447	3,114	458	2,370	201	224	..	..	8,814
1910–11 ..	3,386	3,952	667	2,747	855	287	..	..	11,894
1920–21 ..	4,465	4,490	780	3,231	1,805	297	..	2	15,070
1930–31 ..	6,811	6,716	1,144	5,426	4,792	268	2	5	25,164
1940–41 ..	6,375	4,467	1,734	4,255	4,027	254	..	6	21,118
1950–51 ..	4,761	4,537	2,077	3,812	4,650	290	(a)	6	20,133
1951–52 ..	4,704	4,505	2,023	3,825	4,693	291	(a)	6	20,047
1952–53 ..	4,837	4,500	2,423	3,780	4,817	303	(a)	6	20,666
1953–54 ..	5,425	4,737	2,361	4,034	4,633	330	(a)	7	21,527
1954–55 ..	5,394	4,704	2,593	4,229	5,112	301	1	5	22,339
1955–56 ..	5,660	4,812	2,604	4,220	5,342	327	1	7	22,973
1956–57 ..	3,789	3,904	2,469	4,273	5,233	288	1	5	19,962
1957–58 ..	5,000	4,431	2,600	4,233	5,615	292	1	5	22,177
1958–59 ..	6,820	5,040	2,852	4,436	6,135	339	1	8	25,631
1959–60 ..	7,137	4,815	2,926	4,400	6,495	322	1	7	26,103
1960–61 ..	8,044	5,838	3,057	5,399	6,871	357	2	8	29,576

(a) Not available.

The progress of agriculture was practically uninterrupted from 1860–61 to 1915–16, when, as the result of a special effort to raise wheat during the 1914–18 War, 18.5 million acres were cultivated in Australia. There was a temporary setback in later war years, but after the termination of hostilities the area continued to expand and rose steadily to the record area of 25.2 million acres in 1930–31. Thereafter, the slump in wheat prices seriously depressed the agricultural industry and the area of crops receded to just under 20 million acres in 1935–36.

By 1938–39, the industry had recovered from the depression and the total area under cultivation reached the high level of 23.5 million acres. Thereafter, as a result of war-time man-power shortages and shipping difficulties, the area declined to less than 16 million acres in 1943–44. After 1943–44, production gradually increased again until, in 1947–48, 22.3 million acres were sown to crops. This upward trend was reversed after 1948–49, largely because, as a result of the high prices of wool, many primary producers transferred from agricultural to pastoral production. Since 1951–52, when the area sown was 20.0 million acres, the area under wheat has increased steadily, except for 1956–57 when excessively wet conditions in the eastern States caused a drop in the area sown. Since that year, the area of crops has shown an upward trend in each year, reaching a record level of 29.6 million acres in 1960–61. As the area under wheat in Australia constitutes a large proportion of the total area cropped (45 per cent. during the five years ended 1960–61), fluctuations in the latter follow broadly the same pattern as changes in wheat areas.

3. **Area under Sown Pastures.**—In all States, there are considerable areas of grasses, mainly sown on land from which scrub has been cleared or on land which it is desired to rest from cultivation. These areas have expanded from about 5.3 million acres in 1929–30 to about 36.3 million acres in 1960–61.

4. **Australian Agricultural Council.**—Arising out of a conference of Commonwealth and State Ministers on agricultural and marketing matters, held at Canberra in December, 1934, a permanent organization known as the Australian Agricultural Council was formed. The Council consists of the Commonwealth Ministers for Primary Industry and Territories and the State Ministers of Agriculture, with power to co-opt the services of other Commonwealth and State Ministers as required. The principal functions of the Council are:— (i) the promotion of the welfare and development of agricultural industries generally; (ii) exchange of information on agricultural production and marketing; (iii) the improvement

of the quality of agricultural products and the maintenance of high grade standards; (iv) to ensure, as far as possible, balance between production and available markets; and (v) organized marketing, etc.

In addition, a permanent Standing Committee on Agriculture was formed to advise the Council, to secure co-operation and co-ordination in agricultural research, to advise State and Commonwealth Governments on the initiation and development of agricultural research, and to secure co-operation between all Governments in respect of quarantine measures against pests and diseases of plants and animals.

### § 3. Distribution, Production and Value of Crops.

1. Area of Crops in States and Territories.—The following table shows the areas in the several States, the Northern Territory and the Australian Capital Territory of each of the crops for the season 1960–61.

#### AREA OF CROPS, 1960-61. (Acres.)

Crop.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
<b>Cereals for Grain—</b>									
Barley—									
2 Row ..	119,352	293,475	200,508	1,471,644	71,923	} 15,330	..	..	2,829,786
6 Row ..	70,071	15,818	18,899	84,043	468,723		..	..	
Maize ..	49,269	2,985	132,382	(a)	6	..	..	..	(b) 184,642
Oats ..	917,516	834,920	18,613	512,165	1,329,804	23,350	..	529	3,636,897
Panicum, Millet and Setaria ..	529	1,231	51,695	..	..	..	..	..	53,455
Rice ..	46,117	(a)	..	..	(a)	..	(a)	..	(b) 46,117
Rye ..	4,311	22,895	265	46,028	10,158	1,122	..	..	84,779
Sorghum ..	41,145	..	213,761	..	108	..	95	..	255,109
Wheat ..	4,076,110	2,671,601	692,596	1,969,423	4,021,225	6,912	..	1,061	13,438,928
Hay ..	750,202	1,286,246	84,234	392,633	284,038	171,012	740	3,932	2,973,037
Green Fodder ..	1,691,408	430,920	874,702	743,538	606,039	59,563	144	1,247	4,407,561
Other Stock Fodder ..	5,450	33,900	9,711	27,853	4,490	22,929	35	..	104,368
<b>Grass Seed—</b>									
Lucerne ..	18,011	(a)	945	23,288	(c)	5	..	..	(b) 42,249
Clover ..	15,863	6,708	..	4,924	16,953	782	..	..	45,230
Other ..	12,805	22,698	8,054	8,496	5,840	4,352	..	655	62,900
<b>Industrial Crops—</b>									
Broom Millet ..	1,987	311	287	..	..	..	..	..	2,585
Canary Seed ..	930	..	18,708	(a)	..	..	..	..	(b) 19,638
Cotton ..	201	(a)	36,847	..	(a)	..	..	..	(b) 37,048
Flax—									
For Fibre ..	..	430	..	..	736	..	..	..	1,166
For Linseed ..	11,823	6,179	75,088	2,115	483	..	..	..	95,688
Hops ..	..	456	..	..	(a)	1,447	..	..	(b) 1,903
Peanuts ..	788	..	41,659	..	(a)	..	335	..	(b) 42,782
Sugar Cane—									
For Crushing ..	13,657	..	327,246	..	..	..	..	..	340,903
Other (excluding fodder) ..	11,953	..	122,278	..	..	..	..	..	134,231
Sunflower Seed ..	(a)	113	6,696	..	..	..	..	..	(b) 6,809
Tobacco ..	3,408	9,932	14,395	..	1,478	..	..	..	29,213
Other ..	..	456	220	(a)	..	324	..	..	(b) 1,000
<b>Vegetables for Human Consumption—</b>									
Onions ..	624	3,532	3,763	657	465	59	..	10	9,110
Potatoes ..	18,365	38,672	11,992	5,209	6,656	10,875	(d)	36	(b) 91,805
Other Vegetables ..	49,020	35,295	36,113	11,514	7,437	15,698	142	90	155,309
<b>Vineyards—</b>									
Bearing ..	15,557	42,688	2,782	52,914	7,850	..	} (a)	(a)	{ b 121,791
Not Bearing ..	1,431	1,961	328	3,983	1,014	..			
<b>Orchards and other Fruit Gardens—</b>									
Bearing ..	71,948	47,594	29,077	26,806	18,219	20,041	67	46	213,798
Not Bearing ..	21,014	23,821	11,990	10,905	5,694	2,153	53	9	75,639
<b>Nurseries and Cut Flowers ..</b>	801	2,320	312	220	308	91	..	8	4,060
<b>All other Crops ..</b>	1,934	1,634	11,176	165	1,839	1,020	6	9	17,783
<b>Total Area ..</b>	<b>8,043,600</b>	<b>5,838,791</b>	<b>3,057,322</b>	<b>5,398,523</b>	<b>6,871,486</b>	<b>357,065</b>	<b>1,617</b>	<b>7,632</b>	<b>29,576,036</b>

(a) Not available for publication. Included in "All other Crops", except in respect of rice in the Northern Territory, which is excluded from "Total Area". (b) Incomplete. See footnotes to individual States. (c) Not available for publication. Included with Other Grass Seed. (d) Not available for publication. Included with Other Vegetables.

2. **Relative Areas of Crops in States and Territories.**—The proportion of each of the major crops cultivated in the various States and Territories to the total area of crops for the season 1960-61 is shown in the next table.

**RELATIVE AREAS OF CROPS, 1960-61.**

(Per cent.)

Crop.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Wheat (Grain) ..	50.7	45.8	22.7	36.5	58.5	2.0	..	13.9	45.4
Green Fodder ..	21.0	7.4	28.6	13.8	8.8	16.8	8.9	16.3	14.9
Oats (Grain) ..	11.4	14.3	0.6	9.4	19.4	6.4	..	6.9	12.3
Barley (Grain) ..	2.3	5.3	7.2	28.8	7.9	4.2	..	..	9.6
Hay ..	9.3	22.0	2.7	7.3	4.1	47.9	45.8	51.5	10.0
Sugar Cane, Crushed ..	0.2	..	10.7	..	..	..	..	..	1.2
<b>Total Orchards and Fruit</b>									
Gardens ..	1.2	1.2	1.3	0.7	0.3	6.2	7.4	0.7	1.0
Sorghum ..	0.5	..	7.0	..	..	..	5.9	..	0.9
Maize (Grain) ..	0.6	0.1	4.3	(a)	(b)	..	..	..	0.6
<b>Total Vineyards</b> ..	0.2	0.8	0.1	1.1	0.1	..	..	(b)	0.4
Potatoes ..	0.2	0.7	0.4	0.1	0.1	3.1	(a)	4.7	0.3
All other ..	2.4	2.4	14.4	2.3	0.8	13.4	32.0	6.0	3.4
<b>Total ..</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Not available for publication. Included in "All other". (b) Less than 0.05 per cent.

3. **Area of Principal Crops in Australia.**—The area of the principal crops during each of the five seasons ended 1960-61 is shown hereunder.

**AREA OF PRINCIPAL CROPS: AUSTRALIA.**

('000 Acres.)

Crop.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Cereals for Grain—</b>					
Barley, 2 and 6 Row ..	2,093	2,121	2,381	2,379	2,830
Maize ..	182	184	180	185	185
Oats ..	2,556	2,959	3,974	3,030	3,637
Rice ..	50	47	47	49	46
Wheat ..	7,874	8,848	10,399	12,172	13,439
Hay ..	1,861	2,237	3,018	2,105	2,973
Green Fodder ..	3,246	3,746	3,578	4,094	4,408
<b>Industrial crops—</b>					
Cotton ..	11	10	10	20	37
Hops ..	2	2	2	2	2
Sugar Cane ..	499	506	511	487	475
Tobacco ..	12	13	15	20	29
<b>Vegetables for Human Consumption—</b>					
Onions ..	9	11	9	9	9
Potatoes ..	101	118	105	108	92
Other vegetables ..	172	164	153	147	155
Vineyards ..	132	131	131	130	131
Orchards ..	270	276	287	289	289
All other Crops ..	892	804	831	877	839
<b>Total ..</b>	<b>19,962</b>	<b>22,177</b>	<b>25,631</b>	<b>26,103</b>	<b>29,576</b>

4. **Size Classification of Principal Crops.**—A special series of tabulations relating to rural holdings in Australia was compiled for 1959-60 and will be published in full detail in a series of bulletins, *Classification of Rural Holdings by Size and Type of Activity, 1959-1960*. Tables in these bulletins will show a classification by area of holding and area of crop for wheat, oats and barley. Classifications of holdings according to major crops grown and livestock carried, and type of activity will also be shown.

5. **Weights and Measures.**—Details of the weights and measures used in recording production of agricultural commodities appear in the introduction to the bulletin *Primary Industries—Part I.—Rural Industries*.

6. **Production of Crops in States and Territories.**—The following table shows production of crops in the various States and Territories for the season 1960-61.

PRODUCTION OF CROPS, 1960-61.

Crop.	Unit of Quantity.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Cereals for Grain—</b>										
Barley—										
2 Row .. ..	'000 bus.	2,947	7,391	4,014	40,163	1,175	} 344	..	..	67,970
6 Row .. ..	" "	1,839	327	379	2,070	7,321				
Maize .. ..	" "	2,227	171	3,847	(a)	(b)	..	..	(c)	6,245
Oats .. ..	" "	21,466	20,666	285	11,478	21,810	391	..	11	76,107
Panicum, Millet and Setaria	" "	8	21	773	..	(a)	..	..	..	802
Rice .. ..	" "	6,001	..	..	..	..	..	(a)	..	(c) 6,001
Rye .. ..	" "	62	188	4	264	70	16	..	..	604
Sorghum .. ..	" "	577	..	5,418	(b)	..	..	1	..	5,996
Wheat .. ..	" "	84,657	67,587	10,999	46,395	63,900	148	..	30	273,716
Hay .. ..	" tons	1,243	2,338	167	616	380	326	1	8	5,079
<b>Grass Seed—</b>										
Lucerne .. ..	cwt.	13,425	(a)	363	20,936	(a)	..	..	..	(c) 34,724
Clover .. ..	" "	35,381	9,874	..	5,838	34,637	472	..	..	86,202
Other .. ..	" "	9,188	29,460	10,660	7,943	11,108	7,500	..	335	76,194
<b>Industrial Crops—</b>										
<b>Broom Millet—</b>										
Fibre .. ..	cwt.	12,288	1,338	1,262	..	..	..	..	..	14,888
Grain .. ..	bus.	10,884	606	(d)	..	..	..	..	..	(c) 11,490
Canary Seed .. ..	'000 bus.	4	..	129	(a)	..	..	..	..	(c) 133
Cotton, Unginned	'000 lb.	112	(a)	15,432	..	(a)	..	..	..	(c) 15,544
<b>Flax—</b>										
Straw .. ..	ton	..	592	..	..	1,176	..	..	..	1,768
Linseed .. ..	" "	1,870	1,013	10,394	218	69	..	..	..	13,564
Hops (Dry Weight)	cwt.	..	7,928	..	..	(a)	25,171	..	..	(c) 33,099
Peanuts .. ..	" "	9,578	..	446,215	..	(a)	..	1,215	..	(c) 457,008
Sugar Cane for Crushing..	'000 tons	480	..	8,686	..	..	..	..	..	9,166
Sunflower Seed .. ..	cwt.	(a)	733	38,954	..	..	..	..	..	(c) 39,687
Tobacco, Dried Leaf ..	'000 lb.	3,538	9,728	15,308	..	(c) 1,288	..	..	..	(e) 29,862
<b>Vegetables for Human Consumption—</b>										
Onions .. ..	ton	3,935	16,286	21,156	5,947	5,826	285	..	80	53,515
Potatoes .. ..	" "	85,182	180,819	59,311	40,797	45,500	39,050	(a)	37	(c) 450,696
<b>Vineyards—</b>										
<b>Grapes—</b>										
For Drying .. ..	" "	42,236	229,633	..	44,952	8,140	..	} (a)	(a)	(c) 324,961
Table .. ..	" "	5,570	7,120	3,277	1,067	2,272	..			(c) 19,306
Wine .. ..	" "	25,535	14,097	178	137,694	4,755	..			(c) 182,259

(a) Not available for publication. (b) Less than 500 bushels. (c) Incomplete; see footnotes to individual States. (d) Not available. (e) Includes 655,000 lbs. of unsold leaf.

7. **Production of Principal Crops in Australia.**—The following table shows the production of the principal crops for the five years ended 1960-61.



## PRODUCTION OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Cereals for Grain—</b>						
Barley, 2 and 6 Row ..	'000 bus.	49,279	30,466	62,976	34,079	67,970
Maize .. .. .	" "	5,494	5,639	6,717	6,725	6,245
Oats .. .. .	" "	35,396	31,426	86,905	46,841	76,107
Rice(a) .. .. .	" "	4,262	5,658	6,619	6,732	6,001
Wheat .. .. .	" "	134,455	97,566	215,121	198,501	273,716
Hay .. .. .	" tons	3,043	2,969	5,090	3,177	5,079
<b>Industrial Crops—</b>						
Cotton, Unginned ..	" lb.	3,809	3,390	4,004	9,463	15,544
Hops (dry weight)(b) ..	" cwt.	25,230	32,710	36,499	31,790	33,099
Sugar Cane for Crushing ..	'000 tons.	9,272	9,249	10,213	9,002	9,166
Tobacco (Dried leaf) ..	" lb.	8,709	11,567	13,970	19,357	29,862
<b>Vegetables for Human Consumption—</b>						
Onions .. .. .	" tons	54	72	55	57	54
Potatoes .. .. .	" "	519	575	575	579	451
<b>Vineyards—</b>						
Grapes .. .. .	" "	495	550	537	445	527
Wine made(c) .. .. .	" gals.	30,743	33,854	32,538	28,396	33,793
Dried Vine Fruits .. .. .	" tons	80	91	87	70	82

(a) Incomplete, excludes Northern Territory. (b) Excludes Western Australia. (c) Net factory and farm production of beverage and distillation wine. This excludes the liquid gallonage of spirits added in wine fortifying.

8. Yield per Acre of Principal Crops in Australia.—The following table shows for Australia the yield per acre of the principal crops for the five years ended 1960-61.

## YIELD PER ACRE OF PRINCIPAL CROPS : AUSTRALIA.

Crop.	Unit of Quantity.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Cereals for Grain—</b>						
Barley, 2 and 6 Row ..	bushel	23.5	14.4	26.5	14.3	24.0
Maize .. .. .	" "	30.3	30.6	37.4	36.4	33.8
Oats .. .. .	" "	13.8	10.6	21.9	15.5	20.9
Rice(a) .. .. .	" "	84.4	121.0	140.7	137.5	130.1
Wheat .. .. .	" "	17.1	11.0	20.7	16.3	20.4
Hay .. .. .	" ton	1.63	1.33	1.69	1.51	1.71
<b>Industrial Crops—</b>						
Cotton, Unginned ..	lb.	336	327	382	468	420
Hops (dry weight)(b) ..	cwt.	13.97	17.73	19.52	16.71	16.55
Sugar Cane for Crushing(b)	ton	25.05	24.62	27.63	28.67	26.89
Tobacco (Dried leaf) ..	lb.	716	876	922	970	1,030
<b>Vegetables for Human Consumption—</b>						
Onions .. .. .	ton	5.78	6.36	6.22	6.10	5.90
Potatoes .. .. .	" "	5.14	4.88	5.49	5.34	4.91
<b>Vineyards—</b>						
Grapes(b) .. .. .	" "	3.98	4.42	4.33	3.62	4.35

(a) Excludes Northern Territory. (b) Per acre of productive crops.

9. Gross Value of Principal Crops in Australia.—The following table shows the gross value of principal crops at the principal markets in Australia for the five years ended 1960-61.

GROSS VALUE<sup>(a)</sup> OF PRINCIPAL CROPS : AUSTRALIA.

(£'000.)

Crop.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Cereals for Grain—</b>					
Barley .. .. .	24,896	17,555	33,304	16,623	31,072
Maize .. .. .	3,732	4,995	4,629	4,029	5,264
Oats .. .. .	12,239	15,951	30,964	18,396	25,535
Rice <sup>(b)</sup> .. .. .	3,069	4,045	4,731	4,450	4,125
Wheat .. .. .	92,647	66,892	144,087	(c) 137,762	(c) 195,678
Hay .. .. .	30,524	39,277	46,503	34,433	50,181
Green Fodder <sup>(d)</sup> .. .. .	5,897	8,571	6,966	7,572	9,647
<b>Industrial Crops—</b>					
Cotton Unginned .. .. .	224	213	249	556	917
Hops <sup>(d)</sup> .. .. .	857	1,137	1,273	1,159	1,179
Sugar-cane .. .. .	40,718	47,346	47,276	44,774	50,580
Tobacco (Dried leaf) .. .. .	4,503	6,202	7,920	11,215	13,051
<b>Vegetables for Human Consumption—</b>					
Onions .. .. .	2,516	1,274	1,920	2,841	1,833
Potatoes .. .. .	17,955	9,969	13,109	13,460	19,365
Other vegetables for human consumption .. .. .	30,190	25,359	25,243	26,611	29,718
Grapes .. .. .	15,406	18,337	18,496	14,698	17,868
Fruit and Nuts .. .. .	49,898	59,150	54,025	51,763	59,773
All other Crops .. .. .	16,877	14,573	19,197	20,012	19,895
<b>Total Gross Value .. .. .</b>	<b>352,148</b>	<b>340,846</b>	<b>459,892</b>	<b>410,354</b>	<b>535,681</b>

(a) Includes amounts paid as bounty, relief, etc.

(b) Incomplete, excludes Northern Territory.

(c) Includes payments by the Commonwealth Government of £3,022,000 in 1959-60 and £8,884,000 in 1960-61.

(d) Incomplete, excludes Western Australia.

10. Value of Production and Indexes of Price and Quantum of Production.—(i) *Gross and Net Values*, 1960-61. Values of agricultural production for each State are shown for 1960-61 in the following table. A more detailed reference to the value of production of agriculture and other industries in Australia as well as a brief explanation of the terms used will be found in Chapter XXX.—Miscellaneous.

In computing the net value of production, no deduction has been made for the cost of maintenance of farm buildings and fences, nor for the depreciation of farm plant; consequently, the figures are overstated to that extent.

## GROSS, FARM AND NET VALUES OF AGRICULTURAL PRODUCTION, 1960-61.

(£'000.)

State.	Gross Production valued at Principal Markets.	Marketing Costs.	Gross Production valued at Farm.	Value of Materials Used in Process of Production.	Net value of Production. <sup>(a)</sup>
New South Wales .. .. .	134,198	27,393	106,805	(b) 8,634	98,171
Victoria .. .. .	132,918	18,442	114,476	10,445	104,031
Queensland .. .. .	101,720	11,027	90,693	17,222	73,471
South Australia .. .. .	80,718	12,125	68,593	10,270	58,323
Western Australia .. .. .	70,002	9,962	60,040	13,332	46,708
Tasmania .. .. .	15,895	2,884	13,011	2,072	10,939
Northern Territory .. .. .	80	..	80	..	80
Australian Capital Territory .. .. .	150	6	144	6	138
<b>Australia .. .. .</b>	<b>535,681</b>	<b>81,839</b>	<b>453,842</b>	<b>61,981</b>	<b>391,861</b>

(a) No deduction has been made for depreciation and maintenance.

(b) No allowance has been made for costs of power, power kerosene, petrol and other oils.

(ii) *Net Values, 1956-57 to 1960-61.* In the following table, the net value of agricultural production and the net value per head of population are shown by States for the years 1956-57 to 1960-61.

## NET VALUE OF AGRICULTURAL PRODUCTION.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
NET VALUE.(a) (£'000.)									
1956-57	48,425	63,802	60,127	49,688	24,640	7,978	58	143	254,861
1957-58	44,754	64,971	62,898	32,318	27,338	12,050	52	149	244,530
1958-59	82,472	73,661	68,716	50,571	42,746	10,496	59	222	328,943
1959-60	78,518	68,912	65,357	24,246	44,044	10,645	79	150	291,951
1960-61	98,171	104,031	73,471	58,323	46,708	10,939	80	138	391,861

## NET VALUE PER HEAD OF POPULATION. (£)

1956-57	13.5	24.3	43.1	57.7	36.2	24.6	2.9	3.9	26.7
1957-58	12.2	24.2	44.2	36.5	39.4	36.3	2.4	3.8	25.1
1958-59	22.1	26.8	47.4	55.7	60.6	31.0	2.6	5.1	33.1
1959-60	20.7	24.4	44.2	26.0	61.4	30.9	3.2	3.0	28.7
1960-61	25.4	36.0	48.8	60.9	64.0	31.3	3.1	2.5	37.7

(a) No deduction has been made for depreciation and maintenance.

(iii) *Indexes of Quantum and Price of Agricultural Production.* Indexes of quantum and price of agricultural production are shown in the following table. The quantum indexes relate to gross output of farm products valued at constant prices. The quantities of each farm product produced each year have been re-valued at the unit gross value for the period 1936-37 to 1938-39. The price indexes relate to average "prices" of farm products realized at the principal markets of Australia. Average quantities of each product marketed in the period 1946-47 to 1950-51 have been used as fixed weights. Further details on weights used, etc., are to be found in Chapter XXX.—Miscellaneous.

## INDEXES OF QUANTUM(a) AND PRICE OF AGRICULTURAL PRODUCTION.

(Base : Average 3 years ended June, 1939 = 100.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Quantum Produced—					
Wheat .. .. .	82	59	131	121	166
Other Crops .. .. .	144	141	187	152	184
<i>Total, All Crops .. .. .</i>	<i>120</i>	<i>109</i>	<i>165</i>	<i>140</i>	<i>177</i>
Total per Head of Population	86	77	114	94	118
Price—					
Wheat .. .. .	347	339	337	350	354
Other Crops .. .. .	327	333	310	313	344
<i>Total, All Crops .. .. .</i>	<i>336</i>	<i>336</i>	<i>322</i>	<i>329</i>	<i>349</i>

(a) Indexes of value at constant prices, i.e. quantities revalued at average unit values of the base years (1936-37 to 1938-39).

## § 4. Wheat.

1. *Royal Commission on the Wheat Industry.*—A Royal Commission was appointed in January, 1934, to inquire into and report upon the economic condition of the industries of growing, handling and marketing wheat, and the manufacturing, distributing and selling of flour and bread. A searching inquiry was made by the Commission and the results of its investigations were submitted in a series of five reports. The first and second reports covered the wheat-growing industry, the third that of baking, the fourth the flour-milling industry, while the fifth, completed in February, 1936, dealt with the history of the Commission's investigations and traversed the principal recommendations submitted.

2. Licensing of Areas Sown to Wheat, and Acreages Sown.—Details of the operations of the Wheat Stabilization Board in licensing wheat grown during the seasons 1941–42 to 1948–49 will be found in Official Year Book No. 38, pages 940–41. The Board ceased to function on 31st December, 1948.

3. Legislation relating to Wheat Industry.—(i) *Stabilized Marketing*. A detailed survey of legislation relating to stabilization of the wheat industry, including controls exercised during the 1914–18 and 1939–45 Wars and legislation establishing the Wheat Stabilization Plan in 1948, is given in the Appendix to Official Year Book No. 37, pages 1295–99.

(ii) *The Australian Wheat Board*. The Australian Wheat Board was constituted in September, 1939, under National Security (Wheat Acquisition) Regulations, to purchase, sell, or dispose of, wheat or wheat products, manage and control all matters connected with the handling, storage, protection, shipment, etc. of wheat acquired, and such other matters as were necessary to give effect to the regulations.

The Board was reconstituted for five years, with similar powers, under the Commonwealth Wheat Stabilization Act 1948, to administer the stabilization plan. The new Board commenced to function on 18th December, 1948. The Board has been continued in existence by the Commonwealth Wheat Industry Stabilization Acts of 1954 and 1958 for the purpose of administering the second and third five-year stabilization plans.

(iii) *Wheat Stabilization Plans*. (a) 1947–48 to 1952–53. Details of the Wheat Stabilization Plan which operated during the seasons 1947–48 to 1952–53 inclusive were published in Official Year Book No. 40, pages 841 and 842, and previous issues.

(b) 1953–54 to 1957–58. Details of the plan which operated during the seasons 1953–54 to 1957–58 inclusive were published in Official Year Book No. 44, page 861, and previous issues.

(c) 1958–59 to 1962–63. Following negotiations during 1958, a new wheat industry stabilization plan was enacted by the Commonwealth and the States towards the end of that year. The new plan follows the lines of the two earlier ones. Details of the plan are as follows.

- (i) *Period of the Plan*. The plan will operate for five years. It will commence with the 1958–59 wheat crop and will end with the marketing of the 1962–63 crop.
- (ii) *Commonwealth Guarantee*. The Commonwealth will guarantee a return of 14s. 6d. a bushel to growers on up to 100 million bushels of wheat exported from the crop in the first year of the plan. The guaranteed return of 14s. 6d. is based on the findings of the recent survey of the economic structure of the wheat industry conducted by the Bureau of Agricultural Economics. It will be adjusted in each of the following years of the plan on up to 100 million bushels in accordance with the movements in costs based on a cost index established from the survey. The first two five-year Wheat Stabilization Plans each guaranteed a similar quantity of 100 million bushels exported.
- (iii) *Australian Wheat Board*. The Australian Wheat Board will be maintained as the sole constituted authority for the marketing of wheat within Australia and for the marketing of wheat and flour for export from Australia for the period of the plan.
- (iv) *Stabilization Fund*.
  - (a) *Export Tax*. A tax will be collected on wheat exported which will be equivalent to the excess of the returns from export sales over the guaranteed return. However, the maximum rate of export tax will be 1s. 6d. a bushel.
  - (b) *Size of Fund*. The ceiling of the Stabilization Fund is established at £20 million; any excess beyond this figure will be returned to growers on the "first-in-first-out" principle.
  - (c) *Balance in Present Wheat Stabilization Fund*. The balance remaining in the Fund at the termination of the present plan will be carried forward to the new plan as the nucleus of a new stabilization fund.
  - (d) *Use of the Stabilization Fund*. When the average export realizations fall below the guaranteed return, the deficiency will be made up first by drawing upon the stabilization fund in respect of up to 100 million bushels of wheat from each crop. When the fund is exhausted, the Commonwealth will meet its obligations under the guarantee.

- (v) *Home Consumption Price.* The home consumption base price for 1958–59, the first year of the plan, was established as 14s. 6d. a bushel, bulk basis, f.o.r. ports plus 2d. a bushel loading to cover the cost of transporting wheat to Tasmania as outlined in (vi) below. There is provision in the plan for annual adjustments in the following years in accordance with the guaranteed price as outlined in (ii) above.
- (vi) *Freight on Wheat to Tasmania.* Provision is made for a loading on the price of all wheat sold for consumption in Australia to the extent necessary to cover the cost of transporting wheat from the mainland to Tasmania in each season of the plan.
- (vii) *Premium on Western Australian Wheat.* A premium will be paid from export realizations on wheat grown in Western Australia and exported from that State in recognition of the natural freight advantage enjoyed by Western Australia owing to its proximity to the principal oversea markets for wheat. The premium will be 3d. a bushel.

By agreement between the parties concerned, the Australian Wheat Growers' Federation, the States and the Commonwealth, a poll of growers as to acceptance of the plan was not considered necessary. The earlier plans had been approved by polls of growers.

The cost of production of wheat, which for the first season of the plan, 1958–59, was fixed at 14s. 6d. a bushel by the legislation, rose to 14s. 10d. a bushel for the 1959–60 season and to 15s. 2d. a bushel for the 1960–61 season. The guaranteed price for the seasons 1959–60 and 1960–61 was therefore 14s. 10d. and 15s. 2d. a bushel respectively, while the home consumption price, in each case including a loading of 2d. a bushel to cover costs of shipment of wheat to Tasmania, became 15s. and 15s. 4d. a bushel respectively. For the 1961–62 season, the guaranteed price is 15s. 9d. a bushel and the home consumption price is 15s. 10d. a bushel, which includes a loading of 1d. a bushel to cover cost of shipment of wheat to Tasmania.

(iv) *Wheat Industry Research.* In 1957, the Commonwealth Parliament passed legislation providing for a levy of a farthing a bushel on wheat handled by the Australian Wheat Board. This money, contributed by the growers, is to be spent by the Wheat Research Committees set up in the wheat-growing States. These Committees, which consist of representatives of wheatgrowers, universities and State Departments of Agriculture, also received a total of £284,000 under the provisions of the Wheat Acquisition (Undistributed Moneys) Act 1958.

The Commonwealth Government has undertaken to supply additional funds for research (with a maximum of £1 for £1 against the growers' contribution) and has set up the Wheat Industry Research Council to make recommendations on the appropriate expenditure of the Commonwealth contribution.

The Council at its inaugural meeting in February, 1958, considered that possible avenues of research would include the breeding of better varieties, cereal chemistry, soil fertility, mechanization, the industry's cost structure and marketing problems.

The Council and the State Committees have incurred an estimated expenditure of £933,507 up to the end of June, 1961, including grants to the Commonwealth Scientific and Industrial Research Organization, State Departments of Agriculture, Universities and Agricultural Colleges.

4. *Marketing of Wheat.*—(i) *Wheat Acquired and Disposed of.* (a) *Wheat Acquired.* Particulars of wheat acquired by the Australian Wheat Board from the 1956–57 to 1960–61 harvests are shown in the following table.

AUSTRALIAN WHEAT BOARD : WHEAT ACQUIRED, 1956-57 TO 1960-61.  
(‘000 Bushels.)

Pool.	Harvest.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
20	.. .. 1956-57	24,014	32,931	5,837	29,154	28,171	22	120,129
21	.. .. 1957-58	4,617	29,547	5,247	12,535	29,306	74	81,326
22	.. .. 1958-59	59,990	41,216	15,206	29,548	53,348	82	199,390
23	.. .. 1959-60	67,073	37,099	11,832	9,112	54,132	91	179,339
24	.. .. 1960-61	72,984	66,882	8,821	43,707	59,012	63	251,469

(b) *Wheat Disposal.* Details relating to the disposal of wheat during the years ended 30th November, 1957 to 1961, are shown in the following table.

**AUSTRALIAN WHEAT BOARD : DISPOSAL OF WHEAT, 1957 TO 1961.(a)**  
(<sup>'000 Bushels.</sup>)

Particulars.	1957.	1958.	1959.	1960.	1961.
Sold for export as wheat .. ..	66,972	34,399	70,940	97,645	202,027
Sold for export as flour (b) .. ..	32,334	16,868	25,248	26,147	29,438
Sold for local consumption as flour .. ..	41,162	39,213	40,174	42,713	39,814
Sold for other purposes .. ..	21,459	16,894	13,484	16,635	15,107

(a) Years ended 30th November.  
exported.

(b) Includes wheat equivalent of manufactured wheat products

(ii) *Finance.* The Wartime Wheat Acquisition Regulations empowered the Minister to arrange with the Commonwealth Bank for advances to the Board, the advances being guaranteed by the Commonwealth Government. The Wheat Industry Stabilization Act 1948 included similar provisions for advances to the reconstituted Board established under that Act and these provisions have been continued in the subsequent legislation, with the exception that advances are now arranged through the Reserve Bank.

**AUSTRALIAN WHEAT BOARD : FINANCIAL OPERATIONS, POOLS Nos. 20 to 24.**  
(<sup>£'000.</sup>)

Particulars.	No. 20 Pool.(a)	No. 21 Pool.(a)	No. 22 Pool.(a)	No. 23 Pool.(a)	No. 24 Pool.(b)
	(1956-57 Harvest.)	(1957-58 Harvest.)	(1958-59 Harvest.)	(1959-60 Harvest.)	(1960-61 Harvest.)
Paid to growers .. ..	68,800	47,911	117,336	108,641	133,077
Rail freight .. ..	7,761	4,926	13,687	12,999	18,685
Expenses .. ..	6,189	4,257	8,868	9,384	9,734
<i>Total Payments</i> .. ..	<i>82,750</i>	<i>57,094</i>	<i>139,891</i>	<i>131,024</i>	<i>161,496</i>
Value of sales delivered .. ..	(c) 84,464	(d) 56,808	(e) 133,598	(f) 123,187	(g) 173,640

(a) Complete. (b) Incomplete. (c) Includes £1,589,000 paid to Wheat Prices Stabilization Fund and £125,000 to Wheat Industry Research Fund. (d) Subject to additional £397,000 withdrawn from Wheat Prices Stabilization Fund and payment of £85,000 to Wheat Industry Research Fund. (e) Subject to additional £6,532,000 withdrawn from Wheat Prices Stabilization Fund and payment of £207,000 to Wheat Industry Research Fund. (f) Subject to additional £8,024,000 (of which the Commonwealth Government provided £3,022,000) withdrawn from the Wheat Prices Stabilization Fund and payment of £187,000 to Wheat Industry Research Fund. (g) Subject to additional £8,884,000 provided by the Commonwealth Government and payment of £261,000 to the Wheat Industry Research Fund.

NOTE.—Details of earlier pools will be found in previous issues of the Year Book.

(iii) *Advances to Growers.* Each year the size of the first advance to growers is announced by the Minister for Primary Industry before the commencement of the season. Additional payments are made as sufficient funds become available to the Board from sales realizations. Details of advances made to wheat growers in respect of the various pools are published in the Statistical Bulletin: *The Wheat Industry, Australia*, last issued in April, 1962.

(iv) *Stabilization Fund.* Particulars of the most recent legislative provisions for this fund are given in para. 3 (iii) on page 903.

In accordance with the provisions of the second Stabilization Plan, amounts of £9,160,000 and £1,589,000 were paid into the Stabilization Fund from the export charge on exports from the 1953-54 and 1956-57 crops. There were withdrawals from the Fund in respect of the years 1954-55, 1955-56 and 1957-58 amounting to £189,000, £1,010,000 and £397,000 respectively. The balance of the Fund, including interest from its investment amounting to over £10 million, was carried forward as the nucleus of the Fund for the third Stabilization Plan commencing with the 1958-59 season.

Under the third Stabilization Plan an amount of £6,532,000 (7.88d. per bushel) has been withdrawn from the Fund to raise export realizations from the 1958–59 harvest. The balance of the Fund with accrued interest, together amounting to £5,002,000, was withdrawn to raise export realizations from the 1959–60 harvest. In addition, an amount of £3,022,000 was contributed by the Commonwealth Government in accordance with the guarantee. In March, 1962, the Commonwealth Government contributed £8,884,000 to meet the export guarantee, the Fund being exhausted.

5. **International Wheat Agreements.**—Details of the first and second International Wheat Agreements operative from 1st August, 1949, to 31st July, 1953, and from 1st August, 1953, to 31st July, 1956, respectively, were published in Official Year Book No. 42 (*see* pp. 840–1) and previous issues. Details of the third International Wheat Agreement, which covered the period from 1st August, 1956, to 31st July, 1959, were published in Official Year Book No. 43 (*see* p. 836).

Following ratification by the required number of wheat exporting and importing countries, a fourth International Wheat Agreement came into force on 1st August, 1959. The Agreement covers the three-year period from 1st August, 1959, to 31st July, 1962.

The new Agreement, negotiated at an international conference convened by the United Nations, continues the basic arrangements covered by previous Agreements, together with some important variations. The Agreement seeks to obtain an element of stability in world wheat marketing by providing that a significant proportion of wheat entering international trade will be bought and sold at prices within a prescribed range. The member exporting countries compete to supply at prices within the agreed price range, which is from 190 cents (Canadian currency) or about 15s. 6d. Australian to 150 cents or about 12s. 3d. a bushel. These prices are used in the following manner:—Maximum price is based on the price of Canada's No. 1 Northern Manitoba wheat in bulk in store at Fort William/Port Arthur, and the minimum price shall be each exporter's f.o.b. price's equivalent to the c.i.f. price in the United Kingdom of the minimum price of Canada's No. 1 Northern Manitoba wheat in bulk in store Fort William/Port Arthur, using currently prevailing transportation costs and exchange rates.

Member importing countries have undertaken to buy each year from member exporting countries a stated percentage of their total commercial requirements at prices within the agreed range instead of a fixed quota as under previous Agreements.

The new Agreement empowers the International Wheat Council to make an annual review of the world wheat situation, including the international implication of national policies in respect to wheat production, stocks and marketing, and the disposal of wheat surpluses on non-commercial terms.

Provision has also been made for a right of appeal against excessive discounts from the minimum price on the basis of differences in quality between the basic wheat—Canada's No. 1 Manitoba Northern Wheat—and the wheat supplied by the other member importing countries.

The provision in the previous Agreements by which the individual exporting countries had separate guaranteed quantities that they would call upon the member importing countries to buy at the minimum price has not been retained.

Member countries of the fourth International Wheat Agreement are:—

Exporters—Argentina, Australia, Canada, France, Italy, Mexico, Spain, Sweden and the United States of America.

Importers—Austria, Belgium and Luxembourg, Brazil, Costa Rica, Cuba, Dominican Republic, El Salvador, Federal Republic of Germany, Greece, Guatemala, Haiti, Honduras Republic, Iceland, India, Indonesia, Ireland, Israel, Japan, Korea, The Netherlands, New Zealand, Norway, Panama, Peru, The Philippines, Portugal, Federation of Rhodesia and Nyasaland, Saudi Arabia, Switzerland, Republic of South Africa, United Arab Republic, United Kingdom, Vatican City, and Venezuela.

6. **Wheat Farms.**—(i) *Number.* Particulars of the number of farms growing 20 acres and upwards of wheat for grain during each of the years 1956–57 to 1960–61, are shown in the following table. It should be noted that a farm worked on the share system or as a partnership is included as one holding only.

**NUMBER OF FARMS GROWING 20 ACRES AND UPWARDS OF WHEAT FOR GRAIN.**

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	10,197	12,111	14,997	16,798	16,959
Victoria .. ..	7,674	8,856	9,074	10,555	10,625
Queensland .. ..	3,131	3,665	4,791	4,526	4,257
South Australia .. ..	7,852	7,515	7,774	7,904	8,913
Western Australia .. ..	7,943	7,957	8,060	8,444	8,614
Tasmania .. ..	45	95	104	154	121
Australian Capital Territory	4	10	19	23	14
<b>Australia .. ..</b>	<b>36,846</b>	<b>40,209</b>	<b>44,819</b>	<b>48,404</b>	<b>49,503</b>

(ii) *Size Classifications of Wheat Holdings.* See § 3, para. 4, page 899.

7. **Area, Production and Yield per Acre.**—(i) *Area.* Wheat is the principal crop grown in Australia, and its progress since 1860-61 has been almost continuous, although the area shown has been at a lower level during the past decade. Prominent features in its early development were the increase in population following the discovery of gold and the redistribution of labour after the surface gold had been won. The economic depression of 1893 interrupted its progress, but its subsequent recovery was assisted by the invention of mechanical appliances, the use of superphosphates as an aid to production, and the introduction of new and more suitable varieties of wheat for Australian conditions. The establishment of closer settlement schemes and the settling of returned soldiers and others on the land were additional factors in its expansion.

The area, production and yield per acre of wheat for grain in each State are shown below for the years 1956-57 to 1960-61 in comparison with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

**WHEAT FOR GRAIN : AREA, PRODUCTION AND YIELD PER ACRE.**

Period.	N.S.W.	Victoria	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
<b>AREA ('000 ACRES).</b>								
<b>Average for three years ended—</b>								
1938-39 .. ..	4,366	2,609	366	3,100	3,005	18	2	13,466
1948-49 .. ..	4,519	3,241	439	2,319	2,685	7	4	13,214
1958-59 .. ..	2,392	1,737	508	1,392	3,005	5	1	9,040
<b>Year—</b>								
1956-57 .. ..	1,742	1,565	360	1,438	2,765	4	..	7,874
1957-58 .. ..	2,257	1,835	461	1,331	2,957	6	1	8,848
1958-59 .. ..	3,178	1,810	704	1,408	3,292	6	1	10,399
1959-60 .. ..	3,950	2,261	683	1,549	3,719	8	2	12,172
1960-61 .. ..	4,076	2,672	693	1,969	4,021	7	1	13,439

**PRODUCTION ('000 BUSHELS).(a)**

Average for three years ended—	N.S.W.	Victoria	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
1938-39 .. ..	56,890	36,374	4,783	34,606	31,539	434	45	164,671
1948-49 .. ..	58,537	48,332	8,569	28,856	31,517	138	78	176,027
1958-59 .. ..	35,178	36,705	9,938	26,126	40,950	135	15	149,047
<b>Year—</b>								
1956-57 .. ..	28,490	35,282	7,061	31,432	32,100	89	1	134,455
1957-58 .. ..	10,603	32,134	6,657	14,914	33,100	153	5	97,566
1958-59 .. ..	66,441	42,697	16,097	32,032	57,650	164	40	215,121
1959-60 .. ..	75,358	38,793	13,522	11,929	58,670	182	47	198,501
1960-61 .. ..	84,657	67,587	10,999	46,395	63,900	148	30	273,716

(a) 60 lb. per bushel.



WHEAT FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE—*continued.*

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
YIELD PER ACRE (BUSHELS).(a)								
Average for three years ended—								
1938-39 .. ..	13.0	13.9	13.1	11.2	10.5	24.1	22.5	12.2
1948-49 .. ..	13.0	14.9	19.5	12.4	11.7	19.7	19.5	13.3
1958-59 .. ..	14.7	21.1	19.6	18.8	13.6	24.7	15.0	16.5
Year—								
1956-57 .. ..	16.4	22.5	19.6	21.9	11.6	22.7	11.1	17.1
1957-58 .. ..	4.7	17.5	14.5	11.2	11.2	26.1	8.9	11.0
1958-59 .. ..	20.9	23.6	22.9	22.8	17.5	25.4	28.1	20.7
1959-60 .. ..	19.1	17.2	19.8	7.7	15.8	22.0	26.8	16.3
1960-61 .. ..	20.8	25.3	15.9	23.6	15.9	21.1	30.0	20.4

(a) 60 lb. per bushel.

A graph showing the area sown to wheat for grain in Australia since 1900-1 appears on page 912 while a map showing the distribution of areas growing wheat for grain throughout Australia in 1954-55 appeared on page 833 of Official Year Book No. 43. Similar maps showing the distribution of wheat areas in 1924-25, 1938-39 and 1947-48 appeared respectively in Official Year Books No. 22, page 695, No. 34, page 451 and No. 39, pages 977-8.

(ii) *Production.* Apart from the variations in the area sown, the size of the wheat harvest in Australia is largely determined by the nature of the season, resulting in considerable year-to-year fluctuations in production.

The main wheat-producing States of Australia are New South Wales, Victoria, South Australia and Western Australia. Queensland production normally approaches local demands, but Tasmania imports wheat from the mainland to satisfy its needs, though it exports flour made from local wheat which is particularly suitable for biscuits. Normally the production of wheat greatly exceeds Australian requirements, and a large proportion of the crop is exported.

Production of wheat in 1960-61 was a record at 273,716,000 bushels. This was 75,215,000 bushels greater than production in 1959-60 and 53,600,000 bushels greater than the previous record of 220,116,000 bushels achieved in 1947-48. Record production levels of 67,587,000 bushels and 63,900,000 bushels were recorded in Victoria and Western Australia respectively, and all States except Queensland and Tasmania showed substantial increases over production in 1959-60. The most notable increase occurred in South Australia, where production in 1960-61 was nearly four times the 1959-60 figure of 11,929,000 bushels.

(iii) *Yield per Acre.* Short-term variations in yield per acre are due chiefly to seasonal influences. High yields per acre for Australia for single seasons since 1901 were obtained in 1920-21, 16.1 bushels; in 1942-43, 16.8 bushels; in 1949-50, 17.8 bushels; in 1952-53, 19.1 bushels; in 1953-54, 18.4 bushels; in 1955-56, 19.2 bushels; in 1958-59, 20.7 bushels (a record); in 1959-60, 16.3 bushels; and in 1960-61, 20.4 bushels.

(iv) *Decennial Averages, 1861-70 to 1951-60.* The following table shows the average area, production and yield per acre for decennial periods since 1861.

## WHEAT FOR GRAIN: AVERAGE AREA AND PRODUCTION, AUSTRALIA.

Period.	Area.			Production.		Yield per Acre.
		'000 Acres.		'000 Bushels.		Bushels.
1861-70 .. ..		831		10,622		12.8
1871-80 .. ..		1,646		17,711		10.8
1881-90 .. ..		3,258		26,992		8.3
1891-1900 .. ..		4,087		29,934		7.3
1901-10 .. ..		5,711		56,058		9.8
1911-20 .. ..		8,928		95,480		10.7
1921-30 .. ..		11,291		135,400		12.0
1931-40 .. ..		14,176		177,758		12.5
1941-50 .. ..		11,358		145,599		12.8
1951-60 .. ..		10,164		173,622		17.1

8. Varieties of Wheat Sown.—(i) *General*. The breeding of wheat suitable to local conditions has long been established in Australia. Farrer (1845–1905) did invaluable work in pioneering this field and the results of his labour and the continued efforts of those who have followed him have proved of immense benefit to the industry. Their efforts have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages, as well as an improvement in the quality of wheat grown. More than 1,000 different varieties of Australian wheats have been catalogued by the Commonwealth Scientific and Industrial Research Organization, but the number of principal varieties grown during each season is restricted to about 45.

(ii) *States, 1960–61*. The principal varieties of wheat sown and the percentage of each to the total area sown in the five main producing States during 1960–61 were as follows:—New South Wales, Glenwari (20.4), Bencubbin (10.1), Gabo (9.0); Victoria, Insignia (49.0), Pinnacle (21.5), Olympic (14.2); Queensland, Festival (43.2), Spica (24.7); South Australia, Insignia (23.3), Gabo (20.9), Dirk (14.6); and Western Australia, Gabo (37.7), Insignia (15.3), Bungulla (11.5). A detailed table of wheat varieties sown in these five States appears in the annual bulletin *Primary Industries—Part I.—Rural Industries*.

9. F.A.Q. Standard of Wheat.—Samples of wheat are obtained each year from the different wheat districts, and mixed to give a representative sample of the whole crop in each State. From this representative sample the “f.a.q.” (fair average quality) weight for each State is determined by the use of the Schopper 1-litre scale chondrometer. This standard is used as a basis for sales of each crop and it varies from year to year and from State to State. Until the 1957–58 season, the Chambers of Commerce in each of the four main wheat-producing States determined the f.a.q. standard for each season's crop. Commencing with the 1958–59 season, however, the f.a.q. standard has been determined by State committees comprising representatives of the Australian Wheat Board, the silo authorities, the growers and the State Departments of Agriculture. “F.a.q.” is an Australian term, and the method of selling differs from that of other countries, which sell according to sample, or (as in Canada) according to grades, which are fixed and do not vary from year to year.

The f.a.q. weight of a bushel of wheat in each of the four main wheat-producing States for the 1960–61 season's crop was as follows:—New South Wales, North, 64 lb., South and West, 62 lb.; Victoria, 64½ lb.; South Australia, semi-hard, 64 lb., soft, 64½ lb.; and Western Australia, 64 lb.

10. Price of Wheat.—(i) *Home Consumption*. The price charged by the Australian Wheat Board for wheat sold to millers for gristing into flour for consumption in Australia and for wheat sold as stock feed was as follows:—Year ended 30th November, 1958, 14s. 4d.; 1959, 14s. 8d.; 1960, 15s. 0d.; 1961, 15s. 4d.; and 1962, 15s. 10d. These prices include an amount used to meet freight charges incurred on wheat shipped to Tasmania (2d. from 1958 to 1961; and 1d. in 1962). The figure quoted for 1958 does not apply to New South Wales and Queensland, where, because of the necessity of meeting the extra cost of importing wheat from Canada and Western Australia, the prices during the greater part of the year were 18s. 4½d. and 16s. 9½d. respectively.

(ii) *Export Wheat Prices—Australian Wheat Board's Basic Selling Price*. The Wheat Board's monthly basic export selling prices for f.a.q. bulk wheat f.o.b. basis, both for wheat sold under the International Wheat Agreement and for “free” wheat sold on the open market, fell in the following ranges:—Season ended 31st July, 1958, 13s. 10½d. to 14s. 11d.; 1959, 13s. 4d. to 14s. 6½d.; 1960, 13s. 3d. to 13s. 6d.; 1961, 13s. 5d. to 13s. 9d.; and 1962, 13s. 10d. to 14s. 10½d. Actual selling prices have been lower than the basic prices in some cases, particularly where other exporting countries enjoy a geographical freight advantage.

The maximum and minimum prices fixed under the 1956 International Wheat Agreement are expressed in terms of “Canadian currency per bushel, at the parity of the Canadian dollar determined for the purposes of the International Monetary Fund for No. 1 Manitoba Northern wheat in bulk in store Fort William/Port Arthur.” The maximum price was set at 200 cents a bushel and the minimum at 150 cents for f.a.q. wheat. Under the current 1959 Agreement operative from 1st August, 1959 (see paragraph 5, p. 906), the agreed price range is between 190 cents and 150 cents. Directly converted into Australian currency these limits are approximately 15s. 6d. and 12s. 3d. a bushel respectively.

Details of export wheat prices in previous years, including those received for wheat sold under the terms of the 1949–1953 International Wheat Agreement, are given in Official Year Book No. 40, pages 849–50, and Statistical Bulletin: *The Wheat Industry, Australia*, No. 95 of April, 1959, and in previous issues of these publications.

11. Value of the Wheat Crop.—The estimated gross value of the wheat crop in each State and in Australia during the season 1960–61 and the value per acre are shown below

## WHEAT FOR GRAIN: VALUE OF CROPS (a), 1960-61.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	59,432	48,244	7,735	34,000	46,145	103	19	195,678
Value per Acre £	14.6	18.1	11.2	17.3	11.5	14.7	19.0	14.6

(a) Gross value of total crop, including wheat used for seed and for stock feed on farms. Also includes payment of £8,884,000 by the Commonwealth Government.

12. Production and Disposal of Wheat in Australia.—In the following table, details are given of the production of wheat and its disposal during each of the years ended 30th November, 1957 to 1961. The particulars for local consumption are based on sales made by the Australian Wheat Board, whilst those relating to exports represent actual shipments. (For particulars of production and yield from 1900-01 see graph, p. 912.)

WHEAT : PRODUCTION AND DISPOSAL, AUSTRALIA.  
(Million Bushels.)

Particulars.	Year ended 30th November—				
	1957.	1958.	1959.	1960.	1961.
Opening stocks (including flour(a)) ..	84.2	41.5	16.5	65.4	60.7
Production .. .. .	134.5	97.6	215.1	198.5	273.7
Imports .. .. .	..	1.5	..	..	..
<i>Total Available Supplies</i> ..	<i>218.7</i>	<i>140.6</i>	<i>231.6</i>	<i>263.9</i>	<i>334.4</i>
Exports—					
Wheat .. .. .	69.3	33.6	71.7	98.1	202.0
Flour(a) .. .. .	36.6	17.5	26.8	26.7	28.9
Breakfast foods and other products(a) ..	1.6	0.6	0.4	0.6	0.5
Local Consumption—					
Flour(a) .. .. .	41.2	39.2	40.2	41.3	41.2
Stock feed .. .. .	19.6	15.0	11.6	14.7	13.2
Seed .. .. .	9.1	11.1	12.0	13.0	14.0
Breakfast foods and other products(a) ..	1.9	1.9	1.9	1.9	1.9
Balance retained on farm (excluding seed)	5.3	6.1	3.7	6.2	8.2
Closing stocks (including flour(a)) ..	41.5	16.5	65.4	60.7	24.4
<i>Total Disposals</i> .. .. .	<i>226.1</i>	<i>141.5</i>	<i>233.7</i>	<i>263.2</i>	<i>334.3</i>
Excess (+) or Deficiency (–) of Disposals in respect of Available Supplies(b) ..	+7.4	+0.9	+2.1	–0.7	–0.1

(a) In terms of wheat. (b) Includes allowance for unrecorded movements in stocks, gain or loss in out-turn, etc.

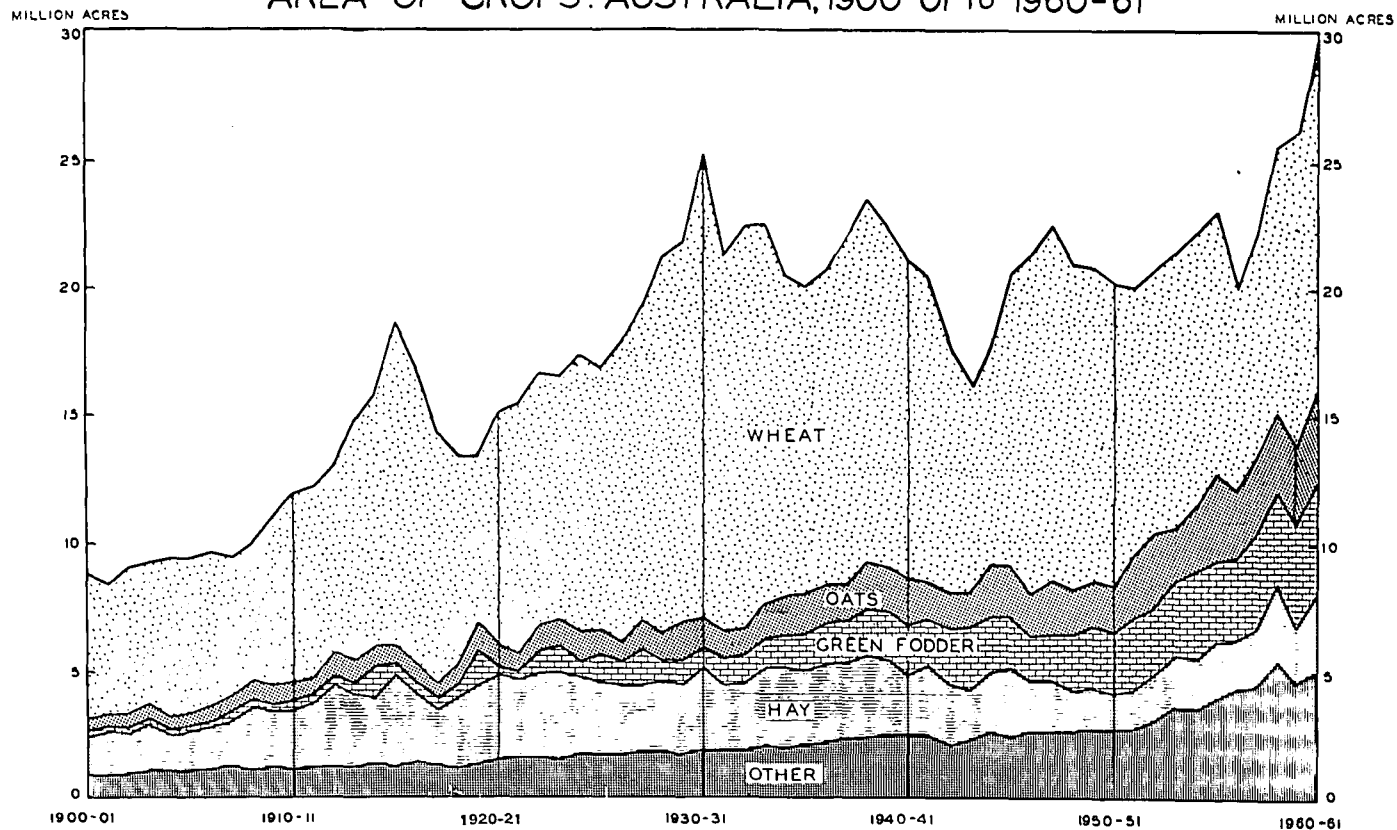
NOTE.—One short ton of flour is taken to be equivalent to 46.3 bushels of wheat.

13. Imports of Wheat.—Owing to drought conditions in 1957-58, wheat supplies, particularly in New South Wales, were insufficient for local requirements. As a result, 1,136,000 bushels were imported from Canada during March, April and May, 1958, and a further 349,000 bushels in July, 1958. No wheat has been imported since this period.

Wheat and flour have been imported in substantial quantities on only two previous occasions since 1900; in 1902-3 the wheat harvest was only 12,378,000 bushels, and wheat and flour representing 12,468,000 bushels of wheat were imported, while an equivalent of 7,279,000 bushels was imported in 1914-15 to supplement the yield of 25 million bushels produced in that season.

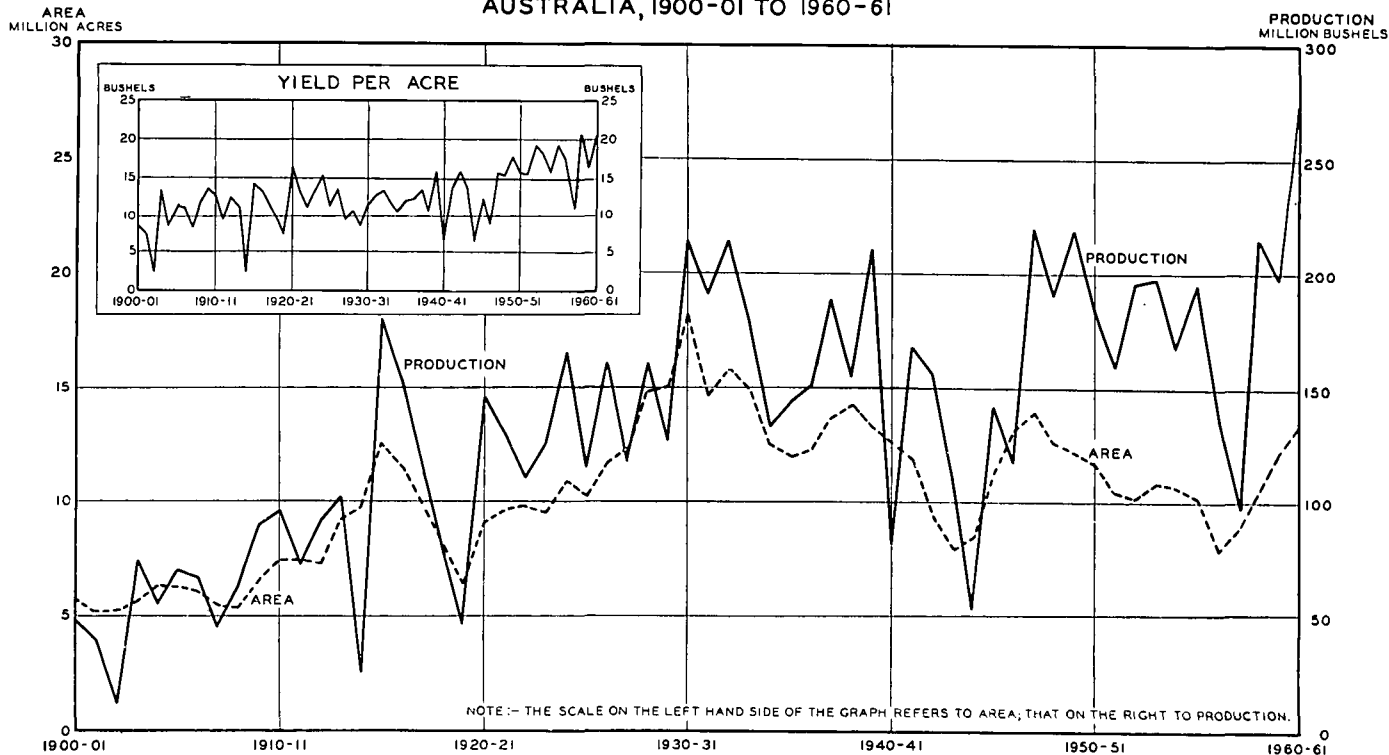
14. Exports of Wheat and Flour.—(NOTE: Statistics in this paragraph relate to years ended 30th June.) (i) *Quantities.* The following table shows particulars of the exports of wheat and flour and the total of both, in terms of wheat, for each of the years 1956-57 to 1960-61.

# AREA OF CROPS: AUSTRALIA, 1900-01 to 1960-61



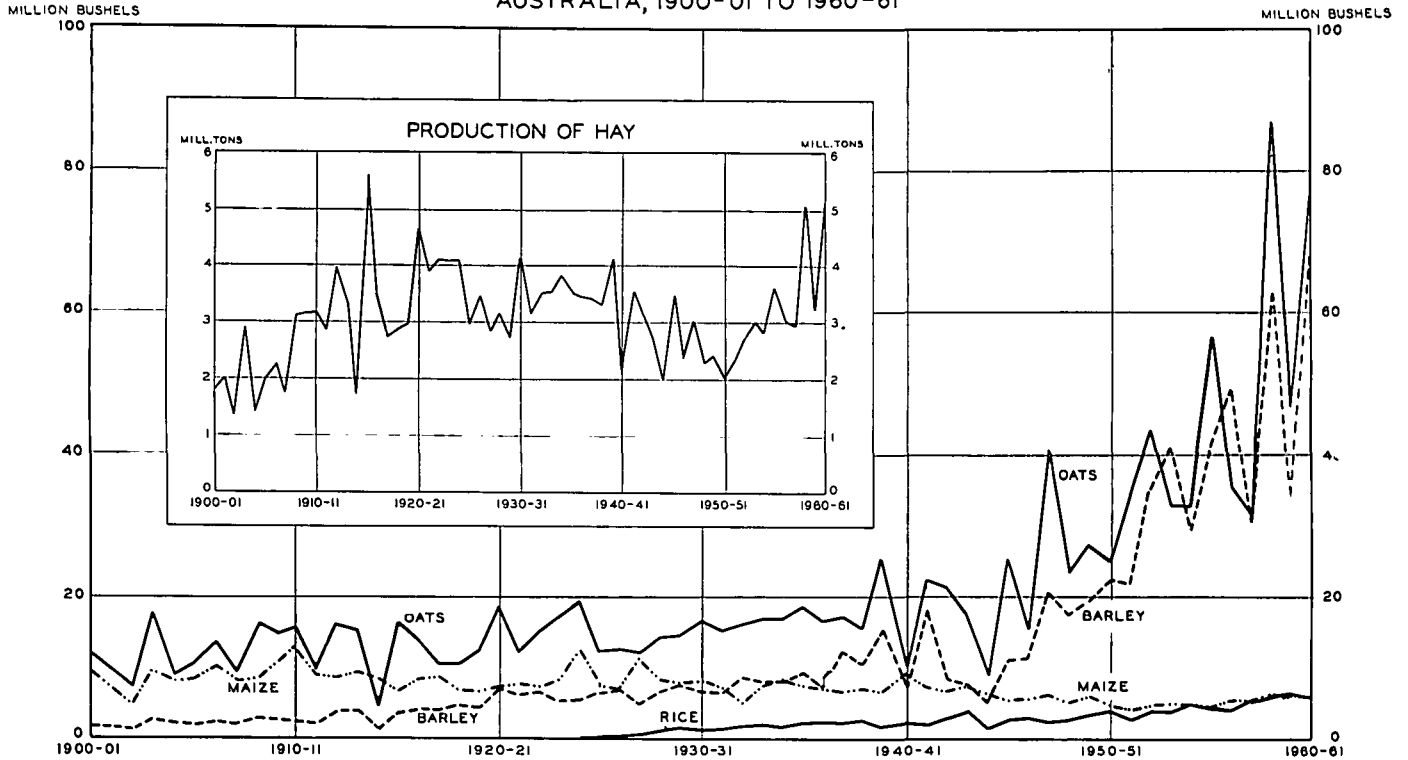
# WHEAT (GRAIN) : AREA, PRODUCTION AND YIELD PER ACRE

AUSTRALIA, 1900-01 TO 1960-61



# PRODUCTION OF OATS, BARLEY, MAIZE, RICE AND HAY

AUSTRALIA, 1900-01 TO 1960-61





## WHEAT AND FLOUR : EXPORTS FROM AUSTRALIA.

Year.	Quantity.				Value.		
	Wheat.	Flour.		Total (in Terms of Wheat).	Wheat.	Flour. (a)	Total.
		As Flour. (a)	In Terms of Wheat.				
'000 bushels.	Short tons.	'000 bushels.	'000 bushels.	£'000.	£'000.	£'000.	
1956-57 .. ..	91,098	766,655	35,496	126,594	60,058	22,234	82,292
1957-58 .. ..	39,572	479,985	22,223	61,795	28,494	15,059	43,553
1958-59 .. ..	54,627	467,699	21,654	76,281	38,381	14,001	52,382
1959-60 .. ..	91,244	558,126	25,841	117,085	61,680	15,811	77,491
1960-61 .. ..	152,981	679,179	31,446	184,427	102,426	19,637	122,063

(a) White flour, sharps and wheatmeal for baking.

NOTE.—One short ton of flour is taken to be equivalent to 46.3 bushels of wheat.

(ii) *Destination. (a) Wheat.* The following table shows the exports of wheat to various countries for each of the five years ended 1960-61.WHEAT: EXPORTS FROM AUSTRALIA.  
(\*000 Bushels.)

Country to which Exported.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
United Kingdom .. ..	26,697	9,791	21,225	20,983	27,408
India .. ..	23,272	434	1,317	11,705	4,910
New Zealand .. ..	10,914	9,679	8,228	7,903	6,107
Pakistan .. ..	6,195	4,720	720	3,875	3,873
Other Commonwealth Countries .. ..	5,726	6,843	11,243	11,026	9,756
China, Republic of (Mainland) .. ..	..	71	317	..	40,293
Germany, Federal Republic of .. ..	3,427	6,761	7,567	13,908	13,109
Japan .. ..	7,949	..	1,754	4,230	4,426
Other Foreign Countries .. ..	6,918	1,273	2,256	17,614	43,099
Total .. ..	91,098	39,572	54,627	91,244	152,981

(b) *Flour.* The following table shows the exports of flour to various countries for each of the five years ended 1960-61. The figures relate to exports of white flour, sharps and wheatmeal for baking.FLOUR : EXPORTS FROM AUSTRALIA.  
(Short Tons.)

Country to which Exported.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
United Kingdom .. ..	80,735	43,156	45,837	46,256	56,135
Ceylon .. ..	181,137	51,613	61,382	142,339	117,563
Malaya, Federation of .. ..	71,963	70,299	92,427	112,417	107,304
Mauritius .. ..	27,660	17,411	20,362	17,686	23,738
Singapore .. ..	47,243	37,590	40,735	36,658	41,790
Other Commonwealth Countries .. ..	102,189	94,785	102,996	104,019	106,809
China, Republic of (Mainland) .. ..	224	496	55	..	49,266
Indonesia .. ..	115,660	62,897	37,856	32,925	93,617
Sudan .. ..	28,762	11,258	..	..	..
Other Foreign Countries .. ..	111,082	90,480	66,049	65,826	82,957
Total .. ..	766,655	479,985	467,699	558,126	679,179



15. **Stocks of Wheat and Flour.**—Stocks of wheat (including flour in terms of wheat) held by each State at 30th November for the years 1957 to 1961 are shown in the following table. These data relate to stocks held at mills, sidings, ports and depots as recorded by the Australian Wheat Board.

**WHEAT (INCLUDING FLOUR IN TERMS OF WHEAT): STOCKS (a) AT 30th NOVEMBER.**

('000 Bushels.)

30th November—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
1957 .. ..	8,982	13,304	203	13,732	5,056	215	41,492
1958 .. ..	4,420	6,172	116	3,262	2,260	222	16,452
1959 .. ..	19,934	16,390	987	5,950	21,657	447	65,365
1960 .. ..	19,878	16,639	451	2,203	20,995	535	60,701
1961 .. ..	7,701	8,780	965	3,122	3,338	452	24,358

(a) Held by the Australian Wheat Board at mills, sidings, ports and depots.

NOTE.—One short ton of flour is taken to be equivalent to 46.3 bushels of wheat.

16. **Bulk Handling and Storage of Wheat in Australia.**—(i) *Description and Development of the Bulk Handling System.* A detailed description of the bulk handling system, including its advantages and disadvantages compared with other methods of handling, appears on pages 954–8 of Official Year Book No. 39.

New South Wales, Victoria and Western Australia have operated bulk handling systems for a number of years, and, in more recent years, other States have also introduced bulk systems.

(ii) *Bulk Handling and Storage in the States.* Particulars of the operation of the bulk handling and storage systems and projected extensions in the States concerned are set out below.

(a) *New South Wales.* Bulk handling facilities are operated by the Grain Elevators Board of New South Wales. The capacity of storages in the country for the 1961–62 season totalled 63,570,000 bushels and comprised 182 elevators (27,250,000 bushels), 13 horizontal type concrete and steel storages (3,230,000 bushels), 4 sub-terminals (16,500,000 bushels), 78 bulkheads (7,890,000 bushels) and 12 bulk depots (8,700,000 bushels). In addition, port terminal facilities provided storage for 4,200,000 bushels at Newcastle and 7,500,000 bushels at Sydney, making a total capacity of 75,270,000 bushels for the State.

(b) *Victoria.* In the 1961–62 season the Victorian Grain Elevators Board operated bulk storages at 205 country stations having a total capacity of 29,565,000 bushels. The facilities consist of vertical silos (some steel but mostly concrete, some of which have steel annexes), horizontal Behlen sheds, and temporary horizontal bulkheads with a capacity of 2,151,000 bushels, as part of the total of 29,565,000 bushels.

In addition to the above, the bulk terminal at Geelong has a capacity of 22,250,000 bushels, including two horizontal sheds, each of 9,000,000 bushels, while sub-terminal storages at Dunolly, Murtoa and Warracknabeal can hold up to 22,400,000 bushels.

(c) *Queensland.* Bulk storages in this State are controlled and operated by the State Wheat Board. The capacity in the country for the 1961–62 season totalled 5,818,000 bushels. This total is composed of 12 silos (3,250,000 bushels) and 22 bulkheads (2,568,000 bushels).

The terminal bulk storage at Pinkenba commenced receiving wheat in July, 1959, with a storage capacity of 1,300,000 bushels.

(d) *South Australia.* Since the formation of the South Australian Co-operative Bulk Handling Ltd. in 1955, steady progress has been maintained in the expansion of the system.

The present capacity of bulk storages is 18,810,000 bushels—comprising 1,030,000 bushels at Ardrossan; 1,600,000 at Wallaroo; 1,320,000 at Port Lincoln; 820,000 at Thevenard; and 14,040,000 in country areas.

For the 1961–62 season, 24,317,000 bushels of wheat were received in bulk at 38 installations in country areas in addition to the terminals at Ardrossan, Wallaroo, Port Lincoln and Thevenard.

A new terminal is in course of construction at Port Pirie with a capacity of 1,100,000 bushels. Terminal extensions are in course of construction at Wallaroo (800,000 bushels), Port Lincoln (800,000 bushels) and Ardrossan (660,000 bushels). In addition to the above, the company is building 16 country silos with an overall capacity of 3,640,000 bushels. This will raise the total capacity of the company's silos for the 1962–63 season to 25,810,000 bushels.

(e) *Western Australia.* The bulk handling system is operated by Co-operative Bulk Handling Ltd., which is a company controlled by growers. The whole of the marketable harvest is received in bulk. There were, in 1961–62, 295 sidings equipped with bulk handling facilities. Four of these sidings now have concrete storages.

The system of storage at country stations in Western Australia comprises fixed installations of galvanized iron bins and iron and timber horizontal bulkheads. In addition, a type of temporary roofed bulkhead consisting of timber and iron is used. This latter type of storage can be transferred to suit operational requirements, and therefore lends flexibility to the system. Terminal installations comprise concrete silos and timber and iron horizontal bulkheads. Plans are in hand to increase the number of vertical concrete cell type storages at the main ports.

The total storage capacity for the 1961–62 season was 105,094,000 bushels, comprising 80,574,000 bushels in the country and 24,520,000 bushels at ports, including 1,000,000 bushel capacity scheduled for completion during 1962.

(f) *Tasmania.* In order to meet the change to bulk handling of wheat in the mainland exporting States, the Tasmanian Government has constructed grain elevators at Hobart, Launceston and Devonport, each with a capacity of 320,000 bushels, for storage of bulk wheat shipments from the mainland.

17. *World Area and Production of Wheat.*—The figures in the following table of the world area and production of wheat by principal countries and by continents have been compiled from the statistics published by the Foreign Agricultural Service of the United States Department of Agriculture. Years shown refer to years of harvest in the Northern Hemisphere. Harvests of the Northern Hemisphere countries are combined with those of the Southern Hemisphere which immediately follow; thus, the crop harvested in the Northern Hemisphere in 1960 is combined with preliminary forecasts for the Southern Hemisphere harvests, which will begin late in 1960 and end early in 1961.

**WHEAT : AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES.**

Continent and Country.	Area.(a)			Production.			Yield per Acre.		
	1958.	1959.	1960.	1958.	1959.	1960.	1958.	1959.	1960.
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
<i>North America—</i>									
Canada ..	20,899	23,065	23,198	371,730	413,520	489,624	17.8	17.9	21.1
United States ..	53,404	51,781	51,896	1,461,714	1,121,118	1,357,272	27.4	21.7	26.2
<i>Total(b)</i> ..	76,460	77,270	77,030	1,883,000	1,582,000	1,897,000	24.6	20.5	24.6

NOTE.—See next page for footnotes.

**WHEAT: AREA, PRODUCTION AND YIELD PER ACRE IN VARIOUS COUNTRIES—continued.**

Continent and Country.	Area.(a)			Production.			Yield per Acre.		
	1958.	1959.	1960.	1958.	1959.	1960.	1958.	1959.	1960.
	'000 acres.	'000 acres.	'000 acres.	'000 bushels.	'000 bushels.	'000 bushels.	bus.	bus.	bus.
<i>Europe—</i>									
France ..	11,404	10,970	10,769	353,000	425,000	405,000	31.0	38.7	37.6
Italy ..	12,100	11,600	11,300	360,000	311,200	250,000	29.3	26.8	22.1
Spain ..	10,872	10,774	10,230	167,000	175,000	130,000	15.4	16.2	12.7
<i>Total(b)</i> ..	73,520	72,540	70,370	1,860,000	2,065,000	1,915,000	25.3	28.5	27.2
<i>U.S.S.R. (Europe and Asia)(c)</i> ..	165,000	157,000	148,500	2,300,000	1,900,000	1,700,000	13.9	12.1	11.4
<i>Africa—Total(c)</i> ..	18,180	17,970	18,580	195,000	195,000	210,000	10.7	10.9	11.3
<i>Asia—</i>									
China ..	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
India ..	29,300	31,141	32,542	290,000	365,000	376,700	9.9	11.7	11.6
Pakistan ..	11,815	12,000	12,192	137,000	144,000	144,700	11.6	12.0	11.9
Turkey ..	16,000	15,500	15,600	240,000	225,000	260,000	15.0	14.5	16.7
<i>Total(b)</i> ..	140,730	138,260	144,410	1,910,000	1,915,000	1,920,000	13.6	13.8	13.3
<i>South America—</i>									
Argentina ..	12,954	10,818	8,893	245,000	215,000	150,000	18.9	19.9	16.9
<i>Total(b)</i> ..	20,090	16,840	15,180	330,000	290,000	235,000	16.4	17.2	15.5
<i>Oceania—</i>									
Australia ..	10,400	12,173	13,439	215,121	198,501	273,716	20.7	16.3	20.4
<i>Total(b)</i> ..	10,533	12,336	13,604	221,140	207,200	282,000	21.0	16.8	20.7
<b>World Total(b)</b> ..	<b>504,510</b>	<b>492,210</b>	<b>487,670</b>	<b>8,700,000</b>	<b>8,155,000</b>	<b>8,160,000</b>	<b>17.2</b>	<b>16.6</b>	<b>16.7</b>

(a) Figures refer to harvested areas as far as possible. For Australia, area sown is shown.  
 (b) Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown. (c) Estimated.  
 (d) Not available.

18. **Principal Exporting and Importing Countries.**—The following table shows the quantities of wheat traded by the chief exporting and importing countries for the years 1958–59 to 1960–61, based on statistics recently published by the Food and Agriculture Organization of the United Nations.

While Australia's production of wheat averages less than 3 per cent. of the world's total, its exports account for a much higher proportion of the total quantities shipped. In 1960–61, for example, Australia's share of world wheat exports amounted to 12.9 per cent.

## WHEAT (INCLUDING FLOUR IN TERMS OF WHEAT): PRINCIPAL EXPORTING AND IMPORTING COUNTRIES.

Country.	1958-59.		1959-60.		1960-61.(a)	
	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.	Quantity.	Proportion of World Total.
<b>EXPORTING COUNTRIES.</b>						
	million bushels.	%	million bushels.	%	million bushels.	%
United States of America .. .. .	442.1	38.6	508.7	43.4	660.4	46.2
Canada .. .. .	300.4	26.2	278.3	23.7	343.8	24.1
Australia .. .. .	76.3	6.7	117.1	10.0	184.4	12.9
Argentina .. .. .	103.0	9.0	78.7	6.7	70.2	4.9
France .. .. .	38.9	3.4	65.1	5.6	56.6	4.0
U.S.S.R.(b) .. .. .	57.5	5.0	30.7	2.6	45.7	3.2
Germany, Federal Republic of ..	24.4	2.1	29.0	2.5	30.3	2.1
All other .. .. .	102.3	9.0	64.2	5.5	37.9	2.6
<i>Total(c)</i> .. .. .	<i>1,144.9</i>	<i>100.0</i>	<i>1,171.8</i>	<i>100.0</i>	<i>1,429.3</i>	<i>100.0</i>
<b>IMPORTING COUNTRIES.</b>						
	million bushels.	%	million bushels.	%	million bushels.	%
United Kingdom .. .. .	194.8	17.3	164.3	14.0	173.1	12.2
India .. .. .	128.2	11.4	131.7	11.2	140.6	10.0
Japan .. .. .	90.3	8.0	94.3	8.0	104.1	7.4
Italy .. .. .	2.9	0.3	4.1	0.3	86.5	6.1
Germany, Federal Republic of ..	89.3	7.9	76.9	6.6	81.0	5.7
China, Republic of (Mainland)(b)	2.0	0.2	(d)	(d)	72.8	5.2
Brazil .. .. .	75.2	6.7	65.6	5.6	(b) 70.0	5.0
United Arab Republic .. .. .	54.6	4.8	55.6	4.7	(b) 61.5	4.4
Poland .. .. .	(b) 14.0	1.2	64.2	5.5	55.7	3.9
Pakistan .. .. .	19.8	1.8	32.7	2.8	(b) 41.0	2.9
Spain .. .. .	0.6	(d)	2.2	0.2	36.7	2.6
Holland .. .. .	44.6	4.0	40.9	3.5	34.5	2.4
All other .. .. .	409.9	36.4	440.4	37.6	455.3	32.2
<i>Total(c)</i> .. .. .	<i>1,126.2</i>	<i>100.0</i>	<i>1,172.9</i>	<i>100.0</i>	<i>1,412.8</i>	<i>100.0</i>

(a) Preliminary. (b) Unofficial estimate. (c) Total exports do not necessarily agree with total imports because of the time lag between shipments and arrivals, and because export data in official trade returns do not always indicate final destinations. (d) Less than .05 of the unit shown.

NOTE.—One short ton (2,000 lb.) of flour is taken to be equivalent to 46.3 bushels of wheat.

Estimates of exports to, and imports from, the U.S.S.R. and Mainland China (and Poland for 1958-59 only) in the table above are based entirely on available trade returns of the trading partners outside the Sino-Soviet bloc. No account is taken of trade within this bloc owing to the incomplete nature of the data.

## § 5. Oats.

1. Area, Production and Yield per Acre.—Oats is usually next in importance to wheat among the grain crops cultivated in Australia. However, while wheat grown for grain in 1960-61 accounted for 45 per cent., oats grown for grain represented only 12 per cent. of the area of all crops. The area, production and yield per acre of oats in each State are shown below for the years 1956-57 to 1960-61 in comparison with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

## OATS FOR GRAIN : AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
AREA ('000 ACRES).								
Average for three years ended—								
1938-39 ..	297	478	8	338	425	26	(a)	1,572
1948-49 ..	515	548	21	282	484	17	1	1,868
1958-59 ..	756	735	29	445	1,178	20	(a)	3,163
Year—								
1956-57 ..	420	613	28	427	1,051	17	(a)	2,556
1957-58 ..	716	622	19	427	1,154	21	(a)	2,959
1958-59 ..	1,130	971	39	481	1,330	22	1	3,974
1959-60 ..	567	673	22	506	1,240	22	(a)	3,030
1960-61 ..	917	835	19	512	1,330	23	1	3,637
PRODUCTION ('000 BUSHELS).(b)								
Average for three years ended—								
1938-39 ..	4,065	4,781	65	2,575	4,159	810	6	16,461
1948-49 ..	7,166	9,757	324	3,606	5,355	406	7	26,621
1958-59 ..	12,619	14,140	547	7,911	15,606	409	10	51,242
Year—								
1956-57 ..	6,274	9,555	553	8,318	10,441	253	2	35,396
1957-58 ..	3,944	9,528	256	3,423	13,793	482	(c)	31,426
1958-59 ..	27,638	23,339	832	11,992	22,585	491	28	86,905
1959-60 ..	11,125	12,701	394	2,504	19,599	512	6	46,841
1960-61 ..	21,466	20,666	285	11,478	21,810	391	11	76,107
YIELD PER ACRE (BUSHELS).(b)								
Average for three years ended—								
1938-39 ..	13.7	10.0	8.1	7.6	9.8	3.1	24.3	10.5
1948-49 ..	13.9	17.8	15.4	12.8	11.1	2.4	11.8	14.3
1958-59 ..	16.7	19.2	18.9	17.8	13.3	20.5	22.5	16.2
Years—								
1956-57 ..	14.9	15.6	20.1	19.5	9.9	15.3	12.5	13.8
1957-58 ..	5.5	15.3	13.4	8.0	12.0	23.3	7.4	10.6
1958-59 ..	24.5	24.0	21.3	24.9	17.0	22.1	26.6	21.9
1959-60 ..	19.6	18.9	18.4	5.0	15.8	23.2	24.8	15.5
1960-61 ..	23.5	24.7	15.0	22.4	16.4	17.0	21.9	20.9
(a) Less than 500 acres. (b) 40 lb. per bushel. (c) Less than 500 bushels.								

Graphs showing the area sown to oats, and production of oats appear on pages 911 and 913 respectively.

In 1958-59, extremely favourable seasonal conditions for all cereal crops were experienced, and production of oats reached an all-time high at 86,905,000 bushels, the previous record being 56,487,000 bushels in 1955-56. Production was again at a near record level in 1960-61 when 76,107,000 bushels were harvested.

The average yield of 20.9 bushels an acre in 1960-61 was only just below the yield of 21.9 bushels an acre in 1958-59, the highest yield in recent years. The previous highest yield in recent years was 19.3 bushels an acre in the 1947-48 season, which was the highest since 1920-21. The yield per acre recorded in the abnormally dry season 1944-45, 4.4 bushels, was the lowest ever recorded for Australia.

2. **Price of Oats.**—The average wholesale price in the Melbourne market for oats of good milling quality was 7s. 1½d. a bushel in 1960–61, compared with 7s. 9d. in 1959–60.

3. **Value of Oat Crop.**—The estimated gross value of the oat crop in each State for the 1960–61 season and the value per acre were as follows.

OATS : VALUE OF CROP, 1960-61.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	9,034	6,479	146	2,809	6,875	189	3	25,535
Value per acre.. £	9.9	7.8	7.7	5.5	5.2	8.2	3.0	7.0

4. **Exports.**—The production of oats in Australia is sufficient to allow for a regular export trade. The quantities and values of oats exported from Australia during the years 1956–57 to 1960–61 are shown below.

OATS : EXPORTS, AUSTRALIA.

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Quantity .. .. '000 bus.	8,165	2,296	17,557	11,969	19,005
Value .. .. £'000	2,972	1,064	6,512	5,031	6,854

In 1960–61, the principal countries of destination were the Federal Republic of Germany (6,352,000 bushels), Republic of China (Mainland) (3,596,000 bushels), the Netherlands (3,390,000 bushels), Italy (3,281,000 bushels) and the United Kingdom (1,787,000 bushels). Imports of oats into Australia are not recorded separately.

5. **Oatmeal, etc.**—In 1960–61, the production of oatmeal was 15,868 tons for porridge and 15,677 tons for other purposes. This was equivalent to about 3,500,000 bushels of oats.

6. **World Production.**—The world's production of oats for the year 1960, according to figures released by the United States Department of Agriculture, amounted to 4,000 million bushels, harvested from 110.6 million acres, representing an average yield of 36.2 bushels per acre. This compared with an estimated production in the previous year of 3,725 million bushels from an area of 111.2 million acres and an average yield of 33.5 bushels an acre.

§ 6. Maize.

1. **States Growing Maize.**—Maize is grown for grain chiefly in Queensland and New South Wales, the area so cropped in these States during the 1960–61 season being 181,651 acres, or 98 per cent. of the total for Australia. In all States except South Australia, the crop is grown to some extent for green fodder, particularly in connexion with the dairying industry.

2. **Area, Production and Yield per Acre.**—Although maize for grain is grown extensively in other countries, the area sown to maize for grain in Australia has averaged only 182,549 acres during the five years ended 1960–61. The area in 1960–61 was 184,642 acres, a slight decrease only on the previous year, but considerably less than the comparatively large areas of 414,914 and 400,544 acres sown in 1910–11 and 1927–28 respectively.

There has been a considerable increase in recent years in the growing of maize from hybrid strains of seed. Varieties have been developed which are capable of producing yields per acre considerably in excess of the older open pollinated types. The expansion in areas sown to hybrid maize has led to a parallel development in the specialized industry of growing hybrid strains for seed.

The area, production and yield per acre of maize for grain in each State for the years 1956-57 to 1960-61 compared with the averages for the three three-year periods ended 1938-39, 1948-49 and 1958-59 are given in the following table. Separate details for hybrid and other varieties are shown for New South Wales, Victoria and Queensland for 1960-61.

**MAIZE FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE.**

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938-39 ..	121,178	19,826	179,641	20	16	..	6	320,687
1948-49 ..	91,612	7,511	122,263	1	87	..	1	221,481
1958-59 ..	57,662	3,629	120,417	(a)	13	..	2	b 181,724
Years—								
1956-57 ..	53,225	2,727	125,606	(a)	10	..	..	b 181,570
1957-58 ..	57,513	4,278	122,245	(a)	20	..	6	b 184,062
1958-59 ..	62,249	3,881	113,402	(a)	10	..	..	b 179,542
1959-60 ..	51,738	3,383	129,803	(a)	4	..	..	b 184,928
1960-61—								
Hybrid ..	39,583	2,742	86,226	} (a)	6	..	..	b 184,642
Other ..	9,686	243	46,156		6	..	..	b 184,642
Total ..	49,269	2,985	132,382	(a)	6	..	..	b 184,642

PRODUCTION ('000 BUSHELS).(c)								
Average for three years ended—								
1938-39 ..	3,204	665	3,170	1	(d)	..	(d)	7,040
1948-49 ..	2,446	314	2,960	(d)	1	(d)	(d)	5,721
1958-59 ..	2,347	175	3,428	(a)	(d)	(d)	..	(b) 5,950
Year—								
1956-57 ..	1,945	81	3,468	(a)	(d)	(d)	..	(b) 5,494
1957-58 ..	2,237	241	3,161	(a)	(d)	..	(d)	(b) 5,639
1958-59 ..	2,860	203	3,634	(a)	(d)	..	..	(b) 6,717
1959-60 ..	2,485	180	4,060	(a)	(d)	..	..	(b) 6,725
1960-61—								
Hybrid ..	1,866	163	2,636	} (a)	(d)	..	..	(b) 6,245
Other ..	361	8	1,211		(d)	..	..	(b) 6,245
Total ..	2,227	171	3,847	(a)	(d)	..	..	(b) 6,245

YIELD PER ACRE (BUSHELS).(c)								
Average for three years ended—								
1938-39 ..	26.4	33.5	17.6	43.7	12.3	..	10.2	22.0
1948-49 ..	26.7	41.8	24.2	6.7	7.2	14.8	13.7	25.8
1958-59 ..	40.7	48.2	28.5	(a)	16.8	30.0	..	32.7
Year—								
1956-57 ..	36.6	29.6	27.6	(a)	12.0	30.0	..	(b) 30.3
1957-58 ..	38.9	56.5	25.9	(a)	14.9	..	..	(b) 30.6
1958-59 ..	45.9	52.4	32.2	(a)	25.5	..	..	(b) 37.4
1959-60 ..	48.0	53.3	31.3	(a)	25.5	..	..	(b) 36.4
1960-61—								
Hybrid ..	47.1	59.3	30.6	} (a)	1.0	..	..	(b) 33.8
Other ..	37.3	34.7	26.2		(a)	1.0	..	..
Total ..	45.2	57.3	29.1	(a)	1.0	..	..	(b) 33.8

(a) Not available for publication. (b) Incomplete. See footnotes to individual States. (c) 56 lb. per bushel. (d) Less than 500 bushels.

The average yield for Australia for the five-year period ended 1960-61 was 33.7 bushels per acre. Among principal producing countries during 1960, the United States of America averaged 53.0 bushels per acre and Italy 46.2 bushels.

3. Price of Maize.—The average wholesale price of maize in the Melbourne market in 1960-61 was 20s. 4½d. a bushel compared with 16s. 1d. in 1959-60.

4. Value of Crop.—The estimated gross value of the crop in each State for the 1960-61 season and the value per acre were as follows.

**MAIZE FOR GRAIN: VALUE OF CROP, 1960-61.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Aggregate value ..	£'000	1,976	137	3,151	..	(a)	5,264
Value per acre ..	£	40.1	45.9	23.8	..	1.3	28.5

(a) Less than £500.

5. Exports of Maize and Maize Products.—Details of exports of maize for the five years ended 1960-61 are shown below.

MAIZE : EXPORTS, AUSTRALIA.

Particulars.		1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Quantity ..	'000 bus.	32	48	15	22	3
Value ..	£'000	26	30	10	15	3

Imports of maize into Australia are not recorded separately.

Exports of cornflour, which prior to the 1939-45 War were very small, increased considerably during the war years, the principal country of destination being New Zealand. In 1960-61, however, only 129,700 lb., valued at £2,652, were exported. It should be noted that these figures include some quantities of "cornflour" made from wheat. Imports of cornflour into Australia are not recorded separately.

6. World Production.—According to preliminary figures released by the United States Department of Agriculture, world production of maize in the year 1960 amounted to 8,200 million bushels, harvested from 268 million acres, giving an average yield per acre of 30.6 bushels. This compared with production in the previous year of 7,940 million bushels from 269 million acres, and an average of 30.4 bushels per acre.

The United States of America is the most important maize-producing country in the world and during the three years ended 1960 the area sown to maize in that country averaged 80 million acres or 30 per cent. of the world total. During the same period, production averaged 4.145 million bushels or about 51 per cent. of the world total. These figures are not strictly comparable with those for other countries included in the above-mentioned world totals, as the area and an estimate of grain equivalent of maize used as green fodder are included.

A graph showing the production of maize in Australia appears on page 913.

§ 7. Barley.

1. Area, Production and Yield per Acre.—The area sown to barley for grain expanded considerably during the ten years preceding the 1939-45 War—from 383,000 acres in 1930-31 to 836,000 acres in 1939-40. This increase was followed by a decline to 443,000 acres in 1943-44, but the area sown has increased in succeeding years and in 1960-61 reached the record level of 2,830,000 acres. Victoria was originally the principal barley-growing State, but since 1913-14 its place has been taken by South Australia which accounted for 55 per cent. of the Australian acreage in 1960-61. There has been a substantial increase in the acreage sown in most States in recent years, particularly in Western Australia and Queensland. Small areas of barley are sown for hay, and larger quantities are sown for green forage, but these are not included in this section. The production of barley for grain in Australia in 1960-61 was a record at 67,970,000 bushels. The previous highest recorded production occurred in 1958-59 when 62,976,000 bushels were produced. The area, production and yield per acre of barley for grain in the several States for the years 1956-57 to 1960-61, compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59 are shown in the following table.

BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA ('000 ACRES).								
Average for three years ended—								
1938-39 ..	13	138	10	391	53	8	(a)	613
1948-49 ..	23	166	18	587	65	7	(a)	866
1958-59 ..	73	354	184	1,255	324	8	..	2,198
Years—								
1956-57 ..	44	345	131	1,222	344	7	..	2,093
1957-58 ..	69	352	173	1,212	307	8	..	2,121
1958-59 ..	106	363	249	1,332	322	9	..	2,381
1959-60 ..	118	278	260	1,290	421	12	..	2,379
1960-61—								
2-row ..	119	293	200	1,472	72	} 16	..	2,830
6-row ..	70	16	19	84	469			
Total ..	189	309	219	1,556	541	16	..	2,830

For footnotes see next page.



BARLEY FOR GRAIN: AREA, PRODUCTION AND YIELD PER ACRE—*continued.*

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
PRODUCTION ('000 BUSHELLS).(b)								
Average for three years ended—								
1938-39 ..	197	2,174	135	6,816	660	252	(c)	10,234
1948-49 ..	316	3,149	375	11,964	748	194	(c)	16,746
1958-59 ..	1,463	7,192	4,673	29,740	4,239	267	..	47,574
Year—								
1956-57 ..	781	7,549	2,960	34,003	3,751	235	..	49,279
1957-58 ..	685	5,447	2,956	17,552	3,556	270	..	30,466
1958-59 ..	2,922	8,581	8,103	37,665	5,410	295	..	62,976
1959-60 ..	2,581	5,593	6,650	11,857	6,980	418	..	34,079
1960-61—								
2-row ..	2,947	7,391	4,014	40,163	1,175	} 344	..	67,970
6-row ..	1,839	327	379	2,070	7,321			
Total ..	4,786	7,718	4,393	42,233	8,496		..	

YIELD PER ACRE (BUSHELLS).(b)								
Average for three years ended—								
1938-39 ..	15.2	15.7	13.5	17.4	12.5	31.5	52.3	16.7
1948-49 ..	13.7	19.0	20.8	20.4	11.5	27.7	19.5	19.3
1958-59 ..	20.0	20.3	25.4	23.7	13.1	33.4	..	20.7
Year—								
1956-57 ..	17.7	21.9	22.5	27.8	10.9	33.2	..	23.5
1957-58 ..	10.0	15.5	17.1	14.5	11.6	32.2	..	14.4
1958-59 ..	27.6	23.6	32.6	28.3	16.8	31.6	..	26.5
1959-60 ..	21.8	20.1	25.6	9.2	10.6	33.8	..	14.3
1960-61—								
2-row ..	24.7	25.2	20.0	27.3	16.3	} 15.9	..	24.0
6-row ..	26.2	20.7	20.0	24.6	15.6			
Total ..	25.3	25.0	20.0	27.1	15.7		..	

(a) Less than 500 acres.

(b) 50 lb. per bushel.

(c) Less than 500 bushels.

For Australia (excluding Tasmania), 82 per cent. of the area of barley for grain in 1960-61 was sown with 2-row barley, while the remainder consisted of 6-row varieties. The proportion, however, varied considerably in the several States. The utilization of barley during the season ended November, 1961, was as follows:—exports, 41,583,000 bushels; malting and distilling, 9,017,000 bushels; pearl barley, 178,000 bushels; seed and stock feed, 14,300,000 bushels.

The following table sets out the acreage and production of 2- and 6- row barley in Australia during the seasons 1956-57 to 1960-61 and the averages for the three years ended 1938-39, 1948-49 and 1958-59.

## BARLEY, 2- AND 6- ROW: AREA AND PRODUCTION, AUSTRALIA.

Period.	Area. (‘000 Acres.)			Production. (‘000 Bushels.)(a)			Yield per Acre. (Bushels.)(a)		
	2-row.	6-row.	Total.	2-row.	6-row.	Total.	2-row.	6-row.	Totals.
Average for three years ended—									
1938-39 ..	523	90	613	8,963	1,271	10,234	17.1	14.1	16.7
1948-49 ..	769	97	866	15,142	1,604	16,746	19.7	16.5	19.3
1958-59 ..	1,809	389	2,198	41,633	5,941	47,574	23.0	15.3	20.7
Year—									
1956-57 ..	1,705	388	2,093	43,871	5,408	49,279	25.7	13.9	23.5
1957-58 ..	1,758	363	2,121	26,404	4,062	30,466	15.0	11.2	14.4
1958-59 ..	1,965	416	2,381	54,624	8,352	62,976	27.8	20.1	26.5
1959-60 ..	(b)1,868	(b) 499	2,379	b 25,575	(b)8,086	34,079	(b) 13.7	(b) 16.2	14.3
1960-61 ..	(b)2,157	(b) 658	2,830	b 55,691	b 11,935	67,970	(b) 25.8	(b) 18.1	24.0

(a) 50 lb. per bushel.

(b) Excludes Tasmania.

A graph showing the production of barley appears on page 913.

2. **Australian Barley Board.**—Following the outbreak of war in 1939, the Australian Barley Board, representative of the whole industry, was formed, and the Commonwealth Government acceded to its request to acquire the entire 1939–40 barley crop, which was placed under the control of the Board. A pool was established, from which proceeds were distributed with appropriate margins for different grades of barley. The Board was responsible for the marketing and storage of barley, and, like the Australian Wheat Board, appointed licensed receivers to receive grain on its behalf.

Following the decision of the Commonwealth Government not to acquire barley in the smaller producing States after 1941–42, the pooling of barley in Queensland reverted to the control of the Queensland Barley Board (originally established in 1930), and in Western Australia a State Barley Board was established to control marketing.

The Commonwealth Government ceased to acquire barley altogether after the 1947–48 crop, and the Victorian and South Australian Governments formed a joint board under the same name as the former Commonwealth board to market the 1948–49 and subsequent crops of the two States. Details for the seasons from 1955–56 to 1960–61 are shown in the table below.

**AUSTRALIAN BARLEY BOARD : BARLEY RECEIVED, SOLD, ETC.**

Pool.	Quantity Received.	Quantity Sold.(a)	Total Advances made per Bushel on 2-row No. 1 Grade less freight.		Total Net Payments to Growers.
			s.	d.	
	'000 bushels.	'000 bushels.			£
No. 17 (1955–56 Crop) .. ..	29,357	29,454	10	3.441	12,990,173
„ 18 (1956–57 „) .. ..	39,029	39,102	10	2.541	16,965,609
„ 19 (1957–58 „) .. ..	18,023	18,195	11	9.61	9,151,748
„ 20 (1958–59 „) .. ..	42,550	42,560	10	10.1	19,616,789
„ 21 (1959–60 „) .. ..	11,773	11,797	10	0.51	4,904,172
„ 22 (1960–61 „) .. ..	44,624	44,624	(b) 8	6	15,267,359

(a) Includes surplus in out-turn except for No. 22 Pool, for which this surplus has not yet been determined. (b) As at 31st December, 1961. At that date, it was estimated that the amount still to be paid to growers was 8.418d. per bushel.

3. **Prices.**—The average wholesale price for 2-row English malting barley in the Melbourne market during 1960–61 was 14s. 11d. compared with 14s. 7d. in 1959–60.

4. **Value of Barley Crop.**—The estimated gross value of the barley crop in each State for the 1960–61 season and the value per acre are shown in the following table.

**BARLEY FOR GRAIN : VALUE OF CROP, 1960-61.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Aggregate value .. £'000	2,884	3,317	2,170	18,989	3,465	247	31,072
Value per acre .. £	15.3	10.7	9.9	12.2	6.4	15.4	11.0

5. **Exports.**—Exports of barley during the five years ended 1960–61 averaged 27,368,000 bushels. South Australia was the principal exporting State, while the Republic of China (Mainland), Italy, the Netherlands and the United Kingdom were the principal countries to which barley was shipped. Particulars of Australian exports for the years 1956–57 to 1960–61 are shown in the following table.

**BARLEY : EXPORTS, AUSTRALIA.**

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Quantity .. .. '000 bus.	26,501	21,501	29,924	25,013	33,900
Value .. .. £'000	12,745	9,474	16,898	11,541	14,329

Imports of barley into Australia are not recorded separately.

In addition to exports of barley grain, there are also exports of Australian pearl and Scotch barley, the total for 1960-61 amounting to 215,128 lb., valued at £10,982, consigned mainly to Malaya.

6. Malt.—(i) *Production.* Details of the quantity of grain used and the production of barley malt in the years 1956-57 to 1960-61 are given in the following table.

**BARLEY MALT : GRAIN USED AND MALT PRODUCED, AUSTRALIA.**

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Grain used . . '000 bus. <i>a</i>	7,855	8,494	8,198	8,539	9,020
Malt produced . . '000 bus. <i>b</i>	7,895	8,197	8,108	8,435	9,015

(a) 50 lb. per bushel.

(b) 40 lb. per bushel.

(ii) *Exports.* Since 1952-53, the production of malt in Australia has been sufficient to meet local requirements and to provide a margin for export. Exports amounting to 1,103,927 bushels (value £1,046,693) and 2,055,445 bushels (value £1,985,109) were recorded in 1959-60 and 1960-61 respectively.

7. *World Production.*—In comparison with the barley production of other countries, that of Australia is extremely small. The main producers in 1960 were the United States of America, France, and Canada. China is also normally a major producer, but details for 1960 are not available. Australian production in that year was approximately two per cent. of the world total.

According to estimates made by the United States Department of Agriculture, world production of barley in the year 1960 amounted to 3,410 million bushels harvested from 135.9 million acres, equivalent to a yield per acre of 25.1 bushels. This compared with the production of 3 290 million bushels in the previous year from 136.5 million acres, and a yield per acre of 24.1 bushels.

### § 8. Rice.

The principal rice-growing areas of the world are confined almost entirely to Asia although limited quantities are grown in other countries. In Australia, rice was first cultivated at the Yanco Experimental Farm in New South Wales, but it was not grown commercially until 1924-25, when 16,240 bushels were produced from 153 acres. Favoured by high average yields and protected by tariff, rice culture made rapid progress in the Murrumbidgee Irrigation Area until local requirements were met and a surplus became available for export. The acreage sown in this area is controlled, as the quantity of water available is limited.

The area sown in New South Wales in 1960-61 was 46,117 acres, which was 4,360 acres below the 1956-57 record of 50,477 acres. Production in 1960-61 amounted to 6,001,066 bushels, which was 730,987 bushels less than the amount produced in 1959-60.

A graph showing the production of rice appears on page 913.

The bulk of Australia's exports of rice in 1960-61 was shipped to Papua and New Guinea, the Pacific Islands and the United Kingdom.

Details relating to area, production and exports for the years 1956-57 to 1960-61 are shown in the following table.

RICE : AREA, PRODUCTION AND EXPORTS, AUSTRALIA.(a)

Season.	No. of Holdings Growing Rice.(b)	Area.	Production (Paddy Rice).			Average Yield (Paddy) per Acre.	Exports.(d)	
			Quantity.	Gross Value. (c)			Un-cleaned.	Cleaned.
			Acres.	'000 Bushels. (e)	£'000.	Bushels. (e)	Cwt.	Cwt.
1956-57 .. ..	652	50,477	4,262	3,069	84.4	177,123	408,634	
1957-58 .. ..	743	46,774	5,658	4,045	121.0	211,426	430,928	
1958-59 .. ..	775	47,054	6,619	4,731	140.7	182,583	704,381	
1959-60 .. ..	848	48,950	6,732	4,450	137.5	265,640	1,055,841	
1960-61 .. ..	787	46,117	6,001	4,125	130.1	359,441	876,216	

(a) Until recently rice-growing in Australia has been practically confined to New South Wales with very small acreages only being sown in Queensland and Western Australia. Production commenced in the Northern Territory in 1956-57 but details, which are confidential, are not included in the table. (b) Twenty acres or more in area. (c) Excludes the value of straw. (d) Imports into Australia are not recorded separately. (e) 42 lb. per bushel.

Experimental rice growing is continuing in the Humpty Doo area of the Northern Territory.

### § 9. Sorghum for Grain.

The growing of sorghum for grain on an extensive scale is a comparatively recent development in Australia. No details of the area and production of this cereal are available prior to 1939-40, but the output was of little importance. The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum and so far development has been restricted mainly to these areas, and more particularly to Queensland which accounts for the greater portion of the area sown. The grain produced is fed to livestock and has become an important source for supplementing other coarse grains for the feeding of livestock. Other sorghums are grown in Australia mainly as green fodder, hay and silage (sweet sorghums and Sudan grass) and for the production of brush for broom manufacture (broom millet). Particulars of the area and production of sorghum grown for grain are given in the following table.

GRAIN SORGHUM : AREA, PRODUCTION AND YIELD PER ACRE, AUSTRALIA.

Season.	Area.			Production.(a)			Yield per Acre.(a)		
	N.S.W.	Q'land.	Total. (b)	N.S.W.	Q'land.	Total (b)	N.S.W.	Q'land.	Total. (b)
	Acres.	Acres.	Acres.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.	Bushels.
1956-57 .. ..	34,585	171,705	206,659	671,331	4,243,227	4,919,247	19.4	24.7	23.8
1957-58 .. ..	47,017	166,979	214,442	521,325	3,885,567	4,407,500	11.1	23.3	20.6
1958-59 .. ..	41,899	210,371	252,419	943,359	6,365,880	7,309,645	22.5	30.3	29.0
1959-60 .. ..	51,195	220,094	271,553	1,451,967	6,630,369	8,086,405	28.4	30.1	29.8
1960-61 .. ..	41,145	213,761	255,109	577,473	5,417,571	5,996,101	14.0	25.3	23.5

(a) 60 lb. per bushel.

(b) Includes small areas sown and quantities produced in other States.

## § 10. Potatoes.

1. **Area, Production and Yield per Acre.**—Victoria possesses particular advantages for the growing of potatoes, as the rainfall is generally satisfactory and the climate is unfavourable to the spread of Irish blight; consequently, the crop is widely grown. The principal areas of that State are the central highlands and the south-western and Gippsland districts. Until 1958–59, Tasmania came next in order of acreage sown, although production exceeded that of Victoria in some of the war years. Since 1958–59, however, New South Wales, which had previously occupied third position, has supplanted Tasmania as the second most important State in area sown. In 1960–61, owing to adverse conditions during the growing season together with a decline in area sown, production in Tasmania was for the first time exceeded also by that in Queensland, South Australia and West Australia.

The area sown, production and yield per acre of potatoes in each State during the years 1956–57 to 1960–61 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown hereunder.

## POTATOES : AREA, PRODUCTION AND YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust. (a)
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	21,049	40,376	11,551	4,445	4,627	32,044	59	114,151
1948–49 ..	20,440	53,862	10,795	6,084	6,753	38,643	103	136,680
1958–59 ..	16,589	45,225	12,980	6,035	7,977	19,002	94	107,903
Year—								
1956–57 ..	14,959	39,706	12,925	5,677	8,558	19,125	100	101,050
1957–58 ..	17,326	49,846	14,400	6,260	8,322	21,696	92	117,946
1958–59 ..	17,482	46,122	11,614	6,168	7,051	16,186	90	104,713
1959–60 ..	19,159	48,506	12,311	5,872	6,964	15,525	67	108,404
1960–61 ..	18,365	38,672	11,992	5,209	6,656	10,875	36	91,805
PRODUCTION (TONS).								
Average for three years ended—								
1938–39 ..	52,158	137,583	17,191	20,342	23,678	109,285	143	360,380
1948–49 ..	62,701	191,590	26,470	32,149	38,722	148,389	598	500,619
1958–59 ..	68,533	245,937	50,989	48,072	50,024	92,367	391	556,315
Year—								
1956–57 ..	54,459	227,307	49,499	43,665	53,741	89,700	601	518,974
1957–58 ..	66,689	251,159	56,468	49,965	49,229	131,500	420	575,433
1958–59 ..	84,450	259,346	46,999	50,587	47,103	85,900	152	574,537
1959–60 ..	81,908	242,548	51,468	48,923	56,000	98,000	360	579,207
1960–61 ..	85,182	180,819	59,311	40,797	45,500	39,050	37	450,696
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938–39 ..	2.48	3.41	1.49	4.58	5.12	3.41	2.42	3.16
1948–49 ..	3.07	3.56	2.45	5.28	5.73	3.84	5.81	3.66
1958–59 ..	4.13	5.44	3.93	7.97	6.27	4.86	4.16	5.16
Year—								
1956–57 ..	3.64	5.73	3.83	7.69	6.28	4.69	6.01	5.14
1957–58 ..	3.85	5.04	3.92	7.98	5.92	4.68	4.57	4.88
1958–59 ..	4.83	5.62	4.05	8.20	6.68	5.31	1.69	5.49
1959–60 ..	4.28	5.00	4.18	8.33	8.04	6.31	5.37	5.34
1960–61 ..	4.64	4.68	4.95	7.83	6.84	3.59	1.02	4.91

(a) Includes Northern Territory.

After the outbreak of war in the Pacific in December, 1941, the area sown to potatoes increased rapidly and reached a maximum of 241,803 acres in 1944-45. Areas sown in subsequent seasons have been considerably less, and the figure for 1960-61 was 91,805 acres.

The average yield in Australia for 1960-61 was 4.91 tons per acre, which was considerably less than the yield of 5.34 tons obtained the previous season.

2. **Gross Value of Potato Crop.**—The estimated gross value of the potato crop of each State for the 1960-61 season and the value per acre are shown in the following table.

POTATOES : VALUE OF CROP, 1960-61.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	3,066	9,343	1,886	1,596	1,709	1,764	1	19,365
Value per acre £	167	242	157	306	257	162	41	211

3. **Consumption.**—The annual consumption of potatoes in Australia during each of the three years 1958-59 to 1960-61 amounted to 511,934 tons, 523,671 tons and 401,838 tons respectively, or 115.2 lb., 115.4 lb. and 86.6 lb. respectively per head of population. These figures exclude the quantities used for seed, which averaged about 48,700 tons annually over this period.

4. **Marketing.**—Commonwealth control of potato marketing under war-time legislation ceased at the end of 1948 with the completion of sales of the 1947-48 crop.

Potato Marketing Boards were subsequently established in all States under separate State legislation. The life of the Queensland Board was not extended when its term ended in 1954, and the New South Wales Board was voted out by growers in 1956. As the Victorian Board does not acquire the State crop, potato marketing is now conducted chiefly on an open marketing system.

5. **Exports.**—Prior to the 1939-45 War, small quantities of potatoes were exported, principally to the Pacific Islands and Papua. After the war, the export trade expanded considerably. It reached a peak of 37,570 tons in 1952-53, but then fell sharply. Details showing exports for the years 1956-57 to 1960-61 are given in the following table.

POTATOES : EXPORTS, AUSTRALIA.

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Quantity .. .. tons	3,958	7,410	4,489	4,748	5,219
Value .. .. £'000	263	227	152	134	195

Imports of potatoes into Australia in 1960-61 amounted to 1,619 tons, valued at £47,601, coming solely from New Zealand.

## § 11. Onions.

1. **Area, Production and Yield per Acre.**—Up to and including 1959-60, Australia's onion supply came chiefly from Victoria. However, in 1960-61, production in Queensland exceeded that of Victoria by nearly 5,000 tons. Most of Queensland's onion production is grown in the Lockyer Valley, and consists mainly of brown varieties. The Victorian crop consists almost entirely of brown onions, and the bulk of the crop is grown in a small section of the Western Division of the State, where soil conditions have been found to be particularly suitable for onion growing on a commercial scale. Details of the area, production and yield per acre are given in the following table for the years 1956-57 to 1960-61 together with averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

## ONIONS : AREA, PRODUCTION AND AVERAGE YIELD.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938-39 ..	126	5,634	1,187	521	122	8	6	7,604
1948-49 ..	433	6,245	2,234	534	468	26	4	9,944
1958-59 ..	491	4,614	3,655	635	413	29	9	9,846
Year—								
1956-57 ..	532	4,503	3,258	608	428	28	5	9,362
1957-58 ..	498	5,368	4,296	694	415	37	9	11,317
1958-59 ..	444	3,971	3,412	602	397	21	13	8,860
1959-60 ..	697	3,994	3,550	641	392	29	12	9,315
1960-61 ..	624	3,532	3,763	657	465	59	10	9,110
PRODUCTION (TONS).								
Average for three years ended—								
1938-39 ..	324	34,039	3,040	3,904	915	42	21	42,285
1948-49 ..	1,703	41,156	10,489	5,032	3,831	153	24	62,388
1958-59 ..	2,496	31,982	15,505	5,625	4,599	132	71	60,410
Year—								
1956-57 ..	2,669	26,811	14,279	5,611	4,606	114	32	54,122
1957-58 ..	2,343	40,678	18,653	5,945	4,149	186	76	72,030
1958-59 ..	2,476	28,456	13,584	5,318	5,043	97	106	55,080
1959-60 ..	3,658	27,808	14,708	5,644	4,830	135	39	56,822
1960-61 ..	3,935	16,286	21,156	5,947	5,826	285	80	53,515
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938-39 ..	2.57	6.04	2.56	7.49	7.50	5.25	3.50	5.56
1948-49 ..	3.93	6.59	4.70	9.42	8.19	5.88	6.00	6.27
1958-59 ..	5.08	6.93	4.24	8.86	11.14	4.55	7.89	6.14
Year—								
1956-57 ..	5.02	5.95	4.38	9.23	10.76	4.07	6.40	5.78
1957-58 ..	4.70	7.58	4.34	8.57	10.00	5.03	8.44	6.36
1958-59 ..	5.58	7.17	3.98	8.83	12.70	4.62	8.15	6.22
1959-60 ..	5.25	6.96	4.14	8.80	12.32	4.66	3.25	6.10
1960-61 ..	6.31	4.60	5.62	9.05	12.52	4.83	8.00	5.90

2. **Gross Value of Onion Crop.**—The estimated gross value of the onion crop and the value per acre are shown in the following table for the 1960-61 season.

## ONIONS : VALUE OF CROP, 1960-61.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	103	750	537	230	192	18	3	1,833
Value per acre £	165	212	143	350	413	305	300	201

3. **Consumption.**—The annual consumption of onions in Australia averaged 56,700 tons or 12.5 lb. per head of population during the three years ended 1960-61. These figures exclude an estimated wastage which averaged 2,500 tons per annum.

4. **Exports.**—Onions are the only root crop, other than potatoes, in which any considerable overseas trade is carried on by Australia. In 1960-61, exports amounted to 2,453 tons, valued at £88,668, and were shipped mainly to Singapore and New Caledonia. The quantity of exports in 1959-60 was 1,124 tons, valued at £70,052. Imports of onions amounted to 2,061 tons, valued at £72,195 in 1959-60, and 2,809 tons, valued at £91,214 in 1960-61.

## § 12. Hay.

1. General.—(i) *Area and Production.* As already stated, the chief crop in Australia, in terms of area, is wheat grown for grain. Up to and including 1946-47, hay was next, but in more recent years it has dropped in relative importance. In 1960-61, the areas sown to green fodder, and oats for grain, were larger than that sown to hay.

In 1960-61, the hay area represented 10.0 per cent. of the total area cropped. A graph showing the area sown to hay crops since 1900-01 appears on page 911. In most European countries, hay consists almost entirely of meadow and other grasses, but in Australia a very large proportion consists of oats, lucerne and wheat. The area, production and yield per acre of hay of all kinds in the several States during the years 1956-57 to 1960-61 and the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59 are shown below.

## HAY : AREA, PRODUCTION AND YIELD PER ACRE.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust. (a)
AREA ('000 ACRES).								
Average for three years ended—								
1938-39 ..	859	1,122	67	540	439	81	3	3,111
1948-49 ..	516	642	66	287	245	93	3	1,852
1958-59 ..	556	978	64	336	305	129	4	2,372
Year—								
1956-57 ..	367	782	45	299	242	123	3	1,861
1957-58 ..	534	871	69	291	339	110	3	2,237
1958-59 ..	747	1,282	78	419	333	154	5	3,018
1959-60 ..	482	848	81	245	319	127	3	2,105
1960-61 ..	750	1,286	84	393	284	171	4	2,973
PRODUCTION ('000 TONS).								
Average for three years ended—								
1938-39 ..	975	1,181	94	591	434	120	3	3,398
1948-49 ..	618	987	119	396	275	153	4	2,552
1958-59 ..	752	1,712	129	476	377	248	7	3,701
Year—								
1956-57 ..	538	1,423	96	453	289	238	6	3,043
1957-58 ..	535	1,413	122	304	386	205	4	2,969
1958-59 ..	1,183	2,299	169	672	455	302	10	5,090
1959-60 ..	779	1,351	179	207	433	221	7	3,177
1960-61 ..	1,243	2,338	167	616	380	326	8	5,079
YIELD PER ACRE (TONS).								
Average for three years ended—								
1938-39 ..	1.14	1.05	1.40	1.09	0.99	1.48	1.00	1.09
1948-49 ..	1.20	1.54	1.80	1.38	1.12	1.65	1.33	1.38
1958-59 ..	1.35	1.75	2.02	1.42	1.24	1.92	1.75	1.56
Year—								
1956-57 ..	1.47	1.82	2.12	1.52	1.19	1.94	1.81	1.63
1957-58 ..	0.96	1.62	1.77	1.05	1.14	1.86	1.39	1.33
1958-59 ..	1.58	1.79	2.17	1.60	1.37	1.96	1.98	1.69
1959-60 ..	1.62	1.59	2.21	0.84	1.36	1.75	2.15	1.51
1960-61 ..	1.66	1.82	1.98	1.57	1.34	1.91	2.12	1.71

(a) Includes small amounts grown in the Northern Territory.

For a number of reasons, particularly the variations in the relative prices of grain and hay and whether the season is favourable or not for a grain crop, the area of hay is apt to fluctuate considerably. The area under hay in Australia during the season 1915-16, 3,598,000 acres, was the largest on record, while the area recorded in 1958-59, 3,018,000 acres, was the largest since 1938-39. The area in 1960-61 was 2,973,000 acres while production in that year, at 5,079,000 tons, was the highest since 1915-16.

A graph showing the production of hay appears on page 913.

(ii) *Varieties Grown.* Information regarding areas cut for hay in 1960-61 is given in the following table.



**HAY : AREA OF VARIOUS KINDS GROWN, 1960-61.**  
(Acres.)

State.	Wheaten.	Oaten.	Lucerne.	Other.	Total.
New South Wales .. ..	101,002	98,059	207,844	343,297	750,202
Victoria .. ..	36,430	180,224	84,061	985,531	1,286,246
Queensland .. ..	16,254	3,509	57,330	7,141	84,234
South Australia .. ..	51,649	152,750	35,690	152,544	392,633
Western Australia .. ..	40,956	147,893	1,074	94,115	284,038
Tasmania .. ..	1,741	12,361	1,177	155,733	171,012
Northern Territory .. ..	..	..	..	740	740
Australian Capital Territory ..	22	642	1,557	1,711	3,932
<b>Australia .. ..</b>	<b>248,054</b>	<b>595,438</b>	<b>388,733</b>	<b>1,740,812</b>	<b>2,973,037</b>

For all States and the Territories combined, the proportions of the areas sown to the principal kinds of hay in 1960-61 were 20.0 per cent. for oaten, 13.1 per cent. for lucerne, 8.3 per cent. for wheaten, and 58.6 per cent. for other hay.

2. **Value of Hay Crop.**—The following table shows the estimated gross value, and the value per acre, of the hay crop of the several States for the 1960-61 season.

**HAY : VALUE OF CROP, 1960-61.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Aggregate value £'000	13,179	22,018	3,651	4,622	3,607	3,008	85	(a)50,181
Value per acre £	17.6	17.1	43.3	11.8	12.7	17.6	21.6	16.9

(a) Includes £11,000 in the Northern Territory.

3. **Farm Stocks of Hay.**—Particulars of stocks of hay held on farms at 31st March in each year 1957 to 1961 are given in the table below.

**STOCKS OF HAY HELD ON FARMS.**  
(Tons.)

31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
1957 ..	775,464	2,008,678	156,599	555,681	222,941	296,257	7,617	4,023,237
1958 ..	553,691	1,643,876	89,897	384,143	211,069	256,199	3,492	3,142,367
1959 ..	1,463,334	2,464,050	166,657	679,003	290,988	311,825	9,323	5,385,180
1960 ..	1,535,252	1,766,857	203,675	304,227	292,086	255,471	10,778	4,368,346
1961 ..	1,704,486	2,640,249	155,209	648,267	258,859	327,696	12,338	5,747,104

4. **Exports.**—Under normal conditions, hay, whether whole or in the form of chaff, is somewhat bulky for oversea trade, and consequently does not figure largely among the exports of Australia. During 1960-61, exports amounting to 2,001 tons, valued at £43,011 were made principally to Singapore, the Federation of Malaya and Hong Kong. There were no imports of hay in 1960-61.

### § 13. Green Fodder.

1. **Nature and Extent.**—Considerable areas are devoted to the growing of green fodder, mainly in connexion with the dairying industry. In the 1960-61 season, green fodder ranked second to wheat in area of crops throughout Australia. A graph showing the area sown to green fodder appears on page 911. The areas recorded in respect of green fodder include areas of crops cut for feeding to live-stock as green fodder, or ensilage, together with areas fed off to stock as green forage. Included with the latter are areas which may have been sown with the intention of harvesting for grain, but which, owing to adverse conditions, showed no promise of producing grain or even hay and were fed off to live-stock. The principal crops cut for green fodder are oats, wheat and lucerne, while small quantities

of barley, sorghum, maize, rye and sugar cane are also used in this way. In 1960-61, the area under green fodder (4,407,561 acres) consisted of oats (1,868,320 acres), lucerne (1,590,794 acres), wheat (208,373 acres), barley (163,488 acres), sorghum (155,509 acres), maize (40,536 acres), rye (29,919 acres), sugar cane (2,801 acres) and other crops (347,821 acres). Particulars concerning the area of green fodder in the several States during each of the years 1956-57 to 1960-61 are given in the following table.

GREEN FODDER : AREA.  
(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Austr.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1956-57 ..	813,642	333,115	640,316	657,967	752,072	48,435	2	77	1,246,321
1957-58 ..	993,039	465,009	714,048	748,089	770,739	54,094	4	1,03	1,746,034
1958-59 ..	1,238,314	319,150	638,667	550,366	769,199	61,322	273	66	1,577,958
1959-60 ..	1,578,759	422,237	725,155	595,713	708,793	62,229	240	96	1,094,094
1960-61 ..	1,691,408	430,920	874,702	743,538	606,039	59,563	144	1,24	1,407,561

2. Value of Green Fodder Crops.—The value of these crops is variously estimated in the several States, but the Australian total, excluding Western Australia, may be taken as approximately £7,600,000 for the 1959-60 season and £9,600,000 for the 1960-61 season.

### § 14. Sugar Cane.

1. Area.—Sugar cane growing appears to have commenced in Australia in or about 1862, and is confined, on a commercial basis, to New South Wales and Queensland. In recent years, sugar cane has been grown experimentally in Western Australia. A brief outline of the development of the industry was included in earlier issues of the Official Year Book (see No. 38 page 985). The area of sugar cane in Australia for the seasons 1956-57 to 1960-61 and the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59 are shown in the following table.

SUGAR CANE : AREA.(a)  
(Acres.)

Season.	New South Wales.			Queensland.			Australia.			Total.
	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	Area crushed.	Area of stand-over and newly-planted cane.	Area cut for plants.	
Average for three years ended—										
1938-39	10,468	10,366	(b)	247,632	89,690	(b)	258,100	100,056	(b)	(b)
1948-49	7,687	8,666	338	230,905	90,448	12,891	238,592	99,114	13,229	350,935
1958-59	11,094	9,462	619	360,709	110,786	12,596	371,803	120,248	13,215	505,266
Year—										
1956-57	9,182	9,419	522	360,932	106,734	12,450	370,114	116,153	12,972	499,239
1957-58	10,734	9,241	720	364,985	107,424	12,946	375,719	116,665	13,666	506,050
1958-59	13,368	9,727	616	356,210	118,200	12,391	369,578	127,927	13,007	510,512
1959-60	14,248	10,510	392	299,732	151,114	11,039	313,980	161,624	11,431	487,035
1960-61	13,657	11,385	568	327,246	110,704	11,574	340,903	122,089	12,142	475,134

(a) Excludes areas cut for green fodder.

(b) Not available.

2. Productive and Unproductive Cane.—The areas shown in the preceding table do not include the small acreage cut for green fodder, which in 1960-61 amounted to 2,801 acres. The whole area planted is not cut for crushing during any one season there being always a considerable amount of young and "stand-over" cane as well as a small quantity required for plants. Thus the season in which the highest acreage is recorded may not show the greatest area of cane cut for crushing.

3. Production of Cane and Sugar.—For Queensland, statistics of the production of sugar cane are not available for seasons prior to 1897-98. In that season, the total for Australia was 1,073,883 tons, compared with 9,165,573 tons in the 1960-61 season. The record production of 10,212,593 tons was achieved in 1958-59.

In the following table, production data relating to cane and raw sugar are shown for the seasons 1956-57 to 1960-61 and averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

**SUGAR CANE : PRODUCTION OF CANE AND SUGAR.**  
(Tons.)

Season.	New South Wales.		Queensland.		Australia.	
	Cane.	Sugar.(a)	Cane.	Sugar.(a)	Cane.	Sugar.(a)
Average for three years ended—						
1938-39 .. ..	324,531	43,419	5,215,217	760,994	5,539,748	804,413
1948-49 .. ..	283,613	35,444	4,767,291	700,053	5,050,904	735,497
1958-59 .. ..	356,324	43,881	9,221,497	1,260,564	9,577,821	1,304,445
Year—						
1956-57 .. ..	294,087	35,918	8,978,081	1,171,879	9,272,168	1,207,797
1957-58 .. ..	303,086	36,854	8,945,617	1,256,271	9,248,703	1,293,125
1958-59 .. ..	471,798	58,870	9,740,795	1,353,543	10,212,593	1,412,413
1959-60 .. ..	574,527	70,677	8,427,731	1,217,803	9,002,258	1,288,480
1960-61 .. ..	480,147	62,978	8,685,426	1,319,633	9,165,573	1,382,611

(a) Raw sugar at 94 net titre.

The production of raw sugar (at 94 net titre) in Australia in 1960-61 amounted to 1,382,611 tons manufactured from 9,165,573 tons of cane.

The number of separate holdings growing 5 acres or more of cane was 7,195 in 1960-61.

4. Average Production of Cane Sugar.—Owing to climatic variations, comparison between the average yields of cane per productive acre in Queensland and New South Wales cannot be made accurately except on an annual basis. In New South Wales, the crop matures in from 20 to 24 months, whereas in Queensland a period of from 12 to 14 months is sufficient. The average yields of cane and sugar per acre for the years 1956-57 to 1960-61 and for the three-year periods ended 1938-39, 1948-49 and 1958-59 are shown below. Allowance should be made in interpreting these figures for the disparity in maturing periods noted above.

**SUGAR CANE AND SUGAR : YIELD PER ACRE.**  
(Tons.)

Season	New South Wales.			Queensland.			Australia.		
	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.	Cane per acre Crushed.	Sugar per acre Crushed.	Cane to each ton of Sugar.
Average for three years ended—									
1938-39.. ..	31.00	4.15	7.47	21.06	3.07	6.85	21.46	3.12	6.89
1948-49.. ..	36.90	4.61	8.00	20.65	3.03	6.81	21.17	3.08	6.87
1958-59.. ..	32.12	3.96	8.12	25.57	3.49	7.32	25.76	3.52	7.34
Year—									
1956-57.. ..	32.03	3.91	8.19	24.87	3.25	7.66	25.05	3.26	7.68
1957-58.. ..	28.24	3.43	8.22	24.51	3.44	7.12	24.62	3.44	7.15
1958-59.. ..	35.29	4.40	8.01	27.35	3.80	7.20	27.63	3.82	7.23
1959-60.. ..	40.32	4.96	8.13	28.12	4.06	6.92	28.67	4.10	6.99
1960-61.. ..	35.16	4.61	7.62	26.54	4.03	6.58	26.89	4.06	6.63

5. Quality of Cane.—The quantity of cane required to produce a ton of sugar varies with the variety planted, the district, and the season. In 1960-61, a yield of 4.06 tons of sugar per acre was obtained. This was only slightly less than the record yield of 4.10 tons in 1959-60.

The Bureau of Sugar Experiment Stations in Queensland renders useful service to the sugar industry by advocating and demonstrating better methods of cultivation and the more scientific use of fertilizers, lime, etc., and by producing and distributing improved varieties of cane.

6. **Production and Utilization.**—Details of the production and utilization of sugar for the years 1956–57 to 1960–61 are shown below. It should be noted that the details of sugar production refer to the annual periods shown, without regard to the season in which the sugar was produced. Consumption is shown in terms of refined sugar, including that consumed in manufactured products.

**SUGAR : PRODUCTION AND UTILIZATION, AUSTRALIA.**

Year.	Changes in Stocks.	Pro-duction (Raw).	Exports. (a)	Miscel-laneous Uses.(b)	Consumption in Australia.(a)	
					Total.	Per Head.
	'000 tons.	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
1956–57 .. ..	+21.1	1,217.7	698.7	20.0	477.9	112.3
1957–58 .. ..	–21.1	1,222.2	733.8	29.4	480.1	110.3
1958–59 .. ..	+10.3	1,353.4	827.4	18.4	497.3	111.9
1959–60 .. ..	+25.9	1,270.6	725.2	18.6	500.9	110.3
1960–61 .. ..	–13.4	1,324.8	815.6	22.0	500.6	107.9

(a) Includes sugar content of manufactured products exported. (b) Includes industrial uses, refining, losses and quantities used in processed food (e.g., canned fruit, jams, etc.), golden syrup and treacle.

7. **Consumption in Factories.**—The quantity of refined sugar used in factories in 1960–61 amounted to 307,120 tons compared with 293,822 tons in 1959–60 and 274,575 tons in 1958–59. Particulars of sugar used in establishments not classified as factories are not available, and consequently these quantities are deficient to that extent. In 1960–61, consumption by factories engaged in the production of jams, jellies and preserved fruit amounted to 83,497 tons, by those producing confectionery, ice cream, etc., to 66,029 tons, by breweries to 44,944 tons and by factories producing aerated waters, cordials, etc. to 47,947 tons.

8. **Control of Cane Production in Queensland.**—Agreements between the Commonwealth and Queensland Governments have fixed the wholesale price of sugar and sugar products from time to time. Details of prices are shown in para. 14 of this section (*see* page 937).

The Queensland Government acquires the whole of the sugar production of that State and of New South Wales by legislation and private agreement respectively. The net proceeds of all sugar sold are pooled and a uniform price paid to mills.

Sugar production barely met local requirements in 1923, but increased rapidly until 1925 when approximately 44 per cent. of the production was exported. Steps were taken by the Government to restrict planting of new areas and production was fairly stable until 1929. In that year, the pool was reorganized and mills received the full pool price for sugar up to the amount of their previous maximum production, further output being acquired at export prices.

Between 1929 and 1939, production rose by more than 70 per cent. despite the restrictions above-mentioned and the fact that export prices were generally less than half the pool price.

In 1939, following the International Sugar Agreement, which limited exports, the Queensland Government limited the pool (mill peaks) to 737,000 tons in respect of Queensland production. Mill quotas were allotted on the understanding that mills would allot quotas to individual growers. Mill peaks have been raised since 1939, following the negotiation of the Commonwealth Countries Sugar Marketing Agreement of 1949, which allowed the Queensland Government to initiate a planned expansion of the industry. In 1960 and 1961, peaks were 1,214,600 tons and 1,220,100 tons respectively.

9. **Sugar Agreement in Australia—Embargo on Imports, etc.**—Reference was made in Official Year Book No. 37, pages 940–41, to the agreement operating between the Commonwealth and Queensland Governments in respect of the sugar industry in Australia. Briefly, the agreement places an embargo on sugar importations and fixes the price of sugar consumed in Australia. The current agreement, which was for a five-year period ended 31st August, 1961, was extended to 31st May, 1962. The Commonwealth Government, on 28th November, 1960, appointed a Committee of Enquiry to investigate all facets of the sugar and canned fruits industries. Although the Committee presented its report towards the end of 1961, at the end of February, 1962, it was still under consideration by the Commonwealth and Queensland Governments and it has not yet been published.

10. **International Sugar Agreement.**—The International Sugar Agreement of 1937 was superseded by the International Sugar Agreement of 1953 which came into force on 1st January, 1954. Details of the 1937 Agreement were given in Official Year Book No. 40, pages 881 and 882, and previous issues.

The 1953 agreement, which was amended by protocol from 1st January, 1957, was for the five-year period ended 31st December, 1958.

In October, 1958, a new agreement was negotiated at a conference held in Geneva under the auspices of the United Nations. The new agreement, which follows the lines of the 1953 agreement, is for five years commencing 1st January, 1959, with provision for a review during the third year. It is designed to assure supplies of sugar to importing countries and markets for sugar to exporting countries at equitable and stable prices, to facilitate a steady increase in the consumption of sugar and a corresponding increase in the supply of sugar, and, in general, to further international co-operation in connexion with world sugar problems. Basic export quotas of exporting countries are established and provision is made for adjustment of quotas according to fluctuations in the world sugar price. A number of price levels are stipulated at which the International Sugar Council may or must take action. The Council has considerable discretion to adjust quotas during the quota year.

Under the 1953 agreement, the British Commonwealth, as a whole, was granted an export quota of 2,375,000 tons rising to 2,500,000 tons in 1958. Under the 1958 agreement, the quota remains at 2,500,000 tons for 1959 but is increased by 75,000 tons to 2,575,000 tons in 1960 and 1961. This quota is not subject to the fluctuations mentioned above. The allocation of the total quota among exporting members of the British Commonwealth is a matter for internal arrangement by those countries and territories themselves. Australia's quota for 1960 and 1961 was approximately 651,000 tons.

The quota and price provisions cover only the first three years to 31st December, 1961. A conference in Geneva in 1961 failed to reach agreement on quota provisions for 1962 and 1963. The conference adjourned with a resolution that it be reconvened if circumstances for an agreement on quotas become favourable. In any event, consideration is to be given in the second half of 1963 to convening an international conference to prepare a new agreement in place of the current agreement which expires at the end of 1963.

The principal practical effect of the adjournment of the 1961 conference is that former export limitations on participating exporting countries, including Australia, do not apply until such time as agreement on this question is again reached at a resumed session of that conference, or at a newly convened conference.

Details of the marketing arrangements for Australian sugar are given in paragraph 15 below.

11. **Net Return for Sugar Crop.**—Details of the disposal of the crop, net value of exports and the average price realized during each of the years 1956–57 to 1960–61 are shown in the following table.

**RAW SUGAR(a): NET RETURNS, AUSTRALIA.**

Year.	Proportion Exported. (b)	Net Value of Exports per Ton. (b)	Average Price per Ton for Whole Crop.	Estimated Value of Crop.
	Per cent.	£ s. d.	£ s. d.	£'000.
1956–57 .. ..	56.01	41 6 5	46 14 3	56,403
1957–58 .. ..	57.44	45 16 8	49 7 6	63,829
1958–59 .. ..	60.53	39 8 2	45 9 11	64,263
1959–60 .. ..	55.42	40 6 2	47 9 11	61,131
1960–61 .. ..	59.53	39 19 6	49 2 1	67,869

(a) 94 net titre.

(b) As supplied by the Queensland Sugar Board.

The estimated value of the raw sugar produced has been based upon details taken from the audited accounts of the Queensland Sugar Board. The values stated represent the gross receipts from sales in Australia and overseas, less refining costs, freight, administrative charges, etc., and export charges, but including concessions to the fruit industry and other rebates which in 1960–61 amounted to £980,274. The value thus obtained represents the net market value of all raw sugar sold, which, less the rebates, is divided between the growers and millers in the approximate proportions of 70 per cent. and 30 per cent. respectively.

12. Exports of Sugar.—Particulars of the exports of cane sugar (raw and refined) for each year from 1956-57 to 1960-61 are as follows.

## SUGAR : EXPORTS, AUSTRALIA.

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Quantity .. .. tons	675,282	707,806	802,971	701,319	796,528
Value .. .. £'000	28,780	34,996	32,163	26,671	35,073

13. Sugar By-products.—Large quantities of molasses are produced as a by-product in the sugar mills. Details for a series of years of the quantities produced and the amounts used for distilling, fuel, manure and other purposes will be found in Chapter VI.—Manufacturing Industry.

Other by-products include industrial chemicals and building boards. These boards are made from the residue of crushed fibre after removal of the sugar content from sugar cane and possess high insulating and sound-absorbing properties which make them particularly suitable for use in walls and ceilings.

14. Sugar Prices.—The prices of sugar in Australia, from 1953 to 1960 in the case of raw sugar, and from 1952 to 1962 in the case of refined sugar (as determined under the Sugar Agreement in Australia—see para. 9 above), are shown in the following table.

## SUGAR : PRICES IN AUSTRALIA.

Year.	Raw Sugar, 94 Net Titre.			Refined Sugar.		
	Average Return per Ton Received by Millers and Growers for—			Date of Determination.	Wholesale Price to Retailer per Ton.	Retail Price, Capital Cities per lb.
	Home Consumption.	Exports.(a)	Whole Crop.(a)			
	£ s. d.	£ s. d.	£ s. d.		£ s. d.	d.
1953 ..	47 18 6	38 13 9	42 10 8	13. 10. 52 to 13. 5. 56	73 16 11	9
1954 ..	47 1 0	37 8 0	41 6 11	14. 5. 56 to 15. 5. 60	82 1 0	10
1955 ..	46 18 0	38 11 6	42 9 0	16. 5. 60 to 31. 5. 62	90 5 2	11
1956 ..	53 11 6	41 6 5	46 14 3			
1957 ..	54 3 0	45 16 8	49 7 6			
1958 ..	54 15 0	39 8 2	45 9 11			
1959 ..	56 8 6	40 6 2	47 9 11			
1960 ..	60 10 6	39 18 8	49 2 1			

(a) Includes "Excess" Sugar.

15. Marketing Arrangements.—From 1939 to 1952, the British Ministry of Food purchased Australia's surplus raw sugar at prices negotiated annually and varying from £stg.11 5s. in 1939 to £stg.38 10s. a ton in 1952 including tariff preference (for prices in other years see earlier issues of the Year Book).

On 1st January, 1953, the British Commonwealth Sugar Agreement became effective. This agreement, which has been extended to 1969, provides for Australia to export a maximum of 600,000 tons per annum, subject to annual review. Of the 600,000 tons, 315,000 tons is purchased by the United Kingdom Government at an annually negotiated price and the balance is sold at world market prices plus tariff preferences where applicable. The negotiated prices for 1960 and 1961 were £stg.44 8s. 10d. and £stg. 45 2s. In 1960 and 1961, Australia had an additional quota of 51,000 tons as her share of the increased allocation to Commonwealth exporters under the current International Sugar Agreement. This tonnage was not to receive the benefit of tariff preferences. Export limitations under the International Sugar Agreement are not applicable to 1962 and 1963 (see para. 10).

The Sugar Bill introduced into the House of Commons on 5th July, 1955, provided for the reversion of dealings in sugar in the United Kingdom to a trader to trader basis as from 1st January, 1957. However, under the bill, a Sugar Board was created which is responsible for the purchase of the negotiated price sugar which the United Kingdom Government has contracted to take under the British Commonwealth Sugar Agreement.

16. **Fruit Industry Sugar Concession Committee and Sugar Rebates.**—The Fruit Industry Sugar Concession Committee was established by agreement between the Commonwealth and Queensland Governments and administers a fund contributed by the Queensland Government on behalf of the sugar industry.

Until 15th May, 1960, a rebate of £2 4s. per ton of refined sugar used in processing approved fruit products was paid to Australian manufacturers, provided they bought the fresh fruit at prices not lower than those declared by the Committee as reasonable. This was increased to £5 per ton from 16th May, 1960.

An export sugar rebate is also paid by the Committee to exporters of approved fruit products to ensure that manufacturers do not pay higher prices for Australian sugar than the price for which the cheapest imported sugar could be landed duty free in Australia.

Under the Supplementary Sugar Agreement for 1956–1961, the Queensland Government contributes to the fund £264,000 annually and also reimburses the Committee for the actual expenditure on export sugar rebates. Any money remaining in the fund after the payment of rebates and administrative expenses may be used by the Committee for the promotion of the use and sale of fruit products, or for scientific research for the purpose of increasing the yield per acre of Australian fruit.

17. **Bulk Handling of Sugar.**—The conversion of the Australian sugar industry to bulk handling and mechanized loading and unloading of raw sugar is well advanced. About 80 per cent. of raw sugar in Australia is now handled in bulk without being bagged at any stage.

Terminals for the bulk loading of sugar were opened at Mackay in 1957, at Lucinda and Bundaberg in 1958, at Townsville in 1959, and at Mourilyan in 1960.

Bulk receiving facilities are in operation at all Australian refineries.

## § 15. Vineyards.

1. **Progress of Cultivation.**—(i) *Area of Vineyards.* Since the early days of Australian settlement, the expansion of the cultivation of vines has been most rapid in Victoria and South Australia, the area under vineyards in the 1960–61 season in these two States comprising 78 per cent. of the total area of vineyards. Grapes are grown in Australia for wine-making, table use and drying. The total area of vines in the several States during each of the years 1956–57 to 1960–61 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table.

VINEYARDS : AREA.  
(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Aust.(a)
Average for three years ended—						
1938–39 .. ..	16,824	42,071	2,670	57,185	6,197	124,947
1948–49 .. ..	16,482	44,114	3,099	58,971	9,965	132,631
1958–59 .. ..	17,210	44,823	2,926	57,199	8,967	131,125
Years—						
1956–57 .. ..	17,394	44,902	2,916	57,409	8,996	131,617
1957–58 .. ..	16,984	44,767	2,821	57,439	9,023	131,034
1958–59 .. ..	17,252	44,801	3,041	56,749	8,881	130,724
1959–60 .. ..	17,236	44,129	3,083	56,853	8,951	130,252
1960–61—						
Wine .. ..	7,024	5,257	298	45,938	3,701	62,218
Table .. ..	2,658	2,699	2,812	323	1,441	9,933
Drying .. ..	7,306	36,693	..	10,636	3,722	58,357
<i>Total</i> .. ..	<i>16,988</i>	<i>44,649</i>	<i>3,110</i>	<i>56,897</i>	<i>8,864</i>	<i>130,508</i>

(a) Excludes particulars for Northern Territory and Australian Capital Territory.

NOTE.—There are no vineyards in Tasmania.

(ii) *Wine Production, Bounties, etc.* The total production of wine (beverage and distillation) in Australia has shown a marked increase in recent years, rising from 14.3 million gallons in 1938-39 to 33.8 million gallons in 1960-61. In the same period, consumption of beverage wine in Australia has increased from 4.5 million gallons (0.7 gallons per head of population) to 11.7 million gallons (1.12 gallons per head of population). For many years prior to the 1939-45 War, a bounty was paid from the Wine Export Encouragement Account on wine shipped overseas under the provisions of the Wine Export Bounty Act 1930. Details of the bounty, payment of which was discontinued in 1947, may be found in Official Year Book No. 39, page 992.

The quantity of wine produced in the several States during the 1956-57 to 1960-61 seasons, together with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59, are shown in the following table.

**WINE : PRODUCTION.(a)**  
(<sup>'000</sup> Gallons.)

Season.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Australia.
<b>Average for three years ended—</b>						
1938-39 .. ..	2,712	1,359	31	14,021	396	18,519
1948-49 .. ..	4,178	3,040	31	25,906	689	33,844
1958-59 .. ..	3,974	2,435	36	25,190	743	32,378
<b>Years—</b>						
1956-57 .. ..	3,412	2,369	38	24,038	886	30,743
1957-58 .. ..	4,150	2,583	21	26,400	700	33,854
1958-59 .. ..	4,360	2,354	49	25,131	644	32,538
1959-60 .. ..	3,835	2,147	37	21,576	801	28,396
1960-61 .. ..	4,903	3,021	32	25,061	776	33,793

(a) Net factory and farm production of beverage and distillation wine excluding the liquid gallage of spirits added in wine fortifying.

(iii) *Wine Research Trust Fund.* Details of this fund are given in Official Year Book, No. 47, page 927.

2. Imports and Exports of Wine.—(i) *Imports.* Imports for 1960-61 amounted to 98,004 gallons valued at £205,286 compared with 60,029 gallons valued at £130,265 in the previous year.

During 1960-61, Italy supplied 31,566 gallons valued at £39,203, France supplied 26,620 gallons valued at £89,195, and the Federal Republic of Germany supplied 8,293 gallons valued at £25,453.

(ii) *Exports.* Exports in 1960-61 totalled 1,897,337 gallons, of which the United Kingdom received 1,361,815 gallons, Canada 348,529 gallons, New Zealand 66,293 gallons and other countries 120,700 gallons.

Exports for the five years ended 1960-61 are shown in the following table.

**WINE : EXPORTS FROM AUSTRALIA.**

Year.	Quantity (Gallons).			Value (£).		
	Sparkling.	Other.	Total.	Sparkling.	Other.	Total.
1956-57 .. ..	6,701	1,743,648	1,750,349	23,737	1,108,314	1,132,051
1957-58 .. ..	4,872	1,484,656	1,489,528	18,194	978,616	996,810
1958-59 .. ..	5,203	1,742,046	1,747,249	10,989	1,141,036	1,152,025
1959-60 .. ..	6,480	1,738,867	1,745,347	19,898	1,245,755	1,265,653
1960-61 .. ..	11,529	1,885,808	1,897,337	30,461	1,274,210	1,304,671



3. **Oversea Marketing of Wine.**—(i) *The Wine Overseas Marketing Act 1929–1961.* This Act was introduced to place the oversea marketing of surplus wine on an orderly basis. The Australian Wine Board, consisting of representatives from wineries and distilleries, grape-growers and the Commonwealth Government, supervises the sale and distribution of Australian wine exported and recommends conditions under which export licences should be issued. The Board also engages in wine publicity and trade promotion activities both in Australia and overseas. In London, the Board maintains an office and an Australian Wine Centre, which is both a retail outlet for Australian wines and brandy and as a medium for promoting interest in these products.

(ii) *The Wine Grapes Charges Act 1929–1957.* This Act provides for the imposition of a levy on all grapes used in Australia for the manufacture of wine, brandy and spirit used for fortifying wine. The proceeds of the levy are used to defray the administrative and other expenses of the Board, and provision is made for such exemptions from the levy as the Board may recommend.

4. **Other Viticultural Products.**—(i) *Table Grapes.* Grapes for table use are grown in all States except Tasmania, but the area of this type was only about 7 per cent. of the productive area of vines in 1960–61. The quantities of table grapes produced during the season 1960–61 in each State are shown in § 3 of this chapter. (See p. 899.)

(ii) *Raisins and Currants.* The quantities of raisins (including sultanas and lexias) and currants dried during each of the seasons 1956–57 to 1960–61 and the averages for the three-year periods ended 1938–39, 1948–49 and 1958–59 are shown in the following table.

RAISINS(a) AND CURRANTS : PRODUCTION.  
(Tons.)

Season.	N.S. Wales.		Victoria.		South Aust.		Western Aust.		Australia.	
	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.	Raisins.	Currants.
Average for three years ended—										
1938–39 ..	5,464	1,163	39,810	8,953	13,215	9,009	723	2,179	59,212	21,304
1948–49 ..	5,429	994	40,027	7,380	8,811	5,243	580	3,179	54,847	16,796
1958–59 ..	10,300	705	53,178	4,294	11,115	4,432	118	1,746	74,711	11,177
Year—										
1956–57 ..	9,380	585	50,085	3,954	9,716	3,941	148	2,048	69,329	10,528
1957–58 ..	10,608	674	56,742	4,153	11,306	4,824	111	2,136	78,767	11,787
1958–59 ..	10,914	856	52,707	4,776	12,323	4,531	94	1,055	76,038	11,218
1959–60 ..	7,722	462	44,764	3,331	9,192	2,844	73	1,402	61,751	8,039
1960–61 ..	10,777	981	51,002	5,583	6,751	4,543	51	1,984	68,581	13,091

(a) Including sultanas and lexias.

5. **Production and Disposal of Dried Vine Fruit.**—As the production of dried vine fruit is far in excess of Australia's requirements, considerable quantities are available for export. Total production during the 1960–61 season amounted to 81,672 tons, while exports for the 12 months ended December, 1961, were 60,968 tons, leaving an estimated 20,704 tons available for Australian consumption from that season's production. Australian consumption includes amounts delivered to biscuit manufacturers, bakeries, etc., as well as retail sales for household consumption.

The following table shows the oversea exports of raisins and currants during each of the years 1956-57 to 1960-61.

RAISINS AND CURRANTS(a) : EXPORTS, AUSTRALIA.

Year.	Raisins.		Currants.		Total Raisins and Currants.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£'000.	Tons.	£'000.	Tons.	£'000.
1956-57.. ..	38,496	5,377	6,521	831	45,017	6,208
1957-58.. ..	52,297	8,019	7,398	938	59,695	8,957
1958-59.. ..	68,245	11,215	7,585	1,051	75,830	12,266
1959-60.. ..	45,634	7,726	4,540	637	50,174	8,363
1960-61.. ..	48,805	7,133	7,838	1,032	56,643	8,165

(a) Excludes quantities exported as mincemeat.

The chief countries importing Australian raisins and currants are the United Kingdom, Canada and New Zealand, the quantities exported thereto in 1960-61 being 27,657 tons, 18,726 tons and 4,486 tons respectively.

6. Oversea Marketing of Dried Fruits.—(i) *The Dried Fruits Export Control Act 1924-1953.* This Act was passed to organize oversea marketing of Australian dried vine fruits. The Dried Fruits Control Board, consisting of growers' representatives, members with commercial experience in marketing dried fruits and a Government representative, controls the sale and distribution of dried fruit exports, recommends the licensing of exporters and contributes to dried vine fruits publicity activity overseas.

In conjunction with its London agency, the Board has improved dried fruit marketing overseas by its system of appraisalment, regulation of shipments and advertising.

(ii) *Dried Fruits Export Charges Act 1924-1929.* This Act provides for a levy on exports of dried fruits to defray costs and expenses incurred by the Board. Provision is made for exemption from the levy upon recommendation by the Board.

(iii) *Post-war Contracts.* For details of the agreements which were negotiated between the Governments of the United Kingdom and Australia during the period 1946-1953, see Official Year Book No. 40, page 888. From 1st December, 1953, exports have been made on a trader to trader basis.

§ 16. Orchards and Fruit Gardens.

1. Area.—The largest area of orchards and fruit-gardens prior to the 1939-45 War was 281,899 acres which was attained in 1933-34. Since then, the acreage has varied but has not fallen below 260,000 acres. It reached 290,000 acres in 1947-48 but declined somewhat in subsequent years, rising again to 289,000 acres in 1959-60 and 1960-61.

ORCHARDS AND FRUIT-GARDENS : AREA.

(Acres.)

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1956-57 ..	87,920	63,319	39,561	33,998	22,040	22,994	94	113	270,039
1957-58 ..	88,170	66,221	40,856	35,295	22,186	23,013	81	93	275,915
1958-59 ..	92,780	66,746	43,911	37,237	22,903	23,168	86	89	286,920
1959-60 ..	93,870	68,567	42,587	37,355	23,757	22,713	103	57	289,009
1960-61 ..	92,962	71,415	41,067	37,711	23,914	22,193	120	55	289,437

2. **Varieties of Crops.**—The varieties of fruit grown differ in various parts of the States, ranging from pineapples, papaws and mangoes in the tropics, to strawberries, raspberries and currants in the colder parts of the temperate zone. In New South Wales, citrus fruits (oranges, lemons, etc.) and bananas are the principal crops, although apples, peaches, plums, pears and cherries are grown extensively. The principal varieties grown in Victoria are apples, pears, peaches, oranges and apricots. In Queensland, apples, pineapples, bananas, oranges, mandarins, peaches and plums are the varieties most largely cultivated. In South Australia, in addition to oranges, apples, peaches, apricots and pears, almonds and olives are grown extensively. In Western Australia, apples, oranges, plums and pears are the chief varieties. In Tasmania, apples occupy over three-quarters of the fruit-growing area, but small fruits, such as currants, raspberries and gooseberries, are grown extensively, the balance of the area being mainly taken up with pears and apricots. The following table shows the acreage—bearing and non-bearing—of the principal kinds of fruit, and the quantities produced in the 1960–61 season.

### ORCHARDS AND FRUIT-GARDENS, 1960-61.

Fruit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
AREA, BEARING AND NON-BEARING (ACRES).									
Apples ..	16,693	21,159	11,315	5,680	14,432	17,551	..	52	86,882
Apricots ..	2,038	4,132	378	4,504	338	555	..	..	11,945
Bananas ..	23,611	..	5,964	..	253	..	42	..	29,870
Cherries ..	2,457	1,723	9	566	40	41	..	..	4,836
Citrus—									
Oranges ..	25,566	6,525	3,530	10,730	4,238	..	37	..	50,626
Mandarins ..	2,072	261	1,727	301	298	..	2	..	4,661
Lemons and Limes ..	2,354	1,503	527	350	625	..	5	..	5,364
Other ..	507	342	59	390	141	..	2	..	1,441
Nuts ..	221	453	182	3,213	151	..	..	1	4,221
Peaches ..	7,666	11,984	1,612	4,700	869	51	..	1	26,883
Pears ..	3,185	15,518	659	1,977	984	1,611	..	1	23,935
Pineapples ..	293	..	10,773	..	..	..	20	..	11,086
Plums and Prunes ..	4,714	2,182	1,380	1,254	1,034	101	..	..	10,665
Small Fruits ..	28	1,246	193	130	13	2,251	..	..	3,861
Other Fruits ..	1,557	4,387	2,759	3,916	497	33	12	..	13,161
<b>Total ..</b>	<b>92,962</b>	<b>71,415</b>	<b>41,067</b>	<b>37,711</b>	<b>23,913</b>	<b>22,194</b>	<b>120</b>	<b>55</b>	<b>289,437</b>

### PRODUCTION.

Apples '000 bus.	2,386	3,135	1,064	1,254	2,053	5,594	..	1	15,487
Apricots " "	258	207	23	756	49	30	..	..	1,323
Bananas " "	4,188	..	633	..	8	..	1	..	4,830
Cherries " "	127	90	1	46	2	3	..	..	269
Citrus—									
Oranges ..	2,983	689	569	1,538	463	..	2	..	6,244
Mandarins ..	166	27	232	37	19	..	(a)	..	481
Lemons and Limes ..	362	199	95	39	142	..	1	..	838
Other ..	156	70	26	109	23	..	(a)	..	384
Nuts .. '000 lb.	106	230	91	1,813	36	..	..	..	2,276
Peaches '000 bus.	752	955	99	573	89	3	..	(a)	2,471
Pears ..	621	3,704	68	337	169	461	..	(a)	5,360
Pineapples " "	53	..	3,599	..	..	..	1	..	3,653
Plums and Prunes " "	474	141	87	123	96	20	..	..	941

(a) Less than 500 bushels.

3. **Principal Fruit Crops.**—The area and production of the principal fruit crops and the gross value of production during the seasons 1956–57 to 1960–61 are shown hereunder.

## PRINCIPAL FRUIT CROPS : AREA, PRODUCTION AND GROSS VALUE OF PRODUCTION.

Season.	Apples.	Apricots.	Bananas.	Citrus Fruits.	Peaches.	Pears.	Plums and Prunes.
AREA, BEARING AND NON-BEARING (ACRES).							
1956-57..	81,965	12,493	26,981	57,189	22,020	21,499	10,679
1957-58..	82,595	12,689	26,981	58,631	23,451	21,989	10,816
1958-59..	83,614	12,103	31,798	59,033	25,215	23,014	10,385
1959-60..	85,269	12,059	31,708	60,251	26,376	23,684	10,569
1960-61..	86,882	11,945	29,870	62,092	26,883	23,935	10,665
PRODUCTION ('000 BUSHELS).							
1956-57..	10,792	1,417	3,625	7,943	2,179	4,606	674
1957-58..	14,703	1,575	3,360	7,575	2,967	5,307	828
1958-59..	13,044	1,430	4,504	7,302	2,592	4,738	802
1959-60..	14,069	1,546	4,915	9,061	2,916	5,268	904
1960-61..	15,487	1,323	4,830	7,947	2,471	5,360	941
GROSS VALUE OF PRODUCTION. (£'000.)							
1956-57..	15,188	2,731	7,288	8,367	3,724	5,483	1,398
1957-58..	19,211	2,400	9,121	10,709	3,854	6,635	1,478
1958-59..	16,539	2,054	8,588	10,873	3,194	4,916	1,479
1959-60..	17,174	2,013	7,613	9,390	3,293	5,361	1,579
1960-61..	20,643	1,935	7,715	11,591	3,470	6,592	1,828

4. Production of Jams and Jellies and Preserved Fruit.—In Australia, considerable quantities of fruit are used in the production of jams and jellies and for preserving. During 1960-61, output of jams, conserves, fruit spreads, etc., amounted to 83,080,000 lb. while output of preserved fruit amounted to 307,866,000 lb. Of the latter figure, pears accounted for 121,991,000 lb., peaches 78,664,000 lb. and pineapples 36,057,000 lb.

The recorded consumption of fruit in factories for all purposes, including that used for juice and cordial manufacture and for drying, was 228,990 tons in 1960-61.

5. Consumption of Fruit and Fruit Products.—Details of the estimated consumption of fruit and fruit products per head of population for a series of years ending 1960-61 are shown in Chapter XXX.—Miscellaneous, of this Year Book.

6. Imports and Exports of Fruit.—(i) *General.* The imports of fresh fruit into Australia are negligible, while those of dried fruit consist mainly of dates.

A considerable export trade in both fresh and dried fruit is carried on by Australia with overseas countries. The values of the shipments in 1960-61 amounted to £10,368,594 and £9,097,485 respectively. Apples constitute the bulk of the fresh fruit exported, although exports of pears and citrus fruit are considerable.

(ii) *Fresh Fruit.* Particulars of the Australian export trade in fresh and frozen fruit for each of the years 1956-57 to 1960-61 are shown in the following table.

## FRESH AND FROZEN FRUIT : EXPORTS, AUSTRALIA.

Year.	Apples.		Pears.		Citrus.		Total.(a)	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 bus.	£'000.	'000 bus.	£'000.	'000 bus.	£'000.	'000 bus.	£'000.
1956-57	3,969	5,582	1,020	1,731	613	926	5,670	8,585
1957-58	5,892	9,076	1,448	2,755	572	882	7,961	13,062
1958-59	4,948	6,625	1,100	1,783	415	664	6,559	9,413
1959-60	4,889	6,123	1,328	1,970	589	918	6,876	9,294
1960-61	5,729	7,321	1,235	2,080	419	664	7,454	10,369

(a) Total, including exports of all other fresh and frozen fruit.

(iii) *Dried Tree Fruit.* The quantity and value of oversea imports and exports of dried fruit, other than raisins and currants, for the years 1956-57 to 1960-61 are shown below. Normally, the bulk of the imports consists of dates obtained almost entirely from Iraq.

**DRIED TREE FRUIT(a): IMPORTS AND EXPORTS, AUSTRALIA.**

Year.	Imports.(b)		Exports.	
	Quantity.	Value	Quantity.	Value.
	'000 lb.	£'000.	'000 lb.	£'000.
1956-57 .. .. .	7,052	158	2,887	378
1957-58 .. .. .	8,683	209	1,366	186
1958-59 .. .. .	8,411	203	3,352	482
1959-60 .. .. .	10,791	310	6,221	703
1960-61 .. .. .	9,178	303	8,237	932

(a) Excludes raisins and currants referred to separately under Vineyards (see p. 940). (b) Dates and figs only.

(iv) *Jams and Jellies.* Exports of jams and jellies reached large proportions immediately following the 1939-45 War and in 1946-47 amounted to 65,434,000 lb., compared with the average for the five years ended 1938-39 of 7,118,000 lb. Since 1949-50, when exports totalled 65,229,000 lb., there has been a marked decline and in 1960-61 exports amounted to only 6,331,099 lb., valued at £493,264. Imports of jams and jellies are negligible.

(v) *Preserved Fruit.* The total value of fruit preserved in tins or other airtight containers, or pulped, imported into Australia during 1960-61 was £140,460. Large quantities of fruit preserved in tins or other airtight containers are normally exported from Australia, the quantity recorded in 1960-61 being 151,983,474 lb. valued at £9,773,004. Exports in 1960-61 were principally made up of pears (84,424,293 lb.), peaches (35,574,901 lb.), pineapples (12,742,638 lb.) and apricots (5,661,493 lb.). In addition, the exports of pulped fruits during 1960-61 amounted to 2,912,189 lb. valued at £243,155.

7. *Marketing of Apples and Pears.*—(i) *Apple and Pear Organization Act 1938-1960.* This Act provides for the establishment of an Australian Apple and Pear Board comprising representatives of growers, exporters, employees and the Commonwealth Government. A representative in London has also been appointed by the Board.

The function of the Board is the organization and control of exports of fresh apples and pears, and it has the power to regulate shipments, determine export quotas, allocate consignments from each State and recommend the licensing of exporters. The Board contributes to apple and pear publicity activities overseas.

(ii) *Apple and Pear Export Charges Act 1938-1960.* This Act provides for an export levy to meet the expenses of the Board.

(iii) *Apple and Pear Acquisition.* Exports of apples and pears were seriously curtailed during the war and the 1940 to 1948 crops were acquired and marketed under National Security and Defence Regulations. Details of the acquisition scheme will be found on pages 1003 and 1004 of Official Year Book No. 38 and in earlier issues.

8. *Marketing of Canned Fruit.*—(i) *The Canned Fruits Export Control Act 1926-1959.* This legislation was introduced with the object of organizing the oversea marketing of canned fruit. The Australian Canned Fruits Board, comprising members representing the Commonwealth Government, canners of apricots, peaches, pears, pineapples and fruit salad, and a representative of the growers of canning apricots, peaches and pears, was appointed to organize the oversea marketing of canned fruit and also to recommend the licensing of exporters. The Board establishes terms and conditions of sale overseas and contributes to oversea publicity connected with the canned fruit industry. It also maintains an office in London.

The system of marketing adopted by the Board has resulted in the satisfactory disposal of the exportable surplus of canned fruits.

(ii) *The Canned Fruits Export Charges Act 1926-1956.* This Act provides for a levy on exports to meet the Board's expenses. Provision has been made for certain exemptions when recommended by the Board.

(iii) *The Australian Canned Fruit Sales Promotion Committee.* This Committee was established in 1959 to promote the sale of canned deciduous fruits on the home market and

overseas. The operations of the Committee are financed by a levy on fruit accepted by the canneries for the production of canned fruit. The Committee comprises representatives of growers and processors of canning fruit and a representative of the Commonwealth Government.

### § 17. Vegetables for Human Consumption.

1. Area and Production of Fresh Vegetables.—Details of the areas planted and production of individual kinds of vegetables, excluding potatoes and onions referred to in §§ 10 and 11 of this chapter, are shown below for the seasons 1958–59 to 1960–61.

#### FRESH VEGETABLES(a) FOR HUMAN CONSUMPTION: AUSTRALIA.

Vegetable.	1958–59.		1959–60.		1960–61.	
	Area Sown.	Production.	Area Sown.	Production.	Area Sown.	Production
	Acres.	Tons.	Acres.	Tons.	Acres.	Tons.
Asparagus .. ..	3,620	4,702	3,450	4,210	3,085	4,329
Beans, French and Runner	17,457	25,012	16,714	26,527	17,493	26,327
Beans, Navy .. ..	1,855	371	2,250	451	2,290	501
Beetroot .. ..	1,976	13,439	1,866	12,804	1,935	14,174
Cabbages and Brussels Sprouts .. ..	6,308	70,363	6,088	68,892	5,846	70,891
Carrots .. ..	4,625	43,743	4,817	46,391	4,810	49,869
Cauliflowers .. ..	7,361	93,913	6,892	80,663	6,382	77,949
Celery(b) .. ..	669	10,265	504	9,320	637	9,039
Cucumbers(c) .. ..	1,711	6,441	1,435	5,544	1,462	5,209
Lettuces .. ..	4,745	19,254	4,770	19,418	4,616	18,366
Parsnips .. ..	1,342	11,349	1,441	12,185	1,483	13,417
Peas, Blue .. ..	2,571	1,342	3,226	2,148	3,365	1,238
Peas, Green .. ..	46,388	52,298	45,130	54,309	52,286	50,445
Tomatoes .. ..	16,382	118,819	15,865	126,171	16,850	140,761
Turnips, Swede and White	4,214	20,044	(b) 1,886	(b) 12,345	(b) 1,759	(b) 8,695
All Other .. ..	31,640	..	30,992	..	30,465	..
<b>Total .. ..</b>	<b>152,864</b>	<b>..</b>	<b>147,326</b>	<b>..</b>	<b>154,764</b>	<b>..</b>

(a) Excludes potatoes and onions. (b) Incomplete, excludes New South Wales. (c) Incomplete, excludes New South Wales and Tasmania.

2. Production of Processed Vegetables.—Total production of canned vegetables in 1960–61 amounted to 98,987,000 lb., which was considerably higher than pre-war production, but only 83 per cent. of the peak war-time production of 119,149,000 lb. recorded in 1944–45. The principal canned vegetables produced in 1960–61 were green peas (including mint-pro peas) 25,715,000 lb., green beans 5,190,000 lb., baked beans (including pork and beans) 25,096,000 lb., asparagus 7,401,000 lb., beetroot 10,305,000 lb., and mushrooms 5,319,000 lb.

The production of dehydrated vegetables, which was initiated by the Commonwealth Government during the 1939–45 War, rose to a maximum of 22,000,000 lb. in 1945–46, but in 1960–61 it was only 706,000 lb. Production of potato crisps, chips and flakes, which has increased substantially in recent years, amounted to 9,290,000 lb. in 1960–61.

There has been rapid development in the quick-frozen vegetable industry. Data were collected for the first time in 1957–58, when 13,846,000 lb. of frozen vegetables were produced, made up primarily of 10,131,000 lb. of peas and 2,540,000 lb. of beans. In 1960–61, production had risen to 21,046,000 lb., of which 13,141,000 lb. were peas and 4,915,000 lb. were beans.

3. Imports and Exports of Vegetables.—The quantity and value of oversea exports of pulse and fresh vegetables during 1960–61 were respectively:—pulse, 5,013 tons, £284,422; onions, 2,543 tons, £88,668; potatoes, 5,219 tons, £194,667; other vegetables, 2,491 tons, £230,301. Imports of pulse amounted to 7,437 tons, valued at £517,958, while imports of fresh vegetables in total were 8,256 tons, valued at £993,033.

In 1960–61, exports of vegetables preserved in liquid consisted of:—Asparagus, 517,420 lb. (£75,409); Beans (including baked), 108,570 lb. (£7,285); Peas, 108,735 lb. (£9,499); Tomatoes, 112,089 lb. (£7,629); Other Vegetables, 573,360 lb. (£64,884).

4. Consumption of Vegetables.—Details of the estimated consumption of vegetables for a series of years ending 1960–61 are shown in Chapter XXX.—Miscellaneous, of this Year Book.

## § 18. Tobacco.

1. *States, Area and Production.*—Tobacco has been grown in Australia for a considerable number of years. As early as the season 1888–89, the area of this crop amounted to 6,641 acres, of which 4,833 were in New South Wales, 1,685 in Victoria and 123 in Queensland. Thereafter, the industry fluctuated for many years, reaching a peak in 1932–33 when 26,272 acres were planted. After the 1939–45 War the area fell to below 4,000 acres, but it has increased again largely as a result of the beneficial effect of improved varieties and techniques on average yields and of the protection to Australian growers given by the tariff (*see also* (vi) Tobacco Factories, p. 947).

In 1960–61, the area planted was 29,213 acres. This exceeded the previous highest post-war level of 19,654 acres, reached in 1959–60, by 9,559 acres, or 49 per cent. The production of dried leaf in 1960–61 at 29,862,000 lb. was also a record.

In the following table, particulars of the area and production of tobacco are given by States for each of the seasons 1956–57 to 1960–61, together with averages for the three-year periods ended 1938–39, 1948–49 and 1958–59.

## TOBACCO : AREA AND PRODUCTION.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Aust.
AREA (ACRES).								
Average for three years ended—								
1938–39 ..	697	4,262	3,842	77	1,055	134	(a)	10,067
1948–49 ..	415	1,046	1,948	..	609	..	..	4,018
1958–59 ..	1,257	3,478	7,479	..	1,295	..	(a)	13,509
Year—								
1956–57 ..	1,031	2,935	7,029	..	1,176	..	1	12,172
1957–58 ..	1,193	3,252	7,493	..	1,266	..	..	13,204
1958–59 ..	1,543	4,248	7,916	..	1,444	..	..	15,151
1959–60 ..	2,142	6,424	9,527	..	1,561	..	..	19,654
1960–61 ..	3,408	9,932	14,395	..	1,478	..	..	29,213
PRODUCTION OF DRIED LEAF ('000 lb.).								
Average for three years ended—								
1938–39 ..	471	1,603	2,173	17	741	104	(b)	5,109
1948–49 ..	380	670	1,725	..	523	..	..	3,298
1958–59 ..	1,066	3,770	5,563	..	1,016	..	(b)	11,415
Year—								
1956–57 ..	805	2,741	4,344	..	819	..	..	8,709
1957–58 ..	1,235	3,683	5,618	..	1,031	..	..	11,567
1958–59 ..	1,158	4,885	6,729	..	1,198	..	..	13,970
1959–60 ..	1,437	7,401	9,149	..	(c) 1,370	..	..	(c) 19,357
1960–61 ..	3,538	9,728	15,308	..	(d) 1,288	..	..	(d) 29,862

(a) Less than half an acre. (b) Less than 500 lb. (c) Includes 289,000 lb. of unsold leaf.  
(d) Includes 655,000 lb. of unsold leaf.

2. *The Tobacco Industry.*—(i) *Marketing.* In the early days, purchase of the leaf at the farms was the usual practice, but towards the end of the 1930's the auction system was introduced by arrangement between the growers' associations and the manufacturers.

On 9th May, 1941, the Australian Tobacco Board was constituted under the National Security (Australian Tobacco Leaf) Regulations for the purpose of facilitating and regulating the marketing of Australian grown tobacco leaf. All leaf was under the control of the Board, the growers being paid on the valuation as appraised by the Board. The Board ceased to function on 24th September, 1948, and subsequent crops have been marketed at open auction in the respective States. Queensland has had its own Tobacco Leaf Marketing Board since 1948. Growers in New South Wales voluntarily submit their leaf to the Queensland Board for sale at auction. Leaf from Victoria is sold at auction in Melbourne for the Victorian Tobacco Growers' Association. In Western Australia, the leaf is sold in Perth for the Western Australian Tobacco Growers' Association (Inc.).

(ii) *Central Tobacco Advisory Committee.* The Australian Agricultural Council formed the Standing Advisory Committee on Tobacco during 1950. This Committee consisted of representatives of tobacco growers, tobacco manufacturers and the Commonwealth and State Governments. Its main functions were to review the industry and make recommendations on its problems.

The Committee was reconstituted by the Agricultural Council during 1952-53. The terms of reference of this committee are given in Official Year Book No. 47, page 935.

A Sub-Committee on curing was formed in 1960 to investigate new curing methods. A grant of up to £10,000 was made available for initial investigations which include down-draught curing, the conversion of conventional kilns to down-draught and bulk curing. In 1961, a Research Sub-Committee was established to review annually scientific programmes and finance in relation to the Tobacco Industry Trust Account and make recommendations to the Central Tobacco Advisory Committee.

(iii) *Industry Inquiries.* The tobacco industry has been the subject of a number of investigations during the past 30 years. The Tariff Board inquired into the industry in 1923, 1926, 1931 and 1940 and reports were issued in respect of the last three inquiries.

(iv) *Commonwealth Grants.* Details of the recommendations by the Tobacco Inquiry Committee and grants periodically approved by the Commonwealth Government up to 30th June, 1953, are given in Official Year Book No. 40, pages 895, 896 and in previous issues.

(v) *Research and Investigations.* The Commonwealth Scientific and Industrial Research Organization has been investigating many fundamental problems connected with tobacco culture. One of the major achievements of this organization was the development in the mid-1930's of a technique to control blue mould in the seed bed. State Departments of Agriculture are also carrying out investigations over a wide range of problems, being concerned mainly with variety trials, irrigation, disease and pest control, crop rotation and cultural practices. The New South Wales Department of Agriculture has developed a commercial blue mould resistant hybrid.

In 1955, the Central Tobacco Advisory Committee formulated a programme for increased research and advisory activities. The capital costs of establishing this programme were estimated at £168,000, of which the Commonwealth Government and tobacco manufacturers each agreed to contribute half. Annual contributions are made to the fund by the Commonwealth and State Governments, tobacco growers and manufacturers. A Tobacco Industry Trust Account was established to receive these contributions. This programme commenced in 1956.

During the first five years of the operation of the Trust Account, £818,376 was paid to State and Commonwealth departments. The allocation for 1961-62 is £289,081.

(vi) *Tobacco Factories.* Manufacturers of Australian cigarettes and tobacco are granted a lower rate of duty on imported tobacco leaf, provided it is blended with a prescribed minimum percentage of Australian leaf. These percentages rose from 3 per cent. for cigarettes and 5 per cent. for tobacco in November, 1946, to 35 per cent. and 32 per cent. respectively from 1st July, 1961. The percentages to apply from 1st July, 1962, are 43 per cent. and 40 per cent. respectively. In 1960-61, the quantity of cured leaf used in tobacco factories in Australia amounted to 52.4 million lb., of which 14.7 million lb. was of local origin. The balance was imported, chiefly from the United States of America and Rhodesia.

3. *Oversea Trade.*—Imports of tobacco and manufactures thereof into Australia during 1960-61 were valued at £13.4 million, including 35.7 million lb. of unmanufactured tobacco valued at £11.7 million. Exports of tobacco and tobacco manufactures during 1960-61 were valued at £415,355.

## § 19. Hops.

Hop-growing in Australia is practically confined to Tasmania and some of the cooler districts of Victoria, the total area for 1960-61 being 1,903 acres, of which 1,447 acres were in Tasmania, and 456 acres in Victoria. A small area was also under hops in Western Australia, but the details are not available for publication. The Tasmanian area in 1901-02 was 599 acres while in the decade to 1960-61, it has ranged between 1,332 acres and 1,447 acres. On the other hand, the cultivation of hops was much more extensive in Victoria during the latter part of the last century. For example, in 1883-84, 1,758 acres were cultivated, compared with an average of 450 acres in the five years ended 1960-61.

The production of hops in Australia is insufficient to meet local requirements, and additional supplies are imported to meet the needs of the brewing industry. In the following table, details of the production and imports of hops and the quantity of hops used in breweries are shown for each of the years 1956-57 to 1960-61. Exports of hops are not recorded separately, but are negligible.



## HOPS : PRODUCTION AND DISPOSAL, AUSTRALIA.

Year.	Production.		Imports.	Net Available Supplies. (a)	Quantity used in Breweries.
	Quantity.	Gross Value.			
	Cwt.	£'000.	Cwt.	Cwt.	Cwt.
1956-57 .. .. .	25,230	857	3,074	28,304	40,250
1957-58 .. .. .	32,710	1,137	4,502	37,212	39,370
1958-59 .. .. .	36,499	1,273	8,471	44,970	38,664
1959-60 .. .. .	31,790	1,159	..	31,790	40,357
1960-61 .. .. .	33,099	1,179	991	34,090	40,015

(a) Disregards movements in stocks.

## § 20. Flax.

1. **Flax for Fibre.**—During the 1914-18 and 1939-45 Wars, there was an acute shortage of flax fibre and the expansion of production was encouraged by the Commonwealth Government, the area sown reaching a maximum of more than 61,000 acres in 1944-45.

In recent years, the growing of flax for fibre has been confined to Victoria, South Australia and Western Australia, although none has been produced in South Australia since 1957-58. In Victoria and South Australia (until production ceased in 1957-58), production has been directed and controlled by the Flax Commission, which took over the Commonwealth flax undertakings from the Flax Production Committee on 1st November, 1954. In Western Australia, the industry is carried on by a co-operative company.

In November, 1957, the Government approved a three-year extension of bounty assistance to flax producers and decided that the Commonwealth should withdraw from flax fibre production. One important factor which influenced the Government in making this decision was the view expressed by the defence authorities that the industry no longer has the same defence significance as it had when the Flax Commission was first established.

In accordance with the decision, growing of flax under contract to the Flax Commission was discontinued in 1959, all of the Commonwealth mills ceasing to operate before the end of the year.

Details of the area under flax and the production of straw are given in the following table.

## FLAX FOR FIBRE : AREA AND PRODUCTION.

Season.	Victoria.	S. Aust.	W. Aust.	Australia.
AREA (ACRES).				
1956-57 .. .. .	2,196	1,864	1,757	5,817
1957-58 .. .. .	5,550	1,410	1,002	7,962
1958-59 .. .. .	..	..	2,015	2,015
1959-60 .. .. .	..	..	1,307	1,307
1960-61 .. .. .	430	..	736	1,166
PRODUCTION (TONS OF STRAW).				
1956-57 .. .. .	4,013	4,606	2,051	10,670
1957-58 .. .. .	9,923	3,077	1,246	14,246
1958-59 .. .. .	..	..	3,665	3,665
1959-60 .. .. .	..	..	2,723	2,723
1960-61 .. .. .	592	..	1,176	1,768

2. **Flax for Linseed.**—Prior to 1948-49, the growing of flax for linseed oil had not been developed extensively in Australia. Since then, however, action has been taken to develop this industry, the ultimate objective being the production of sufficient linseed to meet Australia's total oil requirements. Development of the industry proceeded rapidly until 1951-52 when 53,741 acres were sown. In 1952-53, there was a decline in the acreage and a further decline in 1953-54 when 6,343 acres only were sown. In more recent years, the

area has been between ninety and one hundred thousand acres, with the exception of 1958-59 when 37,225 acres were sown. Production in 1960-61, at 13,564 tons, was about half that of the record year, 1959-60.

The question of assistance to the industry was investigated by the Commonwealth Tariff Board in 1953 and their conclusions are contained in their Report on *Linseed and Linseed Products* dated 23rd October, 1953.

Details of the area and production of flax for linseed are shown in the following table for the seasons 1956-57 to 1960-61.

#### FLAX FOR LINSEED : AREA AND PRODUCTION.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Aust.
AREA (ACRES).						
1956-57.. ..	2,404	1,143	86,265	290	..	90,102
1957-58.. ..	2,251	4,091	90,255	221	549	97,367
1958-59.. ..	4,622	8,817	22,839	703	244	37,225
1959-60.. ..	11,933	24,850	60,837	1,687	186	99,493
1960-61.. ..	11,823	6,179	75,088	2,115	483	95,688
PRODUCTION (TONS OF LINSEED).						
1956-57.. ..	622	306	17,644	76	..	18,648
1957-58.. ..	36	1,149	7,279	49	68	8,581
1958-59.. ..	1,196	2,769	6,510	151	42	10,668
1959-60.. ..	2,922	7,391	16,247	191	48	26,799
1960-61.. ..	1,870	1,013	10,394	218	69	13,564

#### § 21. Peanuts.

The production in Australia of peanuts, or groundnuts, is mainly confined to Queensland, although small quantities are grown in New South Wales, Western Australia and the Northern Territory. Details of the area and production are given in the table below.

#### PEANUTS : AREA AND PRODUCTION.

Season.	Area (Acres).				Production (Cwt.).			
	N.S.W.	Q'land.	N.T.	Aust.(a)	N.S.W.	Q'land.	N.T.	Aust.(a)
1956-57 .. ..	419	25,017	208	25,644	4,674	173,522	339	178,535
1957-58 .. ..	686	34,739	156	35,581	8,014	366,518	302	374,834
1958-59 .. ..	867	59,279	211	60,357	11,623	621,687	2,412	635,722
1959-60 .. ..	837	41,547	388	42,772	10,639	360,314	4,306	375,259
1960-61 .. ..	788	41,659	335	42,782	9,578	446,215	1,215	457,008

(a) Excludes Western Australia for which details are not available for publication.

The gross value of the 1960-61 crop (excluding the small crop in Western Australia) was £2,089,000, which was approximately £307,000 more than in 1959-60.

In earlier years, considerable quantities of peanut kernels were imported, chiefly from India, for the extraction of oil. These imports were suspended from 1946 to 1949, but have since been resumed on an increasing scale. Total supplies available for consumption in Australia in 1960-61 were 484,720 cwt. (shell equivalent), after allowing for an increase in stocks held by the Peanut Marketing Board of 78,000 cwt. Supplies were made up of 510,340 cwt. from Australian production received into store by the Board and 52,380 cwt. imported.

#### § 22. Cotton.

1. General.—The production of cotton in Australia has been, until recently, restricted to Queensland, where cultivation began in 1860. Cotton has, however, been grown experimentally in some other States in recent years, for example, along the Murray River in New South Wales and Victoria, at Narrabri in New South Wales and in the Kimberleys in

Western Australia. The first commercial crop grown outside Queensland was harvested at Robinvale in Victoria in the 1960 season. Details of this production are not, however, available for publication.

Australia produces only a small part of its requirements of raw cotton, the balance being obtained chiefly from the United States of America and Mexico. Since the 1939-45 War, efforts have been directed towards increasing Australian production by an extension of area, the introduction of irrigation methods and payment of bounties. These have met with some measure of success, although production has not reached the 1939-40 level of 17,550,000 lb. of seed cotton. Cotton spinning and weaving industries are referred to in Chapter VI.—Manufacturing Industry.

The Raw Cotton Bounty Act 1940 provided an extension, until 31st December, 1946, of assistance previously granted by way of bounty. The Act was amended in August, 1946, to provide a guaranteed net average return to cotton-growers of 15d. per lb. of raw cotton for five years from 1st January, 1947. It was superseded by the Cotton Bounty Act 1951, which guaranteed a net average return of 9½d. per lb. of seed cotton for five years from 1st January, 1951. The 1951 Act was amended in 1952 to provide for a guaranteed return of 14d. per lb. of seed cotton for the 1953 crop, and for variation by regulation of the guaranteed return, in succeeding seasons, with a minimum of 9½d. per lb. The Act, as amended in 1952, 1955 and 1957, was extended in 1958 to cover production up to 31st December, 1963. The guaranteed return has remained at 14d. per lb. of seed cotton since the 1953 season.

2. **Area and Production.**—In the five seasons 1956-57 to 1960-61, the area sown and quantity of unginned cotton produced have increased more than threefold. The yield in the same period has risen by 25 per cent. Production is mainly confined to Queensland, although small quantities are also grown in New South Wales, Victoria and Western Australia.

The area under cultivation and the production in Australia for the years 1956-57 to 1960-61 are shown hereunder.

**COTTON: AREA AND PRODUCTION, AUSTRALIA.(a)**

Season.	Area Sown.	Production of Cotton.			Average Yield per Acre Sown.	
		Unginned.		Ginned.(b)	Unginned.	Ginned.
		Quantity.	Gross Value.			
	Acres.	'000 lb.	£'000.	'000 lb.	lb.	lb.
1956-57..	11,338	3,809	224	1,460	336	129
1957-58..	10,364	3,390	213	1,345	327	129
1958-59..	10,493	4,004	249	1,492	382	142
1959-60..	20,229	9,463	556	3,592	468	178
1960-61..	37,048	15,544	917	5,540	420	150

(a) Incomplete; excludes Victoria and Western Australia, particulars for which are not available for publication. (b) Source: Queensland Cotton Marketing Board.

3. **Consumption of Raw Cotton.**—The following table shows details of the availability and actual consumption of raw cotton in Australian factories, during the last five years.

**RAW COTTON : PRODUCTION, IMPORTS AND CONSUMPTION, AUSTRALIA.**  
( '000 lb.)

Year.	Production. (a)	Imports.	Total.	Consumption of Raw Cotton.
1956-57 .. .. .	1,460	47,805	49,265	46,699
1957-58 .. .. .	1,345	42,578	43,923	49,054
1958-59 .. .. .	1,492	43,984	45,476	47,323
1959-60 .. .. .	3,592	41,519	45,111	51,689
1960-61 .. .. .	5,540	41,482	47,022	45,432

(a) Source: Queensland Cotton Marketing Board.

### § 23. Financial Assistance to Primary Producers.

NOTE.—See also Chapter XXI.—Public Finance, page 834.

Direct financial assistance to primary producers by the Commonwealth Government takes the form of bounties, subsidies and other financial assistance. Brief details of some of the more important payments are given below.

(i) *Cotton Bounty.* The Cotton Bounty Act provides for payment of a bounty on seed cotton of a grade higher than "strict good ordinary" delivered to a ginnery and processed at the ginnery into raw cotton for sale for use in Australia. The present rate of bounty is designed to give growers an average return of 14d. per lb. The total payment in 1959–60 was £214,456 and in 1960–61 it was £373,487.

(ii) *Dairy Products Bounty.* Under the provisions of the Dairy Industry Act 1952, a subsidy was paid to dairymen to ensure them a return based upon the estimated cost of production for a specified quantity equal to local consumption plus twenty per cent. The Dairy Industry Act 1957 provided for continuation of the scheme for a further five years. A new feature, however, was that any subsidy made available under the scheme would be determined before the commencement of each season and would be on the basis of a fixed amount in any dairying year. In 1961–62, total payments amounted to £13,500,000, the same as in each of the previous five years.

(iii) *Flax Fibre Bounty.* The period covered by the bounty terminated on 31st October, 1960. (See Official Year Book No. 47, p. 939, and previous issues, for details of, and payments under, the bounty.)

Other forms of financial assistance to primary producers include payments for Cattle Tick Control, the Dairy Industry Extension Grant, Flood, Drought and Bush Fire Relief, Food Production, Expansion of Agricultural Advisory Services and Assistance to the Tobacco Industry.

### § 24. Fertilizers.

1. *General.*—In the early days of settlement in Australia, scientific cultivation was little understood. It was common, as in other new countries, for the land to be cropped continuously to a degree of exhaustion. This practice is very much less in evidence now than in the early days of Australian agricultural development. Under the guidance of the State Departments of Agriculture and the relevant Commonwealth authorities, such as the Bureau of Agricultural Economics and the Commonwealth Scientific and Industrial Research Organization, scientific farming is now much more widely practised. The importance of fallowing, crop rotation, and the application of suitable fertilizers in adequate quantities is now appreciated by farmers. The introduction of the modern seed-drill, acting also as a fertilizer-distributor, has greatly facilitated the use of artificial manures and much land formerly regarded as useless for cultivation has now been made productive. With the rapid increase in the area of sown pastures, particularly since the 1939–45 War, large quantities of artificial fertilizers have been used. Fertilizer is generally applied at the time of sowing, and periodical (usually annual) top-dressings are carried out afterwards to keep the pastures in good condition. In addition, increasing areas of native pastures have been top-dressed in recent years. In 1960–61, pastures accounted for nearly 60 per cent. of both the total area fertilized and the total quantity of fertilizers used. The application of fertilizers from aircraft, particularly to pastures, has become a feature of modern farm technique, and has enabled the artificial fertilization of some areas which would not be readily accessible to ground machinery. Details of the area treated and quantity of fertilizer used by both aerial and ground methods of application in total are shown in para. 3, below, while further details on aerial top-dressing are given in § 25.

In order to protect the users of artificial fertilizers, legislation has been passed in each of the States regulating the sale and prohibiting the adulteration of fertilizers. A list of these Acts and their main features are given in Official Year Book No. 12, page 378.

2. *Imports and Exports.*—The Australian output of prepared fertilizers is derived chiefly from imported rock phosphate and is sufficient for local requirements.

The chief sources of Australia's supplies of rock phosphate are Nauru, Christmas Island (Indian Ocean) and the Gilbert and Ellice Islands. Sodium nitrate is obtained chiefly from Chile.

An extensive deposit of rock phosphate has recently been discovered in the Northern Territory, although no plans have yet been announced with regard to its development on a commercial basis.

The imports of artificial fertilizers during the five years ended 1960-61 are shown in the following table.

**ARTIFICIAL FERTILIZERS : IMPORTS INTO AUSTRALIA.**

Fertilizer.		1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Ammonium Sulphate	tons	28,251	20,945	19,979	11	110
	£'000	624	522	497	(a)	3
Potash Salts ..	tons	38,246	53,570	43,912	36,204	52,212
	£'000	638	882	710	499	756
Rock Phosphate ..	tons	1,321,607	1,273,766	1,353,739	1,322,173	1,647,928
	£'000	2,804	3,325	3,750	3,654	4,315
Sodium Nitrate ..	tons	11,219	14,430	7,505	6,837	5,670
	£'000	252	354	152	139	134
Other .. ..	tons	785	4,619	16,951	17,282	26,361
	£'000	20	125	496	519	745
Total .. ..	tons	1,400,108	1,367,330	1,442,086	1,382,507	1,732,281
	£'000	4,338	5,208	5,605	4,811	5,953

(a) Less than £500.

Exports of fertilizers (practically all of which were manufactured locally) amounted to 15,400 tons valued at £295,000 in 1960-61 compared with 20,900 tons valued at £313,000 in 1959-60.

3. Quantities Used Locally.—Information regarding the area treated with artificial fertilizers and the quantity of artificial fertilizers (superphosphate, bonedust, nitrates, etc.) used in each State during the 1960-61 season is given in the following table. Details of the area fertilized with natural manure (stableyard, etc.) are no longer collected.

**AREA FERTILIZED AND QUANTITY OF ARTIFICIAL FERTILIZERS USED, 1960-61.**

State or Territory.	Area Fertilized ('000 Acres).			Fertilizers Used (Tons).		
	Crops.	Pasture Lands.	Total.	Crops.	Pasture Lands.	Total.
New South Wales .. ..	3,755	6,577	10,332	155,415	342,077	497,492
Victoria .. ..	3,910	9,408	13,318	199,321	546,201	745,522
Queensland .. ..	522	21	543	106,133	2,087	108,220
South Australia .. ..	4,326	3,300	7,626	209,387	189,704	399,091
Western Australia .. ..	6,741	6,125	12,866	336,637	284,798	621,435
Tasmania .. ..	156	1,080	1,236	21,927	85,099	107,026
Northern Territory .. ..	1	1	2	148	60	208
Australian Capital Territory ..	4	60	64	279	3,521	3,800
Total .. ..	19,415	26,572	45,987	1,029,247	1,453,547	2,482,794

Particulars of the quantity of artificial fertilizers used in each State and Territory during each of the seasons 1956-57 to 1960-61, are shown in the next table. These details include the quantity used for the top-dressing of pasture lands.

**QUANTITY OF ARTIFICIAL FERTILIZERS USED.  
(Tons.)**

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Total.
1956-57 ..	292,261	644,830	103,915	389,952	481,981	89,598	54	2,805	2,005,396
1957-58 ..	337,865	739,322	114,681	418,539	539,192	99,042	156	3,189	2,251,986
1958-59 ..	344,490	730,863	111,741	410,896	560,091	102,280	144	2,724	2,263,229
1959-60 ..	400,702	740,035	101,641	391,628	581,231	105,966	204	2,533	2,323,940
1960-61 ..	497,492	745,522	108,220	399,091	621,435	107,026	208	3,800	2,482,794

4. **Local Production.**—Complete information regarding local production of fertilizers not available. The number of firms engaged in the manufacture of chemical fertilizers in Australia for the year 1960–61 was 44, made up as follows:—New South Wales, 12; Victoria, 6; Queensland, 4; South Australia, 9; Western Australia, 6; and Tasmania, 7. The production of superphosphate in Australia during 1960–61 amounted to 2,531,000 tons.

### § 25. Aerial Agriculture.

During recent years, an increasing use has been made of aircraft for top dressing and seeding (principally of pastures) and for spraying and dusting of crops and pastures. During the year ended 31st March, 1961, the total area treated by aircraft was 6,239,524 acres—5,031,081 acres were top-dressed and/or seeded, 1,173,682 acres were sprayed or dusted with insecticides, fungicides or herbicides, and 35,451 acres were baited for rabbit destruction. For 1956–57 (the first year for which data are available), the total area treated was 1,465,959 acres which represents about 24 per cent. of the area covered in 1960–61. The following table shows details of area treated and materials used for each State for the year ended 31st March, 1961. The information was collected by the Department of Civil Aviation.

#### AERIAL AGRICULTURE : OPERATIONS DURING 1960–61.

Item.	Unit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total. (a)
<i>Top-dressing and Seeding—</i>								
Area treated with—								
Superphosphate	Acres.	3,432,128	580,044	1,700	120,044	135,775	77,645	4,347,336
Seed .. ..	.. ..	345,145	5,625	273,593	4,660	25,592	275	654,890
Other .. ..	.. ..	206,693	2,075	20	..	9,306	680	218,774
<i>Total(a)</i> .. ..	.. ..	3,824,006	582,184	275,313	124,704	146,549	78,325	5,031,081
<i>Materials used—</i>								
Superphosphate	Tons.	180,380	37,451	85	6,200	7,391	5,731	237,238
Seed .. ..	lb.	428,500	1,624	373,326	35,420	76,872	420	916,162
<i>Spraying and Dusting—</i>								
Area treated with—								
Insecticides ..	Acres.	123,111	61,823	109,201	33,524	112,676	..	440,335
Fungicides ..	.. ..	20	..	4,026	1,244	..	843	6,133
Herbicides ..	.. ..	207,008	139,161	35,465	63,649	337,868	1,191	784,342
<i>Total(a)</i> .. ..	.. ..	305,401	194,567	138,185	98,173	435,322	2,034	1,173,682
<b>Total Area Treated(a)</b>	.. ..	<b>4,134,327</b>	<b>806,592</b>	<b>413,498</b>	<b>222,877</b>	<b>581,871</b>	<b>80,359</b>	<b>6,239,524</b>
		(b)	(c)					(d)

(a) Areas treated with more than one type of material in one operation are counted once only.  
 (b) Includes 5,470 acres baited for rabbit destruction. (c) Includes 29,981 acres baited for rabbit destruction.  
 (d) Includes 35,451 acres baited for rabbit destruction. See footnotes (b) and (c)

### § 26. Ensilage.

1. **Government Assistance.**—The several State Governments devote a considerable amount of attention to the education of the farming community with regard to the value of ensilage. Monetary aid is afforded in the erection of silos, and expert advice is supplied in connexion with the design of the silos and the cutting and packing of the ensilage.

2. **Quantity Made and Stocks Held on Farms.**—Information regarding production and farm stocks of ensilage for the years ended 31st March, 1958 to 1961, are given in the following table.

## ENSILAGE : PRODUCTION AND FARM STOCKS.

(Tons.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Total.
<b>Production during—</b>								
1957-58 Season ..	91,486	194,850	41,367	23,230	27,988	52,125	58	431,104
1958-59 ..	243,990	301,839	73,365	68,988	76,997	63,974	410	829,563
1959-60 ..	202,821	281,566	60,129	19,744	73,265	46,933	90	684,548
1960-61 ..	256,459	303,198	51,198	100,727	50,911	72,344	80	834,917
<b>Farm Stocks, as at—</b>								
31st March, 1958 ..	134,895	(a)	77,972	20,605	16,501	52,263	205	(a)
.. 1959 ..	333,178	254,695	126,693	50,170	53,549	62,758	435	881,478
.. 1960 ..	404,777	201,584	136,317	21,773	51,807	50,671	330	867,259
.. 1961 ..	499,244	231,315	117,749	79,269	43,518	46,570	80	1,017,745

(a) Not available.

The drought of 1902-3 drew increased attention to the value of stocks of ensilage, and in the following seasons there was an increase both in the number of holdings on which ensilage was made and in the quantity produced. The accumulated stocks proved of great value during the 1914 drought. In recent years, there has been an increasing tendency to produce more ensilage. From 117,000 tons in 1950-51, the quantity produced rose fairly uniformly to 464,000 tons in 1956-57 and subsequently to a record level of 830,000 tons in 1958-59. Output in 1959-60 declined to 685,000 tons from the previous year but subsequently rose to a new record level of 835,000 tons in 1960-61.

## § 27. Agricultural Colleges and Experimental Farms.

Agricultural colleges have been established in all States except Tasmania. The primary function of these colleges is the training of students in the various phases of agriculture and livestock husbandry. Students are required to undertake a considerable amount of practical work in addition to lectures and theory. A secondary function of the colleges is agricultural research and experimentation. To a lesser degree, they carry out extension work in the form of public field days. Upon graduation, students receive diplomas in agriculture, dairying, etc., according to the course undertaken.

Experimental farms have been set up by State Departments of Agriculture in all States. They are primarily concerned with agricultural research and experimentation, each farm concentrating on problems specific to the district in which it is located. The results of the work undertaken are passed on to farmers at field days, which are held at regular intervals, through publication in various agricultural or scientific journals and through the agricultural extension services of the State Departments of Agriculture.

The Commonwealth Scientific and Industrial Research Organization has field stations in many parts of Australia, and sometimes undertakes research jointly with the appropriate State authorities. It also has regional laboratories in several States, conducting research into agronomic and livestock problems as they occur in each particular region (see also Chapter XV.—Education and Research). The State Departments of Agriculture study problems of particular significance within their own boundaries. In addition, the universities carry out valuable work on their experimental farms.

## § 28. Tractors on Rural Holdings.

The growth of mechanization in agriculture is indicated by the increase in the number of tractors on rural holdings from 41,943 in 1939 to 253,515 in 1961. The annual increase in numbers reached its peak in 1951-52 when over 20,000 additional tractors were enumerated on holdings. The rate of increase has declined in more recent years and over the last five years averaged only about 10,000 per annum.

The table below sets out the number of wheel and crawler type tractors by States for the five years ended 1961.

## TRACTORS ON RURAL HOLDINGS.

At 31st March—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
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## WHEEL TYPE TRACTORS.

1957 ..	52,477	52,275	39,627	22,826	19,352	6,967	83	191	193,798
1958 ..	55,816	55,263	41,072	23,952	20,086	7,395	82	188	203,854
1959 ..	56,453	57,818	42,709	25,116	20,989	7,838	103	193	211,219
1960 ..	60,533	59,438	45,493	25,774	21,962	8,395	101	190	221,886
1961 ..	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)

## CRAWLER OR TRACK TYPE TRACTORS.

1957 ..	4,232	1,621	5,576	3,186	3,556	843	31	8	19,053
1958 ..	4,437	1,652	6,506	3,336	3,877	974	38	7	20,827
1959 ..	4,493	1,684	6,998	3,416	3,996	968	38	7	21,600
1960 ..	4,535	1,730	6,313	3,191	3,650	997	40	6	20,462
1961 ..	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)

## TOTAL TRACTORS.

1957 ..	56,709	53,896	44,873	26,012	22,908	7,810	114	199	212,521
1958 ..	60,253	56,915	47,578	27,288	23,961	8,369	120	195	224,681
1959 ..	60,946	59,502	49,707	28,532	24,985	8,806	141	200	232,819
1960 ..	65,068	61,168	51,806	28,965	25,612	9,392	141	196	242,348
1961 ..	67,789	64,537	53,366	30,674	27,164	9,615	168	202	253,515

(a) Separate details for wheel and crawler tractors are not available for 1961.

## § 29. Number and Area of Rural Holdings and Employment Thereon.

1. Number and Area.—A holding in Australia has been defined by statisticians on a more or less uniform basis and discrepancies which exist are not of sufficient importance to prevent comparisons. For the purpose of these statistics, a holding may be defined as land of one acre or more in extent, used in the production of agricultural produce, the raising of livestock or the products of livestock.

There are considerable fluctuations from time to time in the numbers of very small holdings and it is very difficult to determine in some cases whether or not they are rural holdings within the definition.

In addition, in the very dry parts, such as the far west of New South Wales and Queensland and the remoter parts of South Australia and Western Australia, there are large areas of marginal lands sporadically occupied under short-term lease or other arrangement, and the areas so occupied tend to fluctuate with the seasons. Similarly, there are rugged areas in the mountain country of some States which are also occasionally occupied.

The following table shows the recorded number and area of the holdings in each State for the seasons 1956-57 to 1960-61.

## RURAL HOLDINGS : NUMBER AND AREA.

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1956-57 ..	77,812	69,509	43,292	27,936	21,385	11,538	230	223	251,925
1957-58 ..	78,120	69,590	43,457	27,971	21,593	11,389	230	225	252,575
1958-59 ..	77,857	69,770	43,290	28,105	21,563	11,374	243	221	252,423
1959-60 ..	77,499	69,778	42,912	28,527	21,832	11,202	268	224	252,242
1960-61 ..	76,871	69,623	43,155	28,711	21,922	11,201	275	224	251,982



RURAL HOLDINGS : NUMBER AND AREA—*continued.*

Season.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
<b>TOTAL AREA OF RURAL HOLDINGS.</b>									
('000 ACRES.)									
1956-57	172,411	37,659	368,689	149,932	232,689	6,508	168,447	390	1,136,725
1957-58	173,278	37,822	368,833	152,045	236,667	6,547	167,210	392	1,142,794
1958-59	172,978	37,755	370,240	152,312	238,264	6,573	156,897	381	1,135,400
1959-60	172,721	37,735	371,373	155,437	244,619	6,512	158,806	382	1,147,585
1960-61	172,697	37,934	373,995	156,456	247,737	6,511	161,099	374	1,156,803

2. **Special Tabulation Relating to Rural Holdings—Classification by Size and Type of Activity.** Some of the information obtained from the 1959-60 Agricultural and Pastoral Census was classified by size of principal characteristics (area of holdings, area of sown grasses and clovers, area of selected crops and numbers of livestock). In addition, all holdings were classified according to type of activity. Tables showing this information and an outline of methods used will be published in a series of bulletins, *Classification of Rural Holdings by Size and Type of Activity*, 1959-60. Similar information on size classification was published in a series of bulletins for the year 1955-56.

3. **Employment on Rural Holdings.**—The following table shows, for each State, the recorded number of males working on rural holdings as at 31st March, 1961. Additional particulars relating to the number of males employed in agriculture are available up to 1941-42 in Official Year Book No. 36, page 852, and previous issues. Similar details for later years are not available.

## MALES(a) ENGAGED ON RURAL HOLDINGS AT 31st MARCH, 1961.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.(b)	A.C.T.	Aust.
<i>Permanent—</i>									
Owners, Lessees or Share-farmers .. ..	(c)	(c)	45,492	23,403	20,474	7,615	234	162	(c)
Relatives of Owner, Lessee or Share-farmer over 14 years of age, not receiving wages or salary .. ..			3,568	2,626	1,468	189	19	7	
Employees, including Managers and Relatives working for wages or salary .. ..			18,300	7,926	8,991	4,293	603	149	
<i>Total Permanent Males</i> .. ..			67,360	33,955	30,933	12,097	856	318	
<i>Temporary</i> .. ..			11,687	17,116	3,848	5,300	1,607	25	
<b>Total Males</b> .. ..			79,047	51,071	34,781	17,397	2,463	343	

(a) Details for females not available. (b) 1,404 male full-blood aboriginals employed are included as temporary employees. (c) Not available.

The next table shows for Australia as a whole the number of persons working full-time on rural holdings as at 31st March of the five years 1954 to 1958. Data for subsequent years are not available.

PERSONS ENGAGED ON RURAL HOLDINGS, AUSTRALIA.(a)

Particulars.	As at 31st March—				
	1954.(b)	1955.(b)	1956.	1957.	1958.
<b>Permanent—</b>					
<b>Males—</b>					
Owners, Lessees or Share-farmers ..	241,149	240,879	245,621	244,111	241,247
Relatives of Owner, Lessee or Share-farmer over 14 years of age, not receiving wages or salary ..	22,736	23,529	21,232	21,734	21,535
Employees, including managers and relatives working for wages or salary	93,748	91,479	89,334	90,599	91,308
<b>Total, Males .. ..</b>	<b>357,633</b>	<b>355,887</b>	<b>356,187</b>	<b>356,444</b>	<b>354,090</b>
„ Females .. ..	49,782	46,656	42,104	41,373	39,763
<b>Total Permanent ..</b>	<b>407,415</b>	<b>402,543</b>	<b>398,291</b>	<b>397,817</b>	<b>393,853</b>
<b>Temporary—</b>					
<b>Total, Males .. ..</b>	<b>86,644</b>	<b>87,400</b>	<b>84,607</b>	<b>86,267</b>	<b>93,142</b>
„ Females .. ..	8,365	9,238	9,638	11,324	12,986
<b>Total Temporary ..</b>	<b>95,009</b>	<b>96,638</b>	<b>94,245</b>	<b>97,591</b>	<b>106,128</b>
<b>Grand Total .. ..</b>	<b>502,424</b>	<b>499,181</b>	<b>492,536</b>	<b>495,408</b>	<b>499,981</b>

(a) Australian totals for 1959, 1960 and 1961 are not available. (b) Excludes Northern Territory.

4. Salaries and Wages Paid to Employees on Rural Holdings.—Particulars of salaries and wages paid to employees (including amounts paid to contractors) working full-time on rural holdings have been collected uniformly in all States from 1949–50. Details are set out below for the year 1960–61. Data for New South Wales and Victoria, and hence Australia, are not available. Similar information for Australia as a whole is, however, given for the years 1953–54 to 1957–58.

RURAL HOLDINGS : SALARIES AND WAGES(a) PAID TO EMPLOYEES, 1960-61. (£'000.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Permanent—Males ..</b>	}	}	14,248	5,730	6,514	3,407	555	149	}
Females ..			1,142	235					
<b>Temporary(c)—Males ..</b>	(b)	(b)	17,746	4,206	4,326	1,739	(b)	(b)	(b)
Females ..									
<b>Total .. ..</b>			33,136	10,536	10,840	5,478	1,096	251	

(a) Includes value of keep. (b) Not available. (c) Includes amounts paid to contractors.

RURAL HOLDINGS : SALARIES AND WAGES(a) PAID TO EMPLOYEES, AUSTRALIA.(b) (£'000.)

Particulars.	1953-54.(c)	1954-55.(c)	1955-56.	1956-57.	1957-58.
<b>Permanent—Males ..</b>	52,240	53,951	55,752	58,707	63,397
Females ..	2,406	2,468	2,456	2,456	2,793
<b>Temporary(d)—Males ..</b>	51,282	53,855	53,200	54,431	59,982
Females ..	1,190	1,323	1,476	1,498	1,656
<b>Total .. ..</b>	<b>107,118</b>	<b>111,597</b>	<b>112,884</b>	<b>117,092</b>	<b>127,828</b>

(a) Includes value of keep. (b) Australian totals for 1958–59, 1959–60 and 1960–61 are not available. (c) Excludes Northern Territory. (d) Includes amounts paid to contractors.

5. **Persons (of all ages) Residing Permanently on Holdings.**—Particulars of persons (of all ages) residing permanently on rural holdings have been collected by all States at the annual Agricultural and Pastoral Census each year since 1954. Details for each State as at 31st March, 1961, and for Australia as a whole for the years 1954 to 1958, are shown below.

**RURAL HOLDINGS : PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON HOLDINGS AT 31st MARCH, 1961.**

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Males ..	(a) {	144,523	105,746	59,098	48,600	27,255	1,139	531	(a) }
Females ..		126,356	85,634	52,245	39,595	24,259	543	481	
Total ..		270,879	191,380	111,343	88,195	51,514	1,682	1,012	

(a) Not available.

**RURAL HOLDINGS : PERSONS (OF ALL AGES) RESIDING PERMANENTLY ON HOLDINGS, AUSTRALIA.(a)**

Particulars.	As at 31st March—				
	1954.(b)	1954.(b)	1956.	1957.	1958.
Males .. .. .	543,740	549,734	557,274	563,894	560,196
Females .. .. .	453,503	462,163	469,805	475,587	474,333
Total .. .. .	997,243	1,011,897	1,027,079	1,039,481	1,034,529

(a) Australian totals for 1959, 1960 and 1961 are not available.

(b) Excludes Northern Territory.

## CHAPTER XXIII.

## PASTORAL PRODUCTION.

NOTE.—All values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b., port of shipment, except where otherwise indicated. All export tables relate to exports of Australian produce only, but quantities and values quoted in the text sometimes include re-exports, the amounts involved, however, being generally small.

For greater detail on the subjects dealt with in this chapter, see the annual bulletins *Primary Industries, Part I.—Rural Industries*, and *Part II.—Non-Rural Industries and Value of Production* published by this Bureau. For advance information on these subjects, the following mimeograph statistical bulletins should be consulted—*Livestock Numbers* (annual), *Meat Industry* (monthly), *Value of Production and Indexes of Price and Quantum of Farm Production* (annual), *Wool Production* (annual), and *Wool Production and Utilization* (annual). The annual *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia* contains details of the production, distribution and apparent consumption of foodstuffs obtained from the pastoral industry. Current information on meat and wool production is available in the *Monthly Review of Business Statistics* and the *Digest of Current Economic Statistics* (monthly).

## § 1. Initiation and Growth of the Pastoral Industry.

1. *Livestock Numbers*.—A detailed account of the various enumerations of livestock in Australia made prior to 1860 was given in previous issues of the Year Book. Since 1860, annual enumerations have been made, based, with few exceptions, on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at decennial intervals from 1860 to 1950, and from 1957 onwards in single years, are given in the following table, and are shown continuously on the graph on page 979.

LIVESTOCK : AUSTRALIA.  
(\*000.)

Year.	Horses.	Cattle.	Sheep.	Pigs.	Year.	Horses.	Cattle.	Sheep.	Pigs.
1860 ..	432	3,958	20,135	351	1940 ..	1,699	13,080	119,305	1,455
1870 ..	717	4,276	41,594	543	1950 ..	1,057	14,640	112,891	1,123
1880 ..	1,069	7,527	62,184	816					
1890 ..	1,522	10,300	97,881	891	1957 ..	737	17,257	149,802	1,325
1900 ..	1,610	8,640	70,603	950	1958 ..	694	16,892	149,315	1,423
1910 ..	2,166	11,745	98,066	1,026	1959 ..	671	16,257	152,685	1,289
1920 ..	2,416	13,500	81,796	764	1960 ..	640	16,503	155,174	1,424
1930 ..	1,793	11,721	110,568	1,072	1961 ..	598	17,332	152,679	1,615

While livestock numbers (particularly sheep) have increased substantially since 1860, marked fluctuations have taken place during the period, mainly on account of droughts which have from time to time left their impression on the pastoral history of Australia. These occurred in 1868, 1877, 1883-4, 1892, 1893, 1895, 1901-2, 1912, 1914, 1918, 1919, 1922-23, 1925-26, 1927-28, 1929-30, 1940-41 and 1944-45 to 1946-47.

The years in which the numbers of livestock attained their maxima are as follows:—Horses, 1918 (2,527,000); cattle, 1961 (17,332,000); sheep, 1960 (155,174,000) and pigs, 1941 (1,797,000).

The distribution throughout Australia of beef cattle, dairy cattle, sheep and pigs as at 31st March, 1955, is shown in the maps on pages 909-12 of Official Year Book No. 43.

The numbers of horses, beef cattle and sheep in each State and Territory are shown later in this chapter; similar information for dairy cattle and pigs appears in Chapter XXIV.—*Farmyard, Dairy and Bee Products*.

2. **Carrying Capacity of Pastoral Holdings.**—The carrying capacity of pastoral holdings has been increased in recent years, owing in some measure to the succession of good seasons experienced since 1946 (with the exception of the 1957–58 season, when prevailing dry conditions caused a slight decline in cattle and sheep numbers). Other important factors contributing to the progressive increase over this period have been the increased attention to pasture improvement and the reduction of rabbit infestation.

There was a considerable decline in the number of rabbits following the introduction in 1950 of the disease myxomatosis, which spread rapidly. The number of rabbits has also been kept at a low level in recent years by the use of poison baits, etc.

Statistics of the area under sown grasses and clovers which have been collected on a uniform basis in all States since 1952–53 reveal that the area sown has been considerably increased. In 1960–61, the area under sown grasses and clovers (excluding native grasses) totalled 36.3 million acres, an increase of 3.0 million acres (9 per cent.) compared with 1959–60 and an increase of 15.6 million acres (75 per cent.) over 1952–53, the earliest year for which this comparison is available. In recent years, the sowing and top-dressing of pastures have been facilitated by the increasing use of aircraft in these operations, an area of 5.0 million acres being sown and/or top-dressed in the year ended March, 1961. This represents an increase of 2.4 million acres (94 per cent.) on the area treated in the previous year.

3. **Size Classification of Cattle Herds and Sheep Flocks.**—A special series of tabulations relating to rural holdings in Australia was compiled for 1959–60 and will be published in full detail in a series of bulletins, *Classification of Rural Holdings by Size and Type of Activity*, 1959–60. Tables in these bulletins relating to beef and dairy cattle and sheep will show classifications according to size of herd or flock, area of holding, area of wheat for grain, area of sown pastures, and type of activity.

4. **Value of Pastoral Production.**—(i) *Gross, Local and Net Values*, 1960–61. Values of pastoral production for each State are shown for 1960–61 in the following table. Further details of the source of the information and an explanation of the terms used in this compilation will be found in Chapter XXX.—Miscellaneous. Maintenance costs have not been computed in all States and depreciation has not been deducted; consequently the net values are inflated to the extent of these costs.

#### GROSS, LOCAL AND NET VALUES OF PASTORAL PRODUCTION, 1960-61.

(£'000.)

State.	Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Farm.	Value of Materials used in Process of Production.	Net Value of Production. (a)
New South Wales .. ..	196,544	16,968	179,576	(b)19,616	159,960
Victoria .. ..	139,414	13,701	125,713	9,532	116,181
Queensland .. ..	114,007	9,419	104,588	10,242	94,346
South Australia .. ..	47,225	3,220	44,005	7,886	36,119
Western Australia .. ..	50,525	3,799	46,726	6,748	39,978
Tasmania .. ..	11,509	825	10,684	4,281	6,403
Northern Territory .. ..	5,236	757	4,479	2	4,477
Australian Capital Territory ..	822	55	767	62	705
<b>Australia .. ..</b>	<b>565,282</b>	<b>48,744</b>	<b>516,538</b>	<b>58,369</b>	<b>458,169</b>

(a) No deduction has been made for depreciation and maintenance.  
made for costs of power, power kerosene, petrol and other oils.

(b) No allowance has been

(ii) *Net Values, 1956-57 to 1960-61.* The net value of pastoral production by States and the net value per head of population for the years 1956-57 to 1960-61 are shown below.

## NET VALUE OF PASTORAL PRODUCTION.(a)

Year.	N.S.W.(b)	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.(c)
NET VALUE. (£'000.)							
1956-57 ..	231,674	129,883	112,566	62,093	47,343	(b)10,666	597,681
1957-58 ..	157,679	115,970	80,301	44,863	36,947	(b) 8,078	447,247
1958-59 ..	162,366	110,392	90,760	38,425	30,582	6,652	443,622
1959-60 ..	198,380	135,630	99,884	50,067	39,659	7,846	536,215
1960-61 ..	159,960	116,181	94,346	36,119	39,978	6,403	458,169

NET VALUE PER HEAD OF POPULATION.  
(£)

1956-57 ..	64.5	49.5	80.7	72.1	69.5	32.9	62.7
1957-58 ..	43.1	43.2	56.5	50.6	53.3	24.3	45.9
1958-59 ..	43.5	40.1	62.6	42.3	43.3	19.6	44.6
1959-60 ..	52.3	48.1	67.6	53.6	55.3	22.8	52.8
1960-61 ..	41.3	40.2	62.7	37.7	54.8	18.3	44.1

(a) No deduction has been made for depreciation and maintenance. Payments to woolgrowers of profits from the war-time wool disposal plan, which were virtually completed by 30th June, 1959, have been excluded. (b) No allowance has been made for costs of power, power kerosene, petrol and other oils. (c) Includes Northern Territory and Australian Capital Territory.

5. *Indexes of Quantum and Price of Pastoral Production, 1956-57 to 1960-61.*—The quantum indexes relate to gross output of farm products valued at constant prices. The quantities of each farm product produced each year have been re-valued at the unit gross value for the period 1936-37 to 1938-39. The price indexes relate to average "prices" of farm products realized in the principal markets of Australia. Average quantities of each product marketed in the period 1946-47 to 1950-51 have been used as fixed weights. For further details of the methods of calculating these indexes and of the weights used, see Chapter XXX.—Miscellaneous.

INDEXES OF QUANTUM(a) AND PRICE OF PASTORAL PRODUCTION:  
AUSTRALIA.

(Base: Average 3 years ended June, 1939 = 100.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Quantum(a) produced—</i>					
Wool .. .. .	164	148	164	172	165
Other products .. .. .	128	134	152	153	136
<i>Total Pastoral</i>	<i>148</i>	<i>142</i>	<i>159</i>	<i>163</i>	<i>152</i>
<i>Total per Head of</i>					
<i>Population</i> .. .. .	106	100	109	110	100
<i>Price—</i>					
Wool .. .. .	607	473	370	440	397
Other products .. .. .	427	377	435	500	513
<i>Total Pastoral</i> .. .. .	<i>536</i>	<i>435</i>	<i>396</i>	<i>464</i>	<i>443</i>

(a) Index of value at constant prices, i.e., quantities revalued at average unit values of base years, 1936-37 to 1938-39.

## § 2. Horses.

1. **Distribution throughout Australia.**—About 80 per cent. of the total number of horses in Australia are in the States of New South Wales, Victoria and Queensland. In the following table, figures are shown for each State and Territory for the years 1957 to 1961.

HORSES: NUMBER.  
(‘000.)

Year.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
1957	235	108	255	41	45	14	38	1	737
1958	221	98	243	35	44	13	39	1	694
1959	214	91	240	33	41	12	39	1	671
1960	204	81	234	30	41	11	38	1	640
1961	192	65	224	27	40	9	40	1	598

The number of horses in Australia reached its maximum during 1918, when a total of 2,527,149 was recorded. The United States of America recorded its highest number in the same year and Canada in 1921. The number in Australia has declined considerably since 1918 owing to the mechanization of transport and farming. During the period 1918 to 1961, the decrease in numbers has averaged about 45,000 per annum.

A graph showing the number of horses in Australia from 1860 onwards appears on page 979.

The percentage distribution of the number of horses in each State and Territory for 1961 was:—New South Wales, 32; Victoria, 11; Queensland, 37; South Australia, 5; Western Australia, 7; Tasmania, 1; and Northern Territory, 7.

2. **Oversea Trade in Horses.**—The export of horses from Australia during the early years of this century was fairly considerable, averaging about 15,000 head per annum between 1901 and 1920, exclusive of those used for war purposes during the 1914–18 War, but has since declined. The 1960–61 exports amounted to 1,014 horses, valued at £507,994 (Australian produce 922 for £350,054; re-exports 92 for £157,940), made up of horses for breeding (208 valued at £126,262), horses for racing (291 valued at £300,261, shipped principally to Singapore) and horses for other purposes (515 valued at £81,471, shipped principally to Hong Kong and India).

The few horses imported into Australia are mainly stud animals from the United Kingdom and racehorses from New Zealand. The total number imported in 1960–61 was 579 valued at £649,047.

## § 3. Cattle.

1. **Objects of Cattle-raising.**—Cattle-raising is carried out in all the States, the main object in certain districts being the production of stock suitable for slaughtering purposes, and in others the raising of profitable dairy herds. The great impetus which the development of the export trade in Australian butter gave to the dairying industry led to a considerable increase in numbers and an improvement in quality of the dairy herds in the coastal districts of Victoria, New South Wales and southern Queensland, the portion of Australia in the temperate zone which is best adapted to this industry. On the other hand, beef cattle are more widely distributed, particularly in the eastern States, and are raised in areas unsuitable for dairy cattle, such as the tropical area of northern Queensland, the Northern Territory, and the Kimberley district in the north of Western Australia.

2. **Distribution throughout Australia.**—Until 1880, New South Wales was the principal cattle-raising State, but in that year Queensland took the leading position, which it has since maintained. There was a very rapid increase in the number of cattle in Australia up to the year 1894, when 12,312,000 head were depastured. The effects of droughts and the ravages of tick fever subsequently reduced the number to 7,063,000 in 1902. Following the disastrous drought which terminated in the latter year, the herds were gradually built up

and, despite recurring droughts, they continued to increase up to 14,441,000 in 1921. Numbers fluctuated in succeeding years, but from 1947 to 1957 there was a general upward movement to a peak of 17,257,000 in the latter year. Drought conditions together with a very high level of slaughtering in subsequent years resulted in a reduction in numbers, but some recovery was made in 1960, followed by a record level of 17,332,000 in 1961.

A graph showing the number of cattle in Australia from 1860 onwards appears on page 979.

The numbers of cattle (beef and dairy) in the several States and Territories in each year 1957 to 1961, compared with averages for the three-year periods ended 1939, 1949, and 1959 are shown below.

**CATTLE: NUMBER.**  
(<sup>'000.</sup>)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Aust. Cap. Terr.	Aust.
<b>Average for three years ended—</b>									
1939 ..	3,040	1,861	6,002	324	767	260	882	8	13,144
1949 ..	3,122	2,153	5,971	443	830	244	1,006	9	13,778
1959 ..	3,770	2,722	7,177	598	985	367	1,173	10	16,802
<b>Year—</b>									
1957 ..	3,911	2,765	7,462	621	957	354	1,176	11	17,257
1958 ..	3,736	2,750	7,187	597	997	371	1,244	10	16,892
1959 ..	3,664	2,651	6,884	576	1,000	374	1,099	9	16,257
1960 ..	3,840	2,624	7,012	500	1,030	375	1,111	11	16,503
1961 ..	4,242	2,864	7,004	561	1,100	394	1,154	13	17,332

Although the proportion was not as high as it has been in some previous years, Queensland was carrying 40 per cent. of the cattle in Australia in 1961. The percentage in each State and Territory during that year was:—New South Wales, 25; Victoria, 17; Queensland, 40; South Australia, 3; Western Australia, 6; Tasmania, 2; and Northern Territory, 7.

Maps showing the distribution of beef and dairy cattle in Australia have been published in previous issues of the Official Year Book (*see* No. 43, pp. 909–10, for 1955; No. 39, pp. 905–6, for 1948; No. 34, pp. 453–4, for 1938–39; and No. 22, p. 660, for 1924–25).

3. Classification of Cattle According to Purpose.—Of the total number of cattle in Australia in 1961, 12,431,000 or 72 per cent. were classified as beef cattle. The numbers classified as beef cattle in the several States and Territories, during the years 1957 to 1961, compared with averages for the three-year periods ended 1949 and 1959, are shown in the following table.

**BEEF CATTLE: NUMBER.**  
(<sup>'000.</sup>)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Aust. Cap. Terr.	Aust.
<b>Average for three years ended—</b>									
1949 ..	1,832	686	4,592	171	604	100	1,006	6	8,997
1959 ..	2,462	1,023	5,882	341	763	165	1,173	7	11,816
<b>Year—</b>									
1957 ..	2,577	1,044	6,087	356	733	158	1,176	8	12,139
1958 ..	2,429	1,026	5,917	338	771	167	1,244	6	11,898
1959 ..	2,382	998	5,643	328	784	171	1,099	6	11,411
1960 ..	2,562	946	5,757	260	814	168	1,111	8	11,626
1961 ..	2,961	1,147	5,790	313	876	180	1,155	9	12,431

Particulars relating to dairy cattle numbers will be found in Chapter XXIV.—Farm-yard, Dairy and Bee Products.



4. **Size Classification of Cattle Herds.**—See § 1, para. 3, page 960 for information available.

5. **Comparison with other Countries.**—The following table shows the number of cattle in Australia and in some of the principal cattle-raising countries of the world for the years 1936-40 and at the latest available date. The figures relate to areas embraced by post-war boundaries, but do not in all cases cover identical areas for the two periods.

#### CATTLE: NUMBER IN VARIOUS COUNTRIES.

(Sources: Publications of the United States Department of Agriculture and of the Food and Agriculture Organization of United Nations.)

(\*000.)

Country.	Average, 1936-40.(a)	Year and Month.	Number.(c)
India(b) .. .. .	180,000	1959 (May) ..	206,500
United States of America .. .. .	66,706	1962 (January) ..	99,500
U.S.S.R. .. .. .	59,800	1962 (January) ..	82,100
Brazil .. .. .	40,807	1961 (December) ..	75,293
China, Republic of (Mainland)(b) .. .. .	25,600	1959 (December) ..	65,400
Argentina .. .. .	33,762	1961 (June) ..	44,000
Pakistan(b) .. .. .	33,000	1961 (Estimate) ..	30,200
Mexico .. .. .	11,716	1962 (Spring) ..	22,500
Ethiopia .. .. .	18,000	1960 (Estimate) ..	22,250
France .. .. .	15,504	1961 (October) ..	20,008
Australia .. .. .	13,285	1962 (March) ..	18,067
Colombia .. .. .	8,010	1961 (October) ..	15,600
Turkey(b) .. .. .	8,611	1961 (November) ..	13,982
Germany, Federal Republic of .. .. .	12,114	1961 (December) ..	13,284
South Africa .. .. .	11,636	1959 (August) ..	11,300

(a) In some cases census for a single year, and in others an average for two to four years.  
(b) Includes buffaloes. (c) Subject to revision.

6. **Imports and Exports of Cattle.**—The products of the cattle-raising industry figure largely in the export trade of Australia, although until recently the export of live cattle has never been large. In 1959-60, most of the cattle exported were sent to Hong Kong for slaughter. However, in 1960-61, 4,654 head valued at £153,804 were exported to the Philippines, while 3,673 head, valued at £82,882, were exported to Hong Kong. The number of cattle imported is small and, as in the case of horses, consists mainly of valuable animals for stud purposes. Since June, 1958, an embargo has been imposed on the import of cattle in order to prevent the possible introduction of the disease blue-tongue. Details for the years 1956-57 to 1960-61 are shown in the following table.

#### CATTLE: IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.	
	No.	Value.	No.	Value.
		£'000.		£'000.
1956-57 .. .. .	145	123	18,360	754
1957-58 .. .. .	272	174	23,933	932
1958-59 .. .. .	37	62	13,900	493
1959-60 .. .. .	(a)	(a)	13,602	456
1960-61 .. .. .	(a)	(a)	10,159	404

(a) An embargo was placed on the import of cattle in June, 1958; see para. 6, above.

7. **Cattle Slaughtered.**—The numbers of cattle slaughtered during each of the years ended June, 1957 to 1961, compared with averages for the three-year periods ended June, 1939, 1949 and 1959, are shown in the following table.

**CATTLE (INCLUDING CALVES) SLAUGHTERED.**  
(’000.)

Period.	Slaughterings passed for Human Consumption.									Total Slaughterings including Boiled Down.
	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
<b>Average for three years ended—</b>										
1938-39 ..	1,169	881	1,178	163	131	49	5	3	3,579	3,628
1948-49 ..	1,094	759	1,119	168	146	42	14	4	3,346	3,378
1958-59 ..	1,745	1,313	1,689	274	216	116	24	11	5,388	5,463
<b>Year—</b>										
1956-57 ..	1,591	1,139	1,641	252	192	102	25	10	4,952	5,017
1957-58 ..	1,742	1,404	1,541	282	216	118	24	12	5,339	5,411
1958-59 ..	1,894	1,397	1,883	287	249	128	24	10	5,872	5,960
1959-60 ..	1,499	1,277	1,527	238	243	145	24	9	4,962	5,024
1960-61 ..	1,267	1,010	1,469	174	209	115	28	6	4,278	4,327

8. **Production of Beef and Veal.**—Details of the production of beef and veal during each of the years ended June, 1957 to 1961, compared with averages for the three-year periods ended June, 1939, 1949 and 1959 are shown in the following table.

**PRODUCTION OF BEEF AND VEAL (CARCASS WEIGHT).**  
(’000 tons.)

Period.	N.S.W.	Vic.	Qld.	S. Aust.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>Average for three years ended—</b>									
1938-39..	181	123	199	26	28	10	1	1	569
1948-49..	160	106	206	27	30	9	3	1	542
1958-59..	248	176	305	41	41	19	5	2	837
<b>Year—</b>									
1956-57..	236	159	317	40	38	18	5	2	815
1957-58..	233	181	270	41	39	20	5	2	791
1958-59..	275	189	328	42	45	20	5	2	906
1959-60..	217	159	267	33	46	23	5	2	752
1960-61..	168	125	247	27	42	17	6	1	633

9. **Consumption of Beef and Veal.**—Since the 1939-45 War, consumption per head of beef and veal has been at a somewhat lower level than in the pre-war period (an average of 144 lb. carcass equivalent per head per annum for the three years ended 1938-39). For the three years 1946-47 to 1948-49, the average annual consumption per head was 112 5 lb. or 22 per cent. below the immediate pre-war level. There was a considerable recovery during the ensuing years to a post-war peak of 132 7 lb. per head in 1956-57. With the buoyant overseas market for beef and the high prices ruling in Australia during the following four years, consumption per head fell substantially and in 1960-61 amounted to only 88.3 lb. consisting of 85 3 lb. of carcass meat and 3 0 lb. (carcass equivalent) of canned meat. There was a marked substitution of mutton and lamb for beef in Australia during this period.

The figures quoted in the paragraph above include the consumption of canned beef and veal, and differ on that account from the figures shown in the last column of the next table.

In the following table, details of the production and disposal of beef and veal are shown for the years 1956-57 to 1960-61, compared with the averages for the three years ended 1938-39, 1948-49 and 1958-59.

**PRODUCTION AND DISPOSAL OF BEEF AND VEAL (CARCASS WEIGHT):  
AUSTRALIA.  
(‘000 tons.)**

Period.	Net Change in Stocks.	Production.	Exports. (a)	For Canning.	Apparent Consumption in Australia.	
					Total.	Per Head per Annum.
Average for three years ended—						lb.
1938-39 .. ..	(b)	569	121	18	430	140.3
1948-49 .. ..	+ 1	542	101	67	373	109.1
1958-59 .. ..	+ 5	837	209	85	538	123.8
Year—						
1956-57 .. ..	+ 4	815	177	85	549	129.0
1957-58 .. ..	+ 4	791	155	88	544	125.1
1958-59 .. ..	+ 8	906	296	80	522	117.6
1959-60 .. ..	- 11	752	266	55	442	97.5
1960-61 .. ..	+ 4	633	190	43	396	85.3

(a) Includes carcass equivalent of boneless beef exported and ships' stores. (b) Not available.

10. Exports of Frozen Beef and Veal.—The quantity and value of frozen beef and veal exported in each year 1956-57 to 1960-61 are shown in the following table. The figures in this table represent actual weight shipped, not carcass equivalent.

**EXPORTS OF FROZEN AND CHILLED BEEF AND VEAL: AUSTRALIA.**

Year.	Exports of Frozen and Chilled Beef.		Exports of Frozen Veal.	
	Quantity.	Value.	Quantity.	Value.
	'000 lb.	£'000.	'000 lb.	£'000.
1956-57 .. ..	331,253	22,863	3,391	408
1957-58 .. ..	276,607	20,961.	5,397	609
1958-59 .. ..	499,371	54,154	10,869	1,331
1959-60 .. ..	414,749	54,568	6,827	897
1960-61 .. ..	295,686	39,447	4,506	663

Prior to 1959-60, the largest purchaser of Australian beef and veal was the United Kingdom. Exports to the United States of America have been growing in recent years, and in 1959-60 and 1960-61 exceeded those to the United Kingdom. This was particularly evident in 1960-61 when the total value of beef and veal exports to these two countries was: United States of America, £25,542,000; United Kingdom, £9,622,000.

The export of frozen meat from Australia dates from about 1881, but because of the preference overseas for chilled beef, the Australian beef industry was at a serious disadvantage until investigations proved that beef could be successfully transported from Australia to the United Kingdom in a chilled condition. Trial shipments began in 1932-33 and exports in subsequent years increased to a maximum of 58,963,000 lb. in 1938-39. However, the 1939-45 War seriously affected the export trade in chilled beef, which declined to a negligible amount after 1939-40. In 1960-61, chilled beef exports were 1,213,000 lb. valued at £126,000, while frozen beef exports amounted to 294,472,811 lb. valued at £39,321,134.

While beef and veal were previously shipped largely in carcass form, there has been in recent years a substantial increase in the amount of boneless beef exported. From 1958-59 to 1960-61, the quantity of boneless beef shipped exceeded that exported in carcass form. The trade in boneless beef has been developed principally with the United States of America.

11. **Research.—Cattle and Beef Research Scheme.** In May, 1960, legislation was enacted to provide for a Commonwealth scheme for an expanded programme of research into the scientific, technical and economic problems connected with the Australian beef industry.

Funds are raised by a levy on all cattle weighing over 200 lb. dressed which are slaughtered for human consumption, and the Commonwealth provides a matching contribution on a £1 for £1 basis to meet expenditure on new research. The scheme is administered by the Australian Cattle and Beef Research Committee, whose main function is to formulate plans for projects on which the funds may be expended. The actual research work is undertaken by existing bodies such as the universities, C.S.I.R.O. and State Departments of Agriculture.

The Minister for Primary Industry has approved a research programme of £323,000 for 1962–63.

At its first meeting in June, 1960, the Committee agreed to recommend to the Minister for Primary Industry that the levy be fixed at the maximum provided in the Act, namely 2s. per head. The levy was operative from 1st July, 1960.

However, the levy was suspended in October, 1960, as a result of a High Court writ being issued by certain meat operators challenging the validity of the Act. Amending legislation was enacted in October, 1961, and the levy again became operative from the 14th October, 1961.

The three Acts covering the research arrangements and collection of the levy are the Cattle and Beef Research Act 1960–1961, the Cattle Slaughter Levy Collection Act 1960–1961, and the Cattle Slaughter Levy Act 1960.

The Cattle Slaughter Levy (Suspension) Act 1961 covers the suspension of levy from 14th October, 1960, to 13th October, 1961.

#### § 4. Sheep.

1. **Movement in Sheep Numbers in Australia.**—Fluctuations in the number of sheep recorded in Australia for each year from 1860 onwards may be seen from the graph on page 979. Up to 1945, there were five marked periods of decline, but the losses were made up rapidly. In each of the years 1925 to 1945, the sheep flocks exceeded 100 million, reaching 125.2 million in 1942. During the three years ended 1947, however, a sharp decline to 95.7 million occurred. This was largely attributable to the severe drought conditions experienced during 1944, 1945 and 1946. The passing of the drought and consequent re-stocking resulted in a steady increase in sheep numbers, and although dry seasonal conditions were responsible for a slight decline at 31st March, 1958, a record level of 155.2 million was reached at 31st March, 1960. The reduction in sheep numbers to 152.7 million during 1960–61 was due primarily to dry conditions in Queensland and northern New South Wales.

The following table shows the approximate movement in sheep numbers in Australia in each year 1956–57 to 1960–61.

#### SHEEP AND LAMBS : ANALYSIS OF MOVEMENT IN NUMBERS, AUSTRALIA.

(\*000.)

Season.	Lambs Marked.	Excess of Exports.	Sheep and Lambs Slaughtered.	Estimated Number of Deaths from Disease, Drought, etc.(a)	Number at 31st March.	Annual Net Increase (+) or Decrease (—)
1956–57..	39,902	122	19,503	9,599	149,802	+ 10,678
1957–58..	(b) 36,850	120	24,417	12,800	149,315	— 487
1958–59..	38,748	136	26,963	8,279	152,685	+ 3,370
1959–60..	44,150	(c) 226	32,084	9,351	155,174	+ 2,489
1960–61..	39,794	(c) 148	32,210	10,612	152,679	— 2,495

(a) Balance figure. in this year.

(b) Excludes Northern Territory prior to 1957–58.

(c) No imports

2. **Distribution throughout Australia.**—With the exception of a short period in the early eighteen-sixties, when the flocks of Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising, depasturing nearly one-half of the sheep of Australia.

Maps showing the distribution of sheep in Australia have been published in previous issues of the Official Year Book (see No. 43, p. 911, for 1955; No. 39, p. 907, for 1948; No. 34, p. 432, for 1938–39; and No. 22, p. 659, for 1924–25).

The numbers of sheep in the several States and Territories at 31st March of each year 1957 to 1961 compared with average numbers for the three-year periods ended 1939, 1949 and 1959 are shown in the following table.

## SHEEP : NUMBER.

('000.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Aust. Cap. Terr.	Australia.
Average for three years ended—									
1939 ..	51,202	17,845	21,889	8,916	8,972	2,460	23	251	111,558
1949 ..	46,525	17,900	16,442	8,793	10,368	2,060	24	227	102,339
1959 ..	67,006	26,615	22,537	15,285	15,609	3,259	25	265	150,601
Year—									
1957 ..	67,670	25,831	23,190	14,984	14,887	2,943	30	267	149,802
1958 ..	65,410	27,090	22,274	15,236	15,724	3,298	27	256	149,315
1959 ..	67,936	26,925	22,148	15,634	16,215	3,536	19	272	152,685
1960 ..	71,000	26,597	23,332	14,025	16,412	3,494	15	299	155,174
1961 ..	68,087	26,620	22,135	14,952	17,152	3,439	16	278	152,679

Except when affected by drought, the relative numbers of sheep in the different States have remained fairly constant in recent years. The percentage distribution in 1961 was:—New South Wales, 45; Victoria, 17; Queensland, 15; South Australia, 10; Western Australia, 11; and Tasmania, 2.

3. **Classification of Sheep According to Age, Sex and Breed.**—In the following table, numbers of sheep in Australia are classified according to age and sex at 31st March of the years 1957 to 1961.

## SHEEP : AGE AND SEX, AUSTRALIA.

('000.)

Description.	1957.	1958.	1959.	1960.	1961.
Rams, 1 year and over ..	1,830	1,883	1,919	1,898	1,934
Breeding ewes (including ewes intended for mating) ..	66,844	66,059	69,470	68,455	69,662
Other ewes, 1 year and over ..	8,447	9,795	8,295	9,276	8,951
Wethers, 1 year and over ..	41,573	43,688	43,578	43,046	42,912
Lambs and hoggets, under 1 year .. .. .	31,108	27,890	29,423	32,499	29,220
<b>Total, Sheep and Lambs</b>	<b>149,802</b>	<b>149,315</b>	<b>152,685</b>	<b>155,174</b>	<b>152,679</b>

Particulars relating to the principal breeds of sheep at 31st March, 1959, the latest date for which these data are available (details are collected on a triennial basis only), are shown in the following table.

## SHEEP : PRINCIPAL BREEDS, 31st MARCH, 1959.

('000.)

Breed.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Merino ..	52,467	11,410	21,725	13,112	14,921	325	19	245	114,224
Other recognized breeds ..	6,037	6,118	72	1,061	542	1,841	..	12	15,683
Merino come-backs(a) ..	3,408	3,422	70	312	146	466	..	2	7,826
Crossbreds(b) ..	6,024	5,975	281	1,149	606	904	..	13	14,952
Total ..	67,936	26,925	22,148	15,634	16,215	3,536	19	272	152,685

(a) Merino comeback is the progeny of a crossbred merino ewe and a merino ram, i.e., finer than half-bred.  
(b) Half-bred and coarser.

4. Numbers of Sheep on Rural Holdings.—See § 1, para. 3, page 960, for information available.

5. Comparison with other Countries.—Australia has long occupied a leading position amongst the sheep-raising countries of the world in respect of the size of its flocks and the quantity and quality of wool produced. In 1960–61, Australian flocks numbered 153 million sheep, compared with an estimate of 235 million for the U.S.S.R., China, and Eastern Europe combined, about 48 million in New Zealand, and about 46 million in Argentina. The total world sheep numbers were estimated at about 913 million in 1960–61. These figures relate to woolled sheep only, non-woolled sheep accounting for about 5 per cent. of the world total of all types of sheep. Further details of sheep numbers in the principal wool producing countries of the world for 1958–59 to 1960–61 are given in the table on page 976.

6. Imports and Exports of Sheep.—As in the case of cattle, the overseas exports of live sheep from Australia are of comparatively little importance. On 27th November, 1929, the export of stud merino sheep was prohibited, except with the approval of the Minister for Primary Industry. Exports of sheep are now principally for slaughter overseas. Consignments for this purpose in recent years were made chiefly from Western Australia, to Singapore. Since June, 1958, an embargo has been imposed on the import of sheep in order to prevent the possible introduction of the disease blue-tongue. The following table shows the imports and exports of all sheep for the years 1956–57 to 1960–61.

## SHEEP : IMPORTS AND EXPORTS, AUSTRALIA.

Year.	Imports.		Exports.	
	No.	Value.	No.	Value.
		£'000.		£'000.
1956–57 .. ..	7,445	212	129,480	482
1957–58 .. ..	2,256	90	122,628	466
1958–59 .. ..	5	1	135,720	393
1959–60 .. ..	..	..	225,757	805
1960–61 .. ..	..	..	147,592	461

7. **Sheep Slaughtered.**—The following table shows the numbers of sheep slaughtered in the several States during each of the years ended June, 1957 to 1961, compared with averages for the three-year periods ended June, 1939, 1949 and 1959.

**SHEEP (INCLUDING LAMBS) SLAUGHTERED.**

(’000.)

Period.	Slaughterings Passed for Human Consumption.									Total Slaughterings including Boiled Down.
	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.	
<b>Average for three years ended—</b>										
1938–39 ..	6,520	7,891	1,088	1,762	1,216	364	3	25	18,866	18,923
1948–49 ..	6,367	6,413	1,066	1,863	1,458	396	3	47	17,613	17,650
1958–59 ..	7,857	9,058	1,429	2,917	2,059	775	3	71	24,169	24,278
<b>Year—</b>										
1956–57 ..	6,951	7,038	1,270	2,329	1,907	684	2	66	20,247	20,310
1957–58 ..	7,761	9,624	1,378	3,278	1,856	734	4	74	24,709	24,878
1958–59 ..	8,861	10,514	1,633	3,145	2,415	909	4	71	27,552	27,646
1959–60 ..	10,753	12,511	2,113	3,899	2,650	1,166	5	76	33,173	33,373
1960–61 ..	11,718	11,363	2,924	2,784	2,658	1,076	4	77	32,604	32,697

8. **Production of Mutton and Lamb.**—Details of the production of mutton and lamb in each State and Territory in the years 1956–57 to 1960–61, compared with averages for the three-year periods ended June, 1939, 1949 and 1959, are shown in the following table.

**PRODUCTION OF MUTTON AND LAMB.**

(Tons.)

Period.	N.S.W.	Victoria.	Q’land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
<b>Average for three years ended—</b>									
1938–39 ..	103,884	136,927	20,121	30,574	20,928	6,129	2	413	318,978
1948–49 ..	109,084	111,677	18,587	34,772	23,846	7,214	64	839	306,083
1958–59 ..	135,256	164,580	25,845	50,415	35,373	14,077	77	1,240	426,863
<b>Year—</b>									
1956–57 ..	121,947	131,253	23,866	42,563	33,303	12,607	49	1,198	366,786
1957–58 ..	127,800	169,107	24,381	53,681	31,942	13,221	90	1,254	421,476
1958–59 ..	156,020	193,379	29,286	55,001	40,875	16,403	93	1,269	492,326
1959–60 ..	184,600	223,519	35,886	62,760	44,385	20,780	111	1,292	573,333
1960–61 ..	196,417	210,245	48,529	52,242	46,560	18,925	98	1,292	574,308

9. **Consumption of Mutton and Lamb.**—Civilian consumption of mutton and lamb (in carcass equivalent weight, including canned mutton) rose substantially during the 1939–45 War, but fell again in 1946–47, and up to 1951–52 was lower than in pre-war years (an average of 74.8 lb. carcass equivalent per head per annum for the three years ended 1938–39). It rose during succeeding years to 78 lb. per head in 1952–53, and except for slight drops in 1955–56 and 1956–57, this level was maintained up to 1957–58. There was a sharp rise in 1958–59 to 89 lb. per head, and in 1959–60 a level of 105 lb. per head was reached. In 1959–60, consumption of mutton and lamb exceeded that of beef and veal for the first time on record. A small decline followed in 1960–61 when the amount of mutton and lamb consumed per head was estimated as 103 lb. Figures quoted in this paragraph include the consumption of canned mutton, and differ on that account from the figures in the last column of the table following.

The following table gives details of the production and disposal of mutton and lamb.

**PRODUCTION AND DISPOSAL OF MUTTON AND LAMB (CARCASS WEIGHT): AUSTRALIA.**  
(<sup>0</sup>000 tons.)

Period.	Changes in Stock.	Pro-duction.	Exports. (a)	For Canning and Dehydration.	Apparent Consumption in Australia.	
					Total.	Per Head per Annum. (lb.)
<b>MUTTON.</b>						
Average for three years ended—						
1938-39 .. ..	..	201	17	..	184	60.0
1948-49 .. ..	..	177	15	8	154	45.1
1958-59 .. ..	..	268	27	19	222	51.0
Year—						
1956-57 .. ..	+ 2	224	10	13	199	46.8
1957-58 .. ..	+ 1	270	23	25	221	50.7
1958-59 .. ..	- 3	310	49	19	245	55.1
1959-60 .. ..	..	370	48	33	289	63.7
1960-61 .. ..	+ 1	368	60	14	293	63.2
<b>LAMB.</b>						
Average for three years ended—						
1938-39 .. ..	..	118	72	..	46	15.0
1948-49 .. ..	- 1	130	45	..	86	25.2
1958-59 .. ..	..	159	31	..	128	29.4
Year—						
1956-57 .. ..	+ 1	143	24	..	118	27.7
1957-58 .. ..	- 1	152	29	..	124	28.4
1958-59 .. ..	- 1	182	41	..	142	31.9
1959-60 .. ..	..	203	26	..	177	39.0
1960-61 .. ..	+ 1	207	29	..	177	38.2

(a) Includes carcass equivalent of boneless mutton exported.

10. Exports of Frozen Mutton and Lamb.—The export trade in mutton and lamb preserved by cold process has not since attained the level of 205 million lb. shipped in 1913, although in 1942-43 it almost reached this level again. In earlier years, shipments consisted mainly of frozen mutton, but commencing with 1923-24 lamb has predominated in almost every year. The position has been reversed in 1959-60 and 1960-61 when exports of frozen mutton have been considerably in excess of shipments of frozen lamb.

The quantities and values of exports of frozen mutton and lamb in each year 1956-57 to 1960-61 are shown in the following table.

**EXPORTS OF FROZEN MUTTON AND LAMB: AUSTRALIA.**

Year.	Exports of Frozen Mutton.		Exports of Frozen Lamb.		Exports of Frozen Mutton and Lamb.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<sup>0</sup> 000 lb.	£ <sup>0</sup> 000.	<sup>0</sup> 000 lb.	£ <sup>0</sup> 000.	<sup>0</sup> 000 lb.	£ <sup>0</sup> 000.
1956-57.. ..	23,012	1,322	53,262	4,773	76,274	6,095
1957-58.. ..	42,270	2,253	64,352	6,132	106,622	8,385
1958-59.. ..	74,650	5,851	91,192	8,151	165,842	14,002
1959-60.. ..	71,763	4,719	59,264	4,389	131,027	9,108
1960-61.. ..	83,075	7,437	64,430	5,790	147,505	13,227



The principal customer for Australian frozen mutton and lamb was formerly the United Kingdom, although the United States of America has become a major buyer of mutton in recent years. In 1960-61, exports of mutton and lamb to the United Kingdom represented 21 per cent. and 69 per cent., respectively, of the total quantities exported. Forty-five per cent. of the mutton exported went to the United States of America, largely in the form of boneless meat, and the proportion of lamb exported to that country was nine per cent.

### § 5. Consumption and Marketing of Meat.

1. **Consumption of Meat.**—The apparent consumption per head of meat (including cured and canned meat) and edible offal in Australia is shown in the table below for the years 1956-57 to 1960-61 in comparison with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

#### MEAT (INCLUDING CURED AND CANNED) AND EDIBLE OFFAL AVAILABLE FOR CONSUMPTION: AUSTRALIA.

(lb. per head per year.)

Period.	Beef and Veal. (a)	Mutton. (a)	Lamb. (a)	Pork. (a)	Offal.	Canned Meat. (b)	Bacon and Ham. (c)	Carcass Equivalent of Meat and Meat Products. (d)
Average of three years ended—								
1938-39 ..	140.3	60.0	15.0	10.4	8.4	2.1	10.2	252.8
1948-49 ..	109.1	45.1	25.2	7.1	8.9	2.6	11.7	215.7
1958-59 ..	123.8	51.0	29.4	10.1	11.5	4.1	7.0	242.5
Year—								
1956-57 ..	129.0	46.8	27.7	8.7	10.4	3.1	6.8	237.4
1957-58 ..	125.1	50.7	28.4	10.9	11.8	4.5	7.0	244.6
1958-59 ..	117.6	55.1	31.9	10.7	12.1	4.7	7.1	245.0
1959-60 ..	97.5	63.7	39.0	10.4	11.6	4.1	7.0	237.7
1960-61 ..	85.3	63.2	38.2	11.5	10.9	4.2	6.8	224.2

(a) Carcass weight of fresh meat. (b) Canned weight. (c) Cured weight. (d) Includes offal.

2. **Marketing of Meat.**—(i) *General.* The Australian Meat Board, consisting of representatives of producers, processors, exporters and the Commonwealth Government, is responsible for the control of all exports of Australian meat and meat products. Further information on the powers, etc., conferred on the Board under the Meat Export Control Act 1935-1960 is given on page 801 of Official Year Book No. 40.

(ii) *United Kingdom Long-term Purchase Agreements.* Details of the long-term meat contracts with the United Kingdom Government from the outbreak of the 1939-45 War up to 30th June, 1952, and of the Fifteen Year Meat Agreement (1952-67) are given on page 710 of Official Year Book No. 41 and in earlier issues.

The Fifteen Year Meat Agreement (1952-67) between the United Kingdom and Australian Governments has as its objectives the promotion of meat production in Australia, enabling increased exports to be made to the United Kingdom, and the provision of a satisfactory market in the United Kingdom for such meat. It covers beef and veal, and mutton and lamb.

(iii) *Cessation of Bulk Purchasing.* Following the announcement in September, 1953 that the United Kingdom Ministry of Food would cease bulk purchasing of meat, arrangements were made between the Australian Meat Board and the Ministry for the reversion to private trading in the United Kingdom. The main features of the arrangements were given in previous issues of the Year Book (see No. 47, p. 960).

The agreed minimum prices (f.o.b. port of shipment), which operated until 30th September, 1955, were as follows:—Beef and veal, 13.18d. stg. per lb.; lamb, 13.61d. stg. per lb.; and mutton, 6.05d. stg. per lb. These minimum prices were reviewed for subsequent years.

In the event of market prices for the various classifications of meat averaging below the minimum, the Ministry is to make a payment to the Australian Government corresponding to the amount of the deficiency. So as to determine the extent of any deficiency, a procedure designed to measure as accurately as possible the weighted average level of wholesale prices of Australian meat on the United Kingdom market has been agreed upon.

(iv) *Private Trading.* As part of the negotiations which have taken place in Australia and the United Kingdom at various times since 1954, minimum prices have been reviewed periodically. The result has been a general reduction in minimum prices, and up to the 1960–61 season this had amounted to 5 per cent. in the case of beef and veal and lamb, and about 25 per cent. in the case of mutton, compared with 1954–55 minimum prices. At the same time, however, Australia has been permitted to export increasing quantities of all types of meat to destinations other than the United Kingdom and the Colonies. For the years 1957–58 to 1960–61, the beef export “free quota” was set at a maximum of 7,500 tons a year of 1st and 2nd quality beef, without restriction as to the quantity of lower grades that may be exported to these other destinations.

Minimum beef prices for the three years to 1963–64 were fixed during the 1958 negotiations at 9 per cent. below the 1960–61 level. Further price negotiations were held in August, 1961, at which beef prices to 1963–64, previously agreed upon, were revised upward to a level 4½ per cent. higher than those negotiated in 1958. The new price level for beef was further extended to cover the period 1964 to 1967. It was also agreed that the existing guaranteed minimum prices for lamb would continue until October, 1962, and from then until October, 1964, they would be 2½ per cent. lower. From October, 1961, there will be no minimum prices in respect of mutton because of the difficulty in determining them owing to the change in marketing from carcass to piece mutton. Also, from October, 1961, the “free quota” restrictions were removed and, under the Agreement, meat may now be exported to any destination free of quantitative restriction.

After eight months of open trading, the Australian Meat Board estimated that a deficiency payment would be received in respect of beef for the first year. In order to make arrangements for this anticipated payment to be passed on to the producer, the Meat Agreement (Deficiency Payments) Act was passed by the Commonwealth Government in May, 1955. Payments were to be made on the understanding that they were, or would be, reflected in the price paid to producers. To make provision for recoupment by the Board of any overpayment, the Meat Export (Additional Charge) Act was also passed in May, 1955.

Because of a rise in beef prices in the United Kingdom, the deficiency payments made by the Board during the year ended 30th September, 1955, exceeded the sum received from the United Kingdom for the same period. In an endeavour to recoup some of this overpayment, under the terms of the Meat Export (Additional Charge) Act, a levy of one-eighth of a penny per lb. was imposed on certain classes of beef exported to the United Kingdom out of stocks placed into store from 1st February to 16th April, 1956.

From 1st October, 1955, until April, 1958, beef prices in the United Kingdom were consistently below the level of the guarantee and consequently Australia “earned” deficiency payments which enabled the Australian Meat Board to make substantial bounty payments on beef exported to the United Kingdom. The rates of payment made during the 1954–55 and 1955–56 seasons are given on pages 888–9 of Official Year Book No. 43 and on pages 920–1 of Official Year Book No. 44 for 1956–57. No deficiency payments have been received for beef since 1956–57. A deficiency payment was earned on lamb for the first time during the 1960–61 season and as a result a bounty has been paid at the rate of 2s. per carcass and ¾d. per lb. for piece lamb entered into cold store for export to the United Kingdom during the period 1st August, 1961, to 28th April, 1962.

In 1958, a new “chiller” grade of export beef was introduced. Beef of the new grade, whether exported in the chilled or frozen form, received a bounty of 5d. per lb. The bounty on boneless piece beef was increased from 4d. to 5d. per lb., and that on certain classes of carcass piece beef from 3d. to 5d. per lb. The basic rate of 3d. per lb. was maintained for other 1st and 2nd quality quarter beef. The bounty payments were discontinued on 27th December, 1958, on account of the relatively high prices being obtained in the United Kingdom.

Prior to 1959 the heaviest volume of beef exports went to the United Kingdom. However, with the relaxation of the quota restrictions which operated to 1st October, 1958, Australian exporters were able to take advantage of the market for boneless manufacturing meat in the United States, and during 1959–60 and 1960–61 the United States market eclipsed the United Kingdom as the principal market for Australian beef exports.

## § 6. WOOL

1. **General.**—Australia is the leading wool-growing country in the world. With about one-sixth of the world's woolled sheep, Australia produces more than one-quarter of the world's wool and more than half of the world's fine-quality merino wool. The bulk of the production is exported, mainly as greasy wool, although substantial amounts of scoured and carbonized wool, wool on sheep skins and small quantities of semi-manufactured wool are also shipped. The remainder, which is used by Australian manufacturers, has amounted to only about 7 per cent. of the total production (greasy basis) in recent years.

The important position held by Australia among the principal sheep and wool producing countries of the world is shown in the table on page 976.

2. **Clean Yield.**—Wool as shorn from the sheep contains an appreciable amount of grease, dirt and other extraneous matter, and is termed "greasy wool". The quantity of grease and other matter in a fleece differs, not only between countries, but between districts in the same country. It fluctuates with the vagaries of the season, and with the breed and the condition of the sheep.

To allow for this factor, the weight of greasy wool is sometimes given on a "clean" basis, i.e., minus the estimated amount of impurities. The net wool fibre content of greasy wool, expressed as a percentage, is termed "clean yield".

From 1946-47 to 1952-53, the Australian Wool Realization Commission, and from 1953-54, the Wool Statistical Service, have assessed annually the clean yield of the Australian wool clip. During the period of assessment, the clean yield has shown a continuous rise up to 1951-52, when it reached 57.5 per cent. It has since fluctuated between 55.8 per cent. and 57.7 per cent.

Wool scoured, washed and carbonized in Australia before export, however, has a clean yield somewhat lower than for the whole clip, because the grade of greasy wool treated locally for export as scoured, washed or carbonized includes a large proportion of dirty and low-grade wool. In recent years, it has approximated 54 per cent. The quantity of this wool exported during 1960-61 was about 13 per cent. of the total raw wool exports (excluding wool exported on skins) in terms of greasy.

For the clean yield of Australian scoured wools, a standard factor of 93 per cent. is taken.

3. **Production.**—The production of wool in the States and Territories varies broadly in accordance with the number of sheep depastured and with seasonal conditions which affect clip per head (*see* para. 4, p. 975). In general, however, South Australia obtains from its large-framed merinos a much heavier fleece per sheep than the Australian average, while Tasmania generally obtains from its predominantly non-merino flocks a lighter fleece per sheep. In addition, as a result of better management (improved pastures, fodder conservation, better breeding, control of diseases, etc.), the long-term trend has been towards higher fleece weights.

The following table shows details of total wool (i.e., shorn, dead and fellmongered, and exported on skins) produced by each of the States and Territories during the years 1956-57 to 1960-61 compared with averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

PRODUCTION OF WOOL (IN TERMS OF GREASY).  
(<sup>000</sup> lb.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Average of three years ended—									
1938-39 ..	478,595	169,256	169,325	88,699	73,141	15,728	35	1,822	996,601
1948-49 ..	439,363	200,229	151,679	108,126	95,031	16,272	305	1,927	1,012,932
1958-59 ..	633,938	298,302	217,062	187,225	160,402	30,141	277	2,371	1,529,718
Year—									
1956-57 ..	660,343	299,572	227,664	188,808	156,402	28,663	346	2,457	1,564,255
1957-58 ..	557,287	296,490	204,375	185,843	158,281	29,154	291	2,133	1,433,854
1958-59 ..	684,184	298,844	219,148	186,842	166,522	32,605	195	2,522	1,590,862
1959-60 ..	715,445	322,999	236,196	198,289	170,442	33,565	165	2,899	1,680,000
1960-61 ..	664,276	322,011	235,590	177,413	191,353	31,834	157	2,472	1,625,106

The bulk of the Australian wool production (about 91 per cent. in recent years) is shorn from live sheep. The remainder is obtained by fellmongering (about 2 per cent.), or is exported on skins (about 7 per cent.). The following table shows details of total wool production according to method of obtaining wool, and also the gross value of wool produced. Gross value is based, for shorn wool, upon the average price realized for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

**QUANTITY (IN TERMS OF GREASY) AND VALUE OF WOOL PRODUCED:  
AUSTRALIA.**

Period.	Shorn (incl. Crutchings).	Dead and Fell- mongered.	Exported on Skins.	Total Production.	
				Quantity.	Value.
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	£'000.
Average of three years ended—					
1938-39.. .. .	889,338	49,280	57,983	996,601	53,425
1948-49.. .. .	902,007	50,660	60,265	1,012,932	152,536
1958-59.. .. .	1,411,424	36,804	81,490	1,529,718	394,145
Year—					
1956-57.. .. .	1,457,387	37,724	69,144	1,564,255	507,615
1957-58.. .. .	1,319,941	30,894	83,019	1,433,854	363,406
1958-59.. .. .	1,456,759	41,795	92,308	1,590,862	311,415
1959-60.. .. .	1,529,362	38,894	111,744	1,680,000	389,761
1960-61.. .. .	1,471,747	37,820	115,539	1,625,106	340,431

In comparing successive clips, allowance must be made for the circumstance that, owing to climatic or other conditions, the time of shearing may be so far delayed in some areas that one clip may include almost thirteen months' growth of wool, while the succeeding one may include little more than eleven months' growth.

4. Average Weights of Fleeces Shorn.—The average weights of sheep and lamb fleeces shorn in each of the States of Australia and in the Australian Capital Territory are shown in the following table for each season 1956-57 to 1960-61.

**AVERAGE WEIGHT OF FLEECES SHORN (SHEEP AND LAMBS).  
(lb.)**

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61
SHEEP.					
New South Wales .. .. .	9.92	8.45	9.88	10.10	9.15
Victoria .. .. .	11.02	9.69	9.47	10.06	10.24
Queensland .. .. .	9.98	8.93	9.75	10.09	9.17
South Australia .. .. .	13.14	11.60	11.87	12.31	12.12
Western Australia .. .. .	10.73	10.54	10.49	10.32	11.02
Tasmania .. .. .	10.07	9.38	9.37	9.10	8.89
Australian Capital Territory .. .. .	10.20	8.28	10.41	10.51	9.18
Australia(a) .. .. .	10.51	9.30	10.03	10.31	9.82
LAMBS.					
New South Wales .. .. .	3.30	2.75	3.08	3.22	3.31
Victoria .. .. .	3.11	2.71	2.59	2.73	2.96
Queensland .. .. .	4.09	3.76	3.84	3.95	3.84
South Australia .. .. .	4.11	3.37	3.52	3.39	3.55
Western Australia .. .. .	2.78	2.77	2.60	2.56	2.84
Tasmania .. .. .	2.46	2.40	2.31	2.13	2.30
Australian Capital Territory .. .. .	1.52	1.19	1.45	1.56	1.56
Australia(a) .. .. .	3.37	2.91	3.03	3.10	3.22

(a) Excludes Northern Territory.

5. Wool classified according to Quality.—The following table provides a detailed analysis of wool sold at auction, according to quality, for the years 1956-57 to 1960-61. These data are compiled by the Wool Statistical Service on the basis of catalogues of auction sales. "Quality" ("64's, 60's, 58's," etc.) is a measure of the fineness and texture of wool for spinning purposes. Broadly, it means the maximum number of hanks of yarn, each of 560 yards length, which can be spun from 1 lb. of combed wool. For instance, wool of 64's quality is of a fineness and texture which will produce 64 hanks, each of 560 yards, from 1 lb. of tops (combed wool) of that particular wool.

**CLASSIFICATION OF GREASY WOOL SOLD AT AUCTION(a): AUSTRALIA.**  
(Bales of approximately 300 lb.)

Pre-dominating Quality.	1956-57.		1957-58.		1958-59.		1959-60.		1960-61.	
	Quantity.	Per cent.	Quantity.	Per cent.	Quantity.	Per cent.	Quantity.	Per cent.	Quantity.	Per cent.
70's and finer	100,011	2.1	114,188	2.7	112,966	2.5	113,234	2.4	122,534	2.7
64/70's ..	527,264	11.1	609,897	14.3	442,019	9.5	453,823	9.5	462,764	10.0
64's ..	690,038	14.5	696,064	16.4	607,653	13.1	659,126	13.8	633,919	13.7
64/60's ..	478,418	10.1	392,933	9.2	477,054	10.3	506,001	10.6	451,905	9.8
60/64's ..	987,496	20.8	847,824	19.9	1,021,139	21.9	1,071,961	22.4	947,627	20.5
60's and 60/58's ..	804,363	16.9	645,119	15.2	837,338	17.9	839,919	17.6	829,601	18.0
<i>Total 60's and finer</i>	<i>3,587,590</i>	<i>75.5</i>	<i>3,306,025</i>	<i>77.7</i>	<i>3,498,169</i>	<i>75.2</i>	<i>3,644,064</i>	<i>76.3</i>	<i>3,448,370</i>	<i>74.7</i>
58's ..	502,566	10.6	435,436	10.2	519,238	11.2	491,277	10.3	555,237	12.0
56's ..	376,660	7.9	297,662	7.0	363,968	7.8	375,391	7.9	354,287	7.7
50's ..	162,533	3.4	116,329	2.7	149,356	3.2	152,056	3.2	140,457	3.0
Below 50's ..	50,055	1.0	38,514	0.9	44,292	1.0	46,429	0.9	43,552	1.0
Oddments ..	74,226	1.6	65,348	1.5	74,385	1.6	68,202	1.4	73,241	1.6
<b>Grand Total</b>	<b>4,753,630</b>	<b>100.0</b>	<b>4,259,314</b>	<b>100.0</b>	<b>4,649,408</b>	<b>100.0</b>	<b>4,777,419</b>	<b>100.0</b>	<b>4,615,125</b>	<b>100.0</b>

(a) All greasy wool sold at auction except "wool re-offered account buyer".

6. World Sheep Numbers and Wool Production.—The following table shows particulars of the woolled sheep numbers and total production of wool, in terms of greasy, in the principal wool-producing countries of the world, together with estimates of world production of merino, crossbred and carpet type wool for the latest available years.

In 1960-61, Australia produced 29 per cent. of the world total of all types of wool, the share of all British Commonwealth countries combined representing approximately 50 per cent. The principal wool producers, other than Australia, were New Zealand with 10 per cent. of the world total, Argentina, 8 per cent., United States of America, 6 per cent., and Republic of South Africa, 6 per cent. Production in the U.S.S.R., China and Eastern European countries together amounted to 20 per cent. World production of wool (all types) in 1960-61 exceeded the pre-war average for the years 1934 to 1938 by approximately 1,824 million lb. or 48 per cent.

Australia's wool clip is predominantly merino. New Zealand and Argentina produce mainly crossbred wool, while the clip of the U.S.S.R. is largely of the carpet type. World production of merino wool in 1960-61 was 44 per cent. above the average for the years 1934 to 1938, and the production of crossbred types has risen by about 64 per cent. Carpet wool production has risen by about 34 per cent.

**ESTIMATED WORLD WOOLLED SHEEP NUMBERS AND PRODUCTION OF WOOL.**

(Source: Reports published by Commonwealth Economic Committee.)

Country.	Sheep Numbers (million).			Wool Production (million lb.—in terms of greasy).		
	1958-59.	1959-60.	1960-61. (a)	1958-59.	1959-60.	1960-61. (a)
<i>British Commonwealth—</i>						
Australia .. ..	153	155	153	1,591	1,680	1,625
New Zealand .. ..	47	47	48	540	577	588
South Africa(b) .. ..	34	34	34	314	319	317
Other Commonwealth .. ..	81	83	82	254	261	261
<i>Total</i> .. ..	<i>315</i>	<i>319</i>	<i>317</i>	<i>2,699</i>	<i>2,837</i>	<i>2,791</i>
<i>Foreign—</i>						
U.S.S.R., China, Eastern Europe(c) .. ..	231	240	235	1,010	1,102	1,112
Argentina .. ..	48	49	46	421	423	431
United States of America .. ..	33	33	33	295	319	323
Uruguay .. ..	21	22	22	175	159	181
Other Foreign .. ..	255	254	260	2,656	773	774
<i>Total</i> .. ..	<i>588</i>	<i>598</i>	<i>596</i>	<i>5,355</i>	<i>2,776</i>	<i>2,821</i>
<b>Grand Total</b> .. ..	<b>903</b>	<b>917</b>	<b>913</b>	<b>5,355</b>	<b>5,613</b>	<b>5,612</b>
<i>Type of Wool—</i>						
Apparel type—						
Merino .. ..	..	..	..	2,172	2,316	2,270
Crossbred .. ..	..	..	..	1,973	2,033	2,073
Carpet type .. ..	..	..	..	1,210	1,264	1,269

(a) Provisional. (b) Basutoland and S.W. Africa Territory are excluded from sheep numbers but included in wool production. (c) Comprises Albania, Bulgaria, China and Dependencies, Czechoslovakia, Eastern Germany, Hungary, Mongolia, Poland, Romania, Tibet and U.S.S.R.

7. *Marketing of Wool.*—(i) *War-time Contracts.* Details of the contract entered into between the Governments of Australia and the United Kingdom for the purchase of the surplus wool clip of Australia for the duration of the war and one full clip thereafter (1939–40 to 1945–46) will be found in Official Year Book No. 36, page 1106.

Details of the war-time contract arrangements for the period April, 1940, to June, 1946, between the Australian and United Kingdom Governments for the purchase of Australia's exportable surplus of woolled sheepskins will be found in Official Year Book No. 37, page 875.

(ii) *Australian Wool Realization Commission.* Details relating to this Commission may be found in Official Year Book No. 47, page 967. Earlier references are also given on that page.

(iii) *Minimum Reserve Price Plan.* Details of the minimum reserve price plan which was completed by the Governments of Australia, New Zealand, South Africa and the United Kingdom in May, 1951, and which was rejected at a referendum of woolgrowers in Australia in August, 1951, will be found in Official Year Book No. 39, page 925.

(iv) *Subsidy on Woollen Goods, 1950–51.* Details of the subsidy paid on woollen goods manufactured for consumption in Australia from wool sold during the 1950–51 season will be found in Official Year Book No. 41, page 727.

(v) *Wool Marketing Committee of Enquiry.* At the request of woolgrower organizations, the Commonwealth Government, in January, 1961, appointed an independent committee to inquire into the marketing and promotion of Australian wool.

The Committee's terms of reference were:—

- (a) to inquire into the present systems of marketing and of promoting the sale of the Australian wool clip and matters relating thereto, and to report upon the efficacy of these systems;
- (b) to report upon the merits of any other systems or of modifications of the present systems which may be advocated to the committee of enquiry or which the committee itself considers would be of long-term benefit to the wool-growing industry and in the best interests of the nation.

After investigations extending over a period of about twelve months, the Committee presented its report to the Government in February, 1962. The report was tabled in both Houses of Parliament on 7th March, 1962, and released to the public.

8. *Australian Wool Bureau.*—(i) *Wool Promotion.* The Australian Wool Bureau is a statutory body which is responsible for the promotion of wool on behalf of Australian woolgrowers. It has been in existence since 1936, but prior to its reconstitution in 1953, it was called the Australian Wool Board.

The Bureau consists of seven members appointed by the Governor-General for a term of three years. Of the seven members, three represent the Australian Wool and Meat Producers' Federation, three the Australian Woolgrowers' and Graziers' Council and one member is nominated by the Commonwealth Government.

The present structure and functions of the Wool Bureau are laid down by the Wool Use Promotion Act 1953–1960. The principal function of the Bureau is the promotion, by publicity and other means, of the use of wool in Australia, and promotion of and research into wool in overseas countries. The Bureau is also empowered to perform other approved functions for the benefit of the wool industry in Australia.

The Bureau is associated with the New Zealand Wool Board and the South African Wool Board in maintaining the International Wool Secretariat, which was founded in 1937 to promote the use of wool throughout the world by publicity, education and research on behalf of the three bodies.

Finance for the Wool Bureau's activities is provided by woolgrowers through the wool promotion levy (see para. 9. below), and supplemented by income from wool stores under the Bureau's administration (see (iii) below).

(ii) *Wool Statistical Service.* In 1953, the Australian Wool Bureau took over the statistical division of the former Australian Wool Realization Commission. As the Wool Statistical Service of the Australian Wool Bureau, this unit publishes detailed statistical analyses by type and quality of wool sold at auction in Australia, and also publishes regularly wool price reports and other statistical data on the Australian wool clip.

A Statistical Service Committee consisting of representatives of the Australian Wool Bureau, the Commonwealth Statistician, wool buyers, woolgrowers and wool-selling brokers acts in an advisory capacity to the Australian Wool Bureau.

The Wool Statistical Service is financed out of the income received by the Wool Bureau from wool stores under its control and from an annual contribution by the Commonwealth Government.

(iii) *Wool Stores.* Some three hundred wool stores, formerly the property of the Joint Organization and purchased from it by the Commonwealth Government, were transferred to the ownership of the Australian Wool Bureau by virtue of the Wool Stores Act 1953. The Bureau formally assumed control of these stores on 11th January, 1954, and at the same time received a substantial sum of money representing accumulated rentals and receipts from sales which had come to hand while the stores were held by the Commonwealth Government. Under the Act, the Bureau may dispose of these stores only with the permission of the Minister for Primary Industry and, in the event of war, may be required to return the stores without compensation to the Commonwealth Government. The stores are let by the Wool Bureau as a commercial proposition. The rental income is used to meet the expenses of maintaining, managing and insuring the stores, to defray the cost of operating the Wool Statistical Service and to help finance the wool promotion activities of the Bureau.

9. *Wool Levy.*—In 1936, legislation was passed providing for the collection from wool-growers of a levy on all shorn wool produced in Australia (Wool Tax Act 1936 and Wool Tax Assessment Act 1936). The object of the levy was to finance a scheme for wool promotion and research, administered by the Australian Wool Board.

Initially, the rate of the levy was 6d. a bale. Legislation passed in 1945 raised the levy to 2s. a bale, and made other arrangements for the financing of wool research, so that the entire proceeds of the wool levy became available for wool promotion. Between 1946 and 1952, the wool levy was collected as part of a charge levied on woolgrowers to finance the post-war wool disposals scheme (under Wool (Contributory Charge) legislation). For details see Year Book No. 40, pages 675 and 819.

Following the termination of the disposals scheme, separate collection of the wool levy was resumed with the passage of the Wool Tax Acts (Nos. 1 and 2) 1952. These Acts provided for the rate of levy to be prescribed within the limits of 2s. and 5s. a bale. The operative rate of the levy was set at 4s. a bale, and this rate remained unaltered until 1960.

In 1957, new Wool Tax Acts were passed to provide for the collection from woolgrowers, as part of the wool levy, of a contribution for wool research. The wool levy thus became a composite charge consisting of the wool promotion levy (i.e., the amount collected for wool promotional purposes), which was left unchanged at 4s. a bale, and the wool research levy, which was fixed at 2s. a bale.

In 1960, the wool promotion levy was raised to 5s. a bale, and the following year amending legislation set the levy for 1961–62 at 10s. a bale. However, the operation of this rate was subsequently extended for the year 1962–63. The wool research levy has remained unchanged at 2s. a bale since 1957.

The imposition and collection of the wool levy is governed by three complementary Acts, the Wool Tax Acts (Nos. 1 and 2) 1957–1962 and the Wool Tax Assessment Act 1936–1962.

10. *Wool Research.*—When the Australian Wool Board came into being in 1936, it adopted the role of co-ordinating and fostering the work of the various Australian institutions engaged in research for the benefit of the wool industry. Annual grants were made by the Board to support this work.

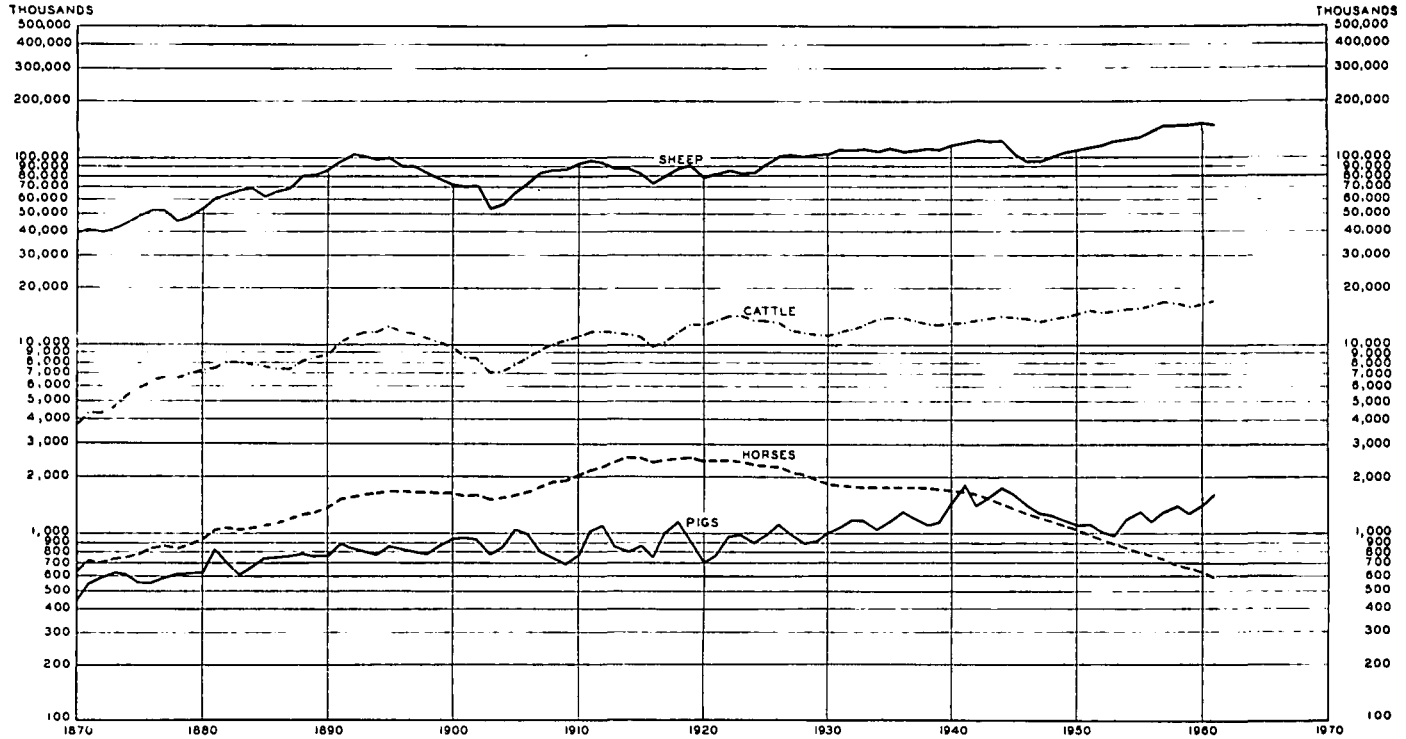
The Wool Use Promotion Act 1945 relieved the Australian Wool Board of its research responsibilities and established the Wool Research Trust Account, into which the Commonwealth Government paid annually a sum equivalent to 2s. for each bale of shorn wool on which Wool Tax had been collected. Subsequently, additional finance was made available for wool research through the Wool Industry Fund (a fund created in 1946 from certain war-time profits of the Central Wool Committee). The research funds were administered by an inter-departmental committee and, from 1955 onwards, the wool industry also had representatives on the Committee which then became known as the Wool Research Committee. The recommendations of the Committee were subject to the approval of a panel of Ministers.

The Wool Research Act 1957 and associated legislation altered the research arrangements as follows.

- (a) A wool research levy of 2s. a bale was imposed on woolgrowers.
- (b) The Government contribution to wool research was increased to 4s. a bale.
- (c) A single fund for wool research, known as the Wool Research Trust Fund, was established which amalgamated the Wool Research Trust Account and the Wool Industry Fund. The use of this fund is limited to sheep and wool research and associated matters.

# LIVESTOCK: AUSTRALIA, 1870 to 1961

## RATIO GRAPH

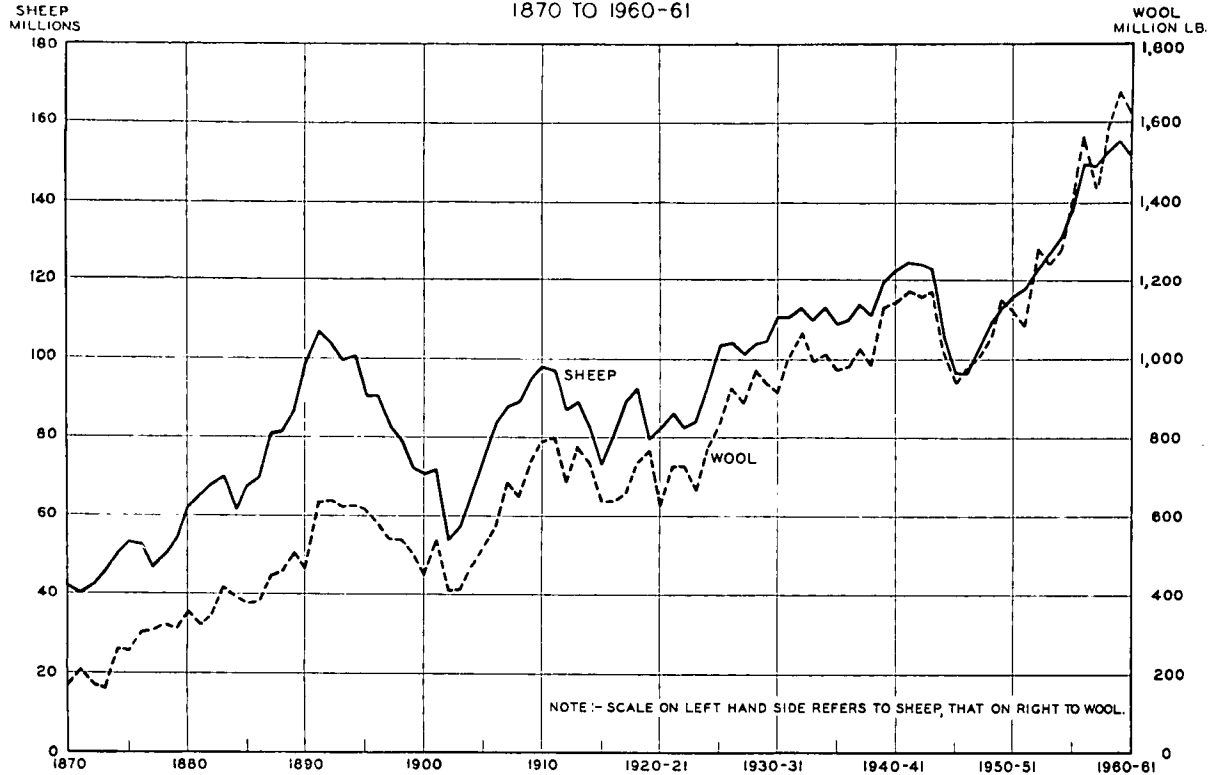


NOTE: - VERTICAL SCALE IS LOGARITHMIC, AND THE CURVES RISE AND FALL ACCORDING TO RATE OF INCREASE OR DECREASE; ACTUAL NUMBERS ARE INDICATED BY SCALE.



# SHEEP NUMBERS AND WOOL PRODUCTION: AUSTRALIA

1870 TO 1960-61



(d) A statutory body known as the Wool Research Committee was set up to administer the Wool Research Trust Fund. The Committee consists of representatives of the Australian Woolgrowers' and Graziers' Council and the Australian Wool and Meat Producers' Federation, the Australian Wool Bureau, textile manufacturers, the C.S.I.R.O., Universities engaged in wool research and the Department of Primary Industry. There is also an observer representing the Australian Agricultural Council. The recommendations of the Committee are subject to the approval of the Minister for Primary Industry.

The greater part of the annual budget for wool research is allocated to the C.S.I.R.O. for biological and textile research in connexion with the wool industry. Allocations are also made to Universities to provide facilities for post-graduate training and research, and to State Departments of Agriculture for applied research and extension work. Funds are also provided for economic research relating to wool carried out by the Bureau of Agricultural Economics, a division of the Commonwealth Department of Primary Industry. The economic research work falls into two main categories, namely, farm production economics dealing with economics of wool growing and sheep-station management generally, and commodity research dealing with the economic aspects of the wool industry in Australia and of wool as a commodity in world trade.

11. **The Australian Wool Testing Authority.**—This body was established under the Australian Wool Testing Authority Act 1957. Its control is vested in seven members who represent wool buyers, wool selling brokers, wool processors, the Australian Wool Bureau, the C.S.I.R.O. and the Commonwealth Government (two members, of whom one is an officer of the Department of Primary Industry).

The Authority has laboratories in Melbourne, Sydney and Perth, and sampling centres in most Australian wool auction markets. Its services are used extensively by exporters of scoured and carbonized wool to determine accurately the moisture content of wool for invoicing purposes. Many wool traders also seek yield tests on greasy wool. Apart from these and other tests to measure the properties of wool which are of commercial importance, the Authority carries out various performance tests on wool textiles.

The initial capital of the Authority was provided by loans from the Commonwealth Government. However, the Authority is expected to meet its financial obligations from its revenue. This comes from charges made for tests performed and certificates issued.

The Authority is listed by the International Wool Textile Organization as a public testing body, and its certificates have world-wide acceptance.

12. **Consumption of Wool.**—(i) *Consumption of Raw Wool.* Statistics of raw wool consumption published in recent years for the purposes of broad international comparisons are based on the quantities of scoured or carbonized wool used on the woollen and worsted systems (mill consumption), plus quantities used in such processes as felting. Consumption estimates compiled on this basis have obvious defects, as they disregard oversea trade in semi-processed wool (e.g., tops and yarns) as well as woollen goods. Estimates of raw wool used on the woollen and worsted systems and by felt manufacturers in Australia are shown in the following table for the years 1956–57 to 1960–61.

ESTIMATED CONSUMPTION OF RAW WOOL IN AUSTRALIA.  
(<sup>000</sup> lb.)

Year.	Greasy Basis.			Clean Basis.		
	Used on Woollen and Worsted Systems.	Used for Felt Manufacture (including Hats).	Total.	Used on Woollen and Worsted Systems.	Used for Felt Manufacture (including Hats).	Total.
1956–57 .. ..	108,255	5,218	113,473	65,504	2,479	67,983
1957–58 .. ..	103,704	4,480	108,184	63,153	2,128	65,281
1958–59 .. ..	103,180	3,992	107,172	62,834	1,896	64,730
1959–60 .. ..	123,529	5,092	128,621	75,226	2,419	77,645
1960–61 .. ..	110,382	3,480	113,862	67,221	1,653	68,874

(ii) *Consumption of Locally Processed Wool.* As considerable quantities of tops, noils and yarn are exported from Australia, the series on raw wool consumption shown above is over-stated to this extent. The series entitled "Estimated Consumption of Locally Processed Wool in Australia" provides a more reliable indication of wool consumption in Australia, as allowance has been made for exports of wool in semi-processed form. This series is shown in the following table for the years 1956-57 to 1960-61. Briefly, the series measures consumption of wool in terms of yarn used in Australian mills and other factories to produce woollen cloth and other woollen goods, yarn used for hand knitting purposes, and scoured wool used for felt manufacture. No allowance has been made for oversea trade in woollen piece goods, clothing, etc., because of the obvious difficulties of estimating accurately the wool content of these products.

#### ESTIMATED CONSUMPTION OF LOCALLY PROCESSED WOOL IN AUSTRALIA.

('000 lb.)

Year.	Greasy Basis.				Clean Basis.			
	Worsted Yarn Used. (a)(b)	Woollen Yarn Used. (b)	Scoured Wool used for Felt Manufacture (including Hats).	Total.	Worsted Yarn Used. (a)(b)	Woollen Yarn Used. (b)	Scoured Wool used for Felt Manufacture (including Hats).	Total.
1956-57 ..	44,325	30,093	5,218	79,636	26,172	18,737	2,479	47,388
1957-58 ..	40,716	32,288	4,480	77,484	24,201	20,253	2,128	46,582
1958-59 ..	37,972	29,272	3,992	71,236	22,811	18,520	1,896	43,227
1959-60 ..	45,456	35,442	5,092	85,990	27,070	22,169	2,419	51,658
1960-61 ..	44,225	34,994	3,480	82,699	26,340	21,886	1,653	49,879

(a) Includes hand knitting yarns used.  
of wool and other fibres.

(b) Includes wool content of yarns containing a mixture

13. *Exports of Wool.*—(i) *Quantities.* (a) *Greasy.* Prior to the 1939-45 War, Australian greasy wool exported overseas was sent principally to the United Kingdom and other European countries. During the 1939-45 War, exports to the United States of America showed great expansion but have since dwindled to slightly more than 1 per cent. Of the total shipments in 1960-61, 33 per cent. went to Japan, 17 per cent. to the United Kingdom, 12 per cent. to France, 8 per cent. to Italy and 8 per cent. to Belgium-Luxembourg. The following table shows the quantities of greasy and slipe wool exported, and the principal countries of consignment.

#### EXPORTS OF GREASY AND SLIPE WOOL: AUSTRALIA.

('000 lb. actual weight.)

Country of Consignment.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
United Kingdom .. ..	306,504	251,305	305,888	266,297	217,318
Other Commonwealth Countries ..	12,242	8,643	10,803	11,796	10,636
Japan .. ..	233,036	203,988	273,503	335,296	411,782
France .. ..	215,150	179,480	157,871	161,844	155,378
Italy .. ..	123,438	130,062	113,156	130,516	105,790
Belgium-Luxembourg .. ..	105,963	102,197	103,261	105,974	105,023
Germany, Fed. Rep. of .. ..	82,897	66,117	60,070	70,223	60,931
United States of America .. ..	37,454	21,235	28,299	24,323	17,234
Other Foreign Countries .. ..	92,509	119,279	134,138	188,081	175,048
<b>Total .. ..</b>	<b>1,209,193</b>	<b>1,082,306</b>	<b>1,186,989</b>	<b>1,294,350</b>	<b>1,259,140</b>

(b) *Scoured and Washed and Carbonized.* The exports of "scoured and washed" wool, whether carbonized or not, are shown in the following table according to principal countries of destination.

**EXPORTS OF WOOL—SCOURED AND WASHED AND CARBONIZED:  
AUSTRALIA.**

('000 lb. actual weight.)

Country of Consignment.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
United Kingdom .. ..	24,298	19,525	24,597	24,661	20,234
Canada .. ..	3,220	3,901	4,803	5,375	5,339
Other Commonwealth Countries	1,538	1,857	1,941	2,318	2,193
United States of America ..	13,294	13,575	14,815	14,482	19,345
Germany, Fed. Rep. of ..	10,583	12,252	8,692	9,406	8,470
Italy .. ..	7,671	7,405	7,117	8,668	7,691
Japan .. ..	3,890	720	4,325	4,345	6,105
France .. ..	6,245	6,205	3,732	3,842	4,659
Belgium-Luxembourg ..	4,017	2,734	1,754	1,855	1,504
Other Foreign Countries ..	15,928	20,068	18,775	25,574	21,732
<b>Total .. ..</b>	<b>90,684</b>	<b>88,242</b>	<b>90,551</b>	<b>100,526</b>	<b>97,272</b>

(c) *Tops, Noils and Waste.* Particulars of the exports of tops, noils and waste are shown in the following table.

**EXPORTS OF WOOL TOPS, NOILS AND WASTE: AUSTRALIA.**

('000 lb. actual weight.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Tops .. ..	14,949	16,921	20,203	22,743	16,694
Noils .. ..	4,578	3,298	4,355	4,017	4,372
Waste—Soft wool .. ..	14,668	3,484	7,742	5,607	2,322
Hard wool .. ..	4,428	3,195	4,388	3,193	3,089

(d) *Total Quantity of Exports.* The following table shows the estimated greasy and clean weights of exports of raw and semi-processed wool for the years 1956-57 to 1960-61. As the figures in the following table are in terms of "greasy" or "clean" basis, they differ from those in the preceding tables which represent actual weight shipped.

**EXPORTS OF WOOL—GREASY AND CLEAN BASES: AUSTRALIA.**

('000 lb.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>GREASY BASIS.</b>					
<i>Raw Wool—</i>					
Greasy and Slips .. ..	1,209,840	1,082,724	1,187,399	1,294,598	1,259,448
Scoured and Washed and Carbonized .. ..	171,848	164,019	169,021	186,217	179,913
Exported on Skins .. ..	69,144	83,019	92,308	111,744	115,539
<b>Total .. ..</b>	<b>1,450,832</b>	<b>1,329,762</b>	<b>1,448,728</b>	<b>1,592,559</b>	<b>1,554,900</b>
<i>Semi-processed Wool—</i>					
Tops .. ..	27,058	30,627	36,365	41,620	30,550
Yarn .. ..	149	158	128	89	415
<b>Total .. ..</b>	<b>1,478,039</b>	<b>1,360,547</b>	<b>1,485,221</b>	<b>1,634,268</b>	<b>1,585,865</b>
<b>CLEAN BASIS.</b>					
<i>Raw Wool .. ..</i>	841,371	760,229	827,418	911,389	892,773
<i>Semi-processed Wool .. ..</i>	16,080	18,364	21,690	24,841	18,433
<b>Total .. ..</b>	<b>857,451</b>	<b>778,593</b>	<b>849,108</b>	<b>936,230</b>	<b>911,206</b>

(ii) *Total Value of Exports.* The value of wool (other than wool on sheepskins) exported from Australia during 1960-61 was 35 per cent. of the total value of exports of merchandise of Australian origin, while the proportion for the five years ended 1960-61 averaged 40 per cent. The value for the five years ended 1960-61, together with the principal countries to which wool was exported, is shown in the following table.

VALUE OF WOOL EXPORTS: AUSTRALIA.(a)  
(£'000.)

Country of Consignment.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
United Kingdom .. .. .	117,372	79,582	73,102	75,947	55,559
Other Commonwealth Countries .. .. .	9,920	8,026	7,762	9,567	9,097
Japan .. .. .	103,770	74,301	68,923	95,626	105,918
France .. .. .	73,494	52,831	34,162	40,040	35,125
Italy .. .. .	47,905	41,709	28,181	38,556	27,097
Belgium-Luxembourg .. .. .	32,987	24,592	15,417	20,733	15,916
Germany (Federal Republic) .. .. .	29,608	22,130	16,479	19,774	18,343
United States of America .. .. .	20,705	12,864	11,270	12,436	10,708
Other Foreign Countries .. .. .	47,963	57,362	46,947	73,474	56,679
<b>Total .. .. .</b>	<b>483,724</b>	<b>373,397</b>	<b>302,243</b>	<b>386,153</b>	<b>334,442</b>

(a) Excludes wool exported on sheepskins.

14. *Stocks of Wool.*—Stocks of raw wool held in Australia at 30th June, 1961, amounted to 252.3 million lb. (greasy basis) of which 64.3 million lb. (40.7 million lb. as greasy and 23.6 million lb. as scoured and carbonized) were held by woollen mills, wool scourers and fellmongers, and 188.0 million lb., assumed to be all greasy, were held by brokers. Of the wool held by brokers, 62.8 million lb. were unsold wool and 125.2 million lb. were sold wool held awaiting shipment. These stocks exclude wool on skins, since this wool is not recorded as production until fellmongered in Australia or exported on skins.

15. *Price.*—Wool is the chief factor in the pastoral wealth of Australia, and the nation's prosperity is largely dependent upon its satisfactory sale. Auction sales are conducted at Sydney, Goulburn, Newcastle, Albury, Melbourne, Geelong, Ballarat, Brisbane, Adelaide, Perth, Albany, Hobart and Launceston, and are attended by buyers representing manufacturers and merchants in the United Kingdom, France, the United States of America, Japan, U.S.S.R. and many other countries. More than 95 per cent. of the Australian wool clip is now disposed of at auction in Australia. During the five years ended 1960-61, the price of greasy wool sold in the selling centres of Australia averaged 60.0d. per lb. compared with the average selling price of 11.5d. per lb. during the ten years ended 1938-39. The average for the nine years ended 1928-29 was 18d. per lb., and for the seven years ended 1913-14, 9d. per lb.

As indicated in para. 7 above, the price of wool during the 1939-45 War was determined by the British Government wool contract. With the return to auction sales since 1945-46, the average price of greasy wool sold rose rapidly from the contract price of 15.45d. per lb. applicable in 1945-46 to the unprecedented level of 144.19d. per lb. in 1950-51. This was followed by a sharp fall, and prices in the years 1951-52 to 1958-59 fluctuated in the range 49d. to 82d. The average price of greasy wool sold was 57.8d. in 1959-60 and 52.1d. in 1960-61.

The prices quoted above, except for United Kingdom contract prices, are as compiled by the National Council of Wool Selling Brokers and represent the average price realized for all greasy wool, of whatever type or quality, marketed during the years indicated.

16. *Value.*—Fluctuation in Australian wool prices has a marked effect on the nation's rural and national income. In 1945-46, the gross value of wool production was £58,597,000, representing 17.4 per cent. of the gross value of all rural industries, while in 1950-51, when prices reached a peak, wool was valued at £651,902,000 or 55.6 per cent. of the total for all rural industries. The value of wool production fell in subsequent years even though the quantity produced increased substantially, and in 1960-61 was £340,431,000. This figure represented 24.8 per cent. of the gross value of rural industries.

Details of the value of wool production for the years 1956-57 to 1960-61 are shown in the following table.

**ESTIMATED GROSS VALUE OF TOTAL WOOL PRODUCTION.(a)**  
(£'000.)

Season.	N.S.W.	Vic.	Qld.	S. Aust.	W.Aust.	Tas.	N.T.(b)	A.C.T.	Aust.
1956-57 ..	217,124	97,659	77,522	57,289	46,965	9,974	106	976	507,615
1957-58 ..	143,337	76,255	53,836	42,354	39,209	7,742	67	606	363,406
1958-59 ..	134,764	59,471	45,075	33,797	30,915	6,844	36	513	311,415
1959-60 ..	168,112	75,952	54,573	42,691	39,334	8,254	35	810	389,761
1960-61 ..	138,881	69,265	50,859	35,242	38,312	7,229	29	614	340,431

(a) Includes shorn, dead and fellmongered wool and wool exported on skins. Payments to woolgrowers of profits from the war-time wool disposal scheme, which were virtually completed by 30th June, 1959, have been excluded.  
(b) Estimated.

17. **United Kingdom Importation of Wool.**—The important position which Australia occupies in the supply of wool to the United Kingdom is indicated in the following statement of the quantities of wool imported into that country from the principal wool-producing countries during each year 1957 to 1961.

**WOOL(a): IMPORTS INTO UNITED KINGDOM.**

(Source: Board of Trade Accounts relating to Trade and Navigation of the United Kingdom.)

('000 lb.)

Country of Origin.	1957.	1958.	1959.	1960.	1961.
Australia .. .. .	315,310	292,407	333,565	265,252	223,204
India .. .. .	18,975	12,882	14,071	12,129	11,186
New Zealand .. .. .	166,050	168,241	170,882	161,035	161,176
Pakistan .. .. .	10,914	9,835	11,371	14,881	13,403
Other Commonwealth Countries .. .. .	11,410	9,671	10,544	10,050	11,790
Argentina .. .. .	32,484	29,088	55,022	54,587	57,466
Chile .. .. .	10,838	15,061	10,864	11,652	15,676
France .. .. .	16,657	18,727	23,689	12,143	11,826
Ireland, Republic of .. .. .	11,720	10,905	14,643	12,864	15,075
South Africa, Republic of .. .. .	45,563	52,594	64,883	48,405	45,630
Uruguay .. .. .	17,448	23,353	15,096	20,587	49,393
Other Foreign Countries .. .. .	17,978	15,825	27,050	21,925	21,195
<i>Total Quantity</i> .. .. .	<i>675,347</i>	<i>658,589</i>	<i>751,680</i>	<i>645,510</i>	<i>637,020</i>
Total Value (£'000 sterling) .. .. .	188,754	134,001	146,801	134,347	127,844

(a) Greasy, Slipe, Washed and Scoured, and Carbonized.

Australian wool represented 35 per cent. of the total quantity imported into the United Kingdom during 1961. New Zealand supplied 25 per cent., while the total quantity received from Commonwealth countries constituted 66 per cent. of all United Kingdom imports of wool.

18. **Principal Importing Countries and Sources of Supply.**—The following table, prepared from information published by the Commonwealth Economic Committee, furnishes, in respect of the principal importing countries, details of their production and imports of wool for 1960 together with the chief sources of supply. The quantities imported refer to the actual weight of wool, without distinguishing between greasy and scoured, except in the case of the United States of America, where estimated clean content of raw wool is quoted.

## WOOL: PRINCIPAL IMPORTING COUNTRIES AND SOURCES OF SUPPLY, 1960.

(Source: Information published by Commonwealth Economic Committee.)  
(Million lb.)

Importing Country.	Pro- duction of Importing Country. (a)	Quantity Imported from— (b)					Total Imports.
		Australia.	New Zealand.	Republic of South Africa.	Argen- tina.	Other Countries.	
United Kingdom ..	121	265.3	161.0	48.4	54.6	116.2	645.5
Belgium .. ..	(c)	104.1	35.2	(c)	15.7	34.5	189.5
France .. ..	57	167.7	104.0	50.7	29.4	22.6	374.4
Germany (Federal Republic) ..	(c)	68.0	32.5	34.4	22.3	52.3	209.5
Italy .. ..	32	133.2	24.4	26.9	25.2	66.3	276.0
Japan .. ..	(c)	350.6	18.8	14.4	23.8	9.5	417.1
United States of America(d) ..	323	26.5	55.2	17.4	52.7	76.4	228.2

(a) Greasy basis, 1960-61. (b) Actual weight of greasy and scoured wool. (c) Not available. (d) Imports are in terms of estimated clean content of greasy and scoured wool. Actual weight of total United States of America imports was 309.4 million lb.

As a considerable transit trade exists between continental countries, it must not be assumed that the whole of the imports recorded by these countries is retained for their own consumption. The countries chiefly concerned with the transit trade are the United Kingdom (8 per cent. of total imports re-exported in 1960) and Belgium.

## § 7. Oversea Trade in Hides and Skins.

1. *Extent of Trade.*—In addition to the hides and skins treated locally, considerable quantities are exported. The value of cattle and horse hides, sheep and other skins, and skin pieces, sent overseas during 1960-61 amounted to £27,194,000, compared with a total of £31,779,000 in 1959-60 and £23,572,000 in 1958-59.

2. *Export of Sheepskins.*—(i) *With Wool.* Of the total exports of sheepskins with wool, amounting to 172,066,000 lb. valued at £21,429,000 during 1960-61, 120,946,000 lb. valued at £14,757,000 (69 per cent. of total value) were shipped to France, 16,497,000 lb. valued at £2,392,000 (11 per cent.) to Italy, and 15,448,000 lb. valued at £1,819,000 (8 per cent.) to the United Kingdom. In the previous year, France obtained about 73 per cent. (by value) of all sheepskins with wool exported, Italy 10 per cent. and the United Kingdom 8 per cent. The exports of sheepskins with wool during each of the years 1956-57 to 1960-61 were as follows.

## EXPORTS OF SHEEPSKINS WITH WOOL: AUSTRALIA.

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Number .. .. '000	14,239	19,441	20,180	25,560	26,883
Value .. .. £'000	19,438	20,219	14,768	23,238	21,429

(ii) *Without Wool.* Up to 1943-44, sheepskins without wool were exported chiefly to the United States of America. During 1943-44, that country accounted for 97 per cent. of the total shipments. In subsequent years, however, there has been a decline in the proportion shipped to the United States of America. In 1958-59, the United States received 66 per cent., but in 1959-60 and 1960-61 only 28 and 11 per cent. respectively. In the latter year, the United Kingdom was the main importer, taking 24 per cent. (value, £32,102), while Finland purchased 16 per cent. (value, £21,604). In 1960-61, a total of 768,000 sheepskins without wool were exported, valued at £135,000. Since 1954-55, the number exported has exceeded two million only once (in 1958-59), and the value has fluctuated about £350,000.

3. *Hides.*—(i) *Exports.* The export trade in cattle hides and calfskins during 1960-61 was distributed amongst the main importing countries as follows:—Japan, £2,230,000; Italy, £260,000; the Netherlands, £200,700; and Germany (Federal Republic), £183,000. The total quantity exported was 43,985,150 lb., valued at £3,453,000.

(ii) *Imports.* The imports of cattle hides and calfskins are fairly substantial, the chief sources of supply being New Zealand and the Pacific Islands. The quantity of cattle hides, including calfskins, imported into Australia during the year 1960-61 amounted to 12,280,000 lb. valued at £1,208,000, the highest figures attained since 1953-54.

4. *Furred Skins.*—The exports of furred skins in 1960-61 were valued at £1,485,000, of which rabbit and hare skins constituted £957,000. This is considerably less than the highest total value of £2,013,000, recorded in 1955-56, when rabbit and hare skins accounted for £1,711,000. In 1959-60, they accounted for £1,156,000 out of a total of £1,755,000.

Skins were shipped principally to the United States of America, the United Kingdom, Belgium and Luxembourg, the values shipped to each in 1960-61 being:—United States of America, £944,900; United Kingdom, £269,800; and Belgium-Luxembourg, £111,800.

5. *Marketing of Hides and Skins.*—(i) *Sheepskins with Wool.* Details of the agreement between the United Kingdom and Commonwealth Governments for the purchase by acquisition of the "exportable surplus" of woolled sheepskins in Australia during the 1939-45 War were given in Official Year Book No. 37, page 886. The contract expired on 30th June, 1946, and sheepskins have since been marketed mostly at open auction.

(ii) *Sheep and Lamb Pelts.* Details of the marketing control of sheep and lamb pelts were given in Official Year Book No. 38, page 930. Pelts have since reverted to open marketing without export restrictions.

(iii) *Hides and Leather.* A hide acquisition and marketing scheme operated from November, 1939, to August, 1954. The Australian Hide and Leather Industries Board, which administered the scheme, acquired all cattle hides and yearling and calf skins produced in Australia at set prices and allocated them to tanners at these prices. Further details of the war-time operations of the scheme will be found in Official Year Book No. 37, page 887, and Official Year Book No. 38, pages 930-1.

Pre-war, about 40 to 45 per cent. of Australian production of cattle hides and calf skins was exported but, with the development of the local tanning industry, the proportion is now in the vicinity of 30 per cent.

(iv) *Rabbit Skins.* A marketing control scheme for rabbit skins was introduced under the National Security (Rabbit Skins) Regulations on 10th June, 1940, and terminated in April, 1949. Details of the scheme will be found in Official Year Book, No. 38, page 931.

## § 8. Tallow.

1. *Consumption of Tallow in Factories.*—Details of consumption are collected from the principal factories using tallow. Consumption of inedible tallow in these factories (soap and candle, chemical and woollscouring works) for the five years 1956-57 to 1960-61 was as follows:—1956-57, 1,207,578 cwt.; 1957-58, 1,280,984 cwt.; 1958-59, 1,216,668 cwt.; 1959-60, 1,277,542 cwt.; 1960-61, 1,161,504 cwt. These figures are, however, deficient to the extent that no allowance has been made for small unrecorded amounts used in other types of establishments. Details of edible tallow consumed in factories are not available.

2. *Exports of Tallow.*—Particulars of exports of edible and inedible tallow are shown in the following table for the five years 1956-57 to 1960-61.

TALLOW: EXPORTS, AUSTRALIA.  
(cwt.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Edible .. .. .	120,194	116,986	74,053	118,848	50,436
Inedible .. .. .	936,951	878,060	1,022,844	1,533,734	968,535
<b>Total .. .. .</b>	<b>1,057,145</b>	<b>995,046</b>	<b>1,096,897</b>	<b>1,652,582</b>	<b>1,018,971</b>

3. *Marketing of Tallow.*—Reference is made in Official Year Book, No. 47, page 976, to the now inoperative contracts relating to the sale of tallow to the United Kingdom.



## § 9. Exports of Principal Pastoral Products of Australia.

The quantities and values of the principal pastoral products of Australia exported for the years 1958-59 to 1960-61 were as follows.

## EXPORTS OF PASTORAL PRODUCTS: AUSTRALIA.

Product.	Unit of Quantity.	Quantity.			Value (£'000.)		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
<b>Animals (living)—</b>							
Cattle .. .. .	No.	13,900	13,602	10,159	493	456	404
Horses .. .. .	"	300	1,927	922	161	487	350
Sheep .. .. .	"	135,720	225,757	147,592	393	805	461
Bones .. .. .	'000 cwt.	13	7	5	19	9	8
Gelatine (Edible) .. .. .	'000 lb.	1,280	1,329	1,739	239	237	325.
Glycerine .. .. .	"	2,850	690	1,995	210	58	125
Hair and Bristles .. .. .	cwt.	2,652	5,606	2,495	89	111	124
Hoofs .. .. .	"	9,072	5,447	1,903	15	9	4
Horns .. .. .	"	15,321	9,155	6,543	66	56	39
<b>Meats—</b>							
Frozen Beef and Veal(a) .. .. .	'000 lb.	510,239	421,576	300,192	55,486	55,464	40,110
" Mutton and Lamb .. .. .	"	165,842	131,027	147,505	14,002	9,108	13,227
" Rabbits and Hares .. .. .	Value only	..	..	..	3,047	2,822	2,778
" Other .. .. .	"	..	..	..	5,461	5,089	4,296
Preserved in Tins, etc. .. .. .	'000 lb.	127,049	107,649	67,978	15,434	13,319	9,356
Other (excluding Bacon and Ham) .. .. .	Value only	..	..	..	1,435	925	758
Sausage Casings .. .. .	"	..	..	..	2,223	1,768	1,646
<b>Hides and Skins—</b>							
Cattle and Calf .. .. .	'000 lb.	85,324	56,357	43,985	6,490	5,752	3,453
Horse .. .. .	"	1,595	1,723	1,834	99	173	121
Sheep and Lamb .. .. .	'000.	22,249	26,003	27,651	15,200	24,652	21,564
Rabbit and Hare .. .. .	'000 lb.	4,444	2,921	2,587	1,288	1,156	954
Tallow (Edible and Inedible) .. .. .	'000 cwt.	1,097	1,653	1,019	4,488	5,079	3,378
<b>Wool—</b>							
Greasy and Slips .. .. .	'000 lb.	1,186,989	1,294,350	1,259,140	264,490	337,394	296,541
Scoured, Tops, Noils, Waste .. .. .	"	127,240	136,086	123,749	37,753	48,759	37,901

(a) Includes chilled beef.

## CHAPTER XXIV.

## FARMYARD, DAIRY AND BEE PRODUCTS.

NOTE.—Values of Australian oversea trade shown throughout this chapter are expressed as £A f.o.b. port of shipment, except where otherwise indicated.

For further detail on subjects dealt with in this chapter, reference should be made to the annual printed bulletins *Primary Industries, Part I.—Rural Industries, Part II.—Non-rural Industries and Value of Production*, and *Secondary Industries* (butter, cheese, etc., factories) issued by this Bureau. The following mimeograph publications also contain considerable detail on the particular subjects dealt with, and are issued as soon as possible after the information has been compiled:—*The Dairying Industry* (monthly and half-yearly), *Manufacturing Industries No. 21.—Butter, Cheese and Condensed, Concentrated, etc., Milk* (annual), *Livestock Numbers* (annual), *Bee-farming* (annual), *Milking Machines on Rural Holdings* (annual), and *Value of Production and Indexes of Price and Quantum of Farm Production* (annual). The mimeograph annual *Report on Food Production and the Apparent Consumption of Foodstuffs in Australia* contains information on the production and utilization of farmyard, etc., products. A series of bulletins *Classification of Rural Holdings by Size and Type of Holding, 1959–60*, is being prepared. These will show particulars of rural holdings classified according to size, nature and area of crops and numbers of livestock, and also according to main type of activity. Current information on commodities produced is obtainable in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics* and the *Monthly Bulletin of Production Statistics*.

## § 1. Introduction.

1. **General.**—The introduction of cattle into Australia and the early history of the dairying industry are referred to in some detail in earlier issues of this Year Book. It may be noted here that an increased and improved milk supply has resulted from the crossing of imported stud cattle with the original stock and from the further judicious crossing of strains. In Australia, dairy cattle thrive in the open throughout the year, local climatic conditions demanding no protection other than tree plantations for shelter and, in certain districts, rugging in the coldest weather. Indigenous and imported grasses furnish food during the greater part of the year, and winter fodder, when necessary, is given to the cattle in the fields. With the wider application of scientific methods in the treatment of animals and pastures and in the processes of manufacture, coupled with herd testing and effective State supervision, the dairying industry has shown rapid expansion. It has been demonstrated that Australian production and marketing methods do not adversely affect the vitamin content of the butter and that the loss during cold storage even for as long as two years is insignificant.

2. **Mixed Farming.**—Apart from specialized dairy farms, dairying is carried on fairly extensively on mixed farms. Originally, dairying on mixed farms was conducted mainly in conjunction with agriculture, but in more recent times it has been carried on also in conjunction with various types of grazing. In non-coastal regions, it is generally carried on in association with agriculture and sheep-raising, sufficient fodder being grown to carry the cattle through the winter months. The extent to which dairy cattle were run in conjunction with beef cattle, sheep, and pigs in 1959–60 will be shown in the relevant tables published in a series of bulletins *Classification of Rural Holdings by Size and Type of Holding, 1959–60*.

3. **Employment.**—The numbers of persons who described themselves at the population census as being engaged in dairy farming at the Censuses of 30th June, 1947 and 1954, were shown in previous issues of this Year Book. Similar details from the Census of 30th June, 1961, are not yet available.

4. **Growth of the Dairying Industry.**—The following table gives some indication of the growth of the dairying industry since 1916–17.

## DAIRYING INDUSTRY: AUSTRALIA.

Period.	Number of Dairy Cows at 31st March.			Production of—			Milking Machines (No. of Stands). <sup>(a)</sup>
	In Milk.	Dry.	Total.	Whole Milk for all Purposes.  Million Gallons.	Butter (Factory and Farm).  Tons.	Cheese (Factory and Farm).  Tons.	
Average for three years ended—							
1918-19..	1,281,820	569,611	1,851,431	565.1	84,043	11,403	(b)
1928-29..	1,689,887	626,180	2,316,067	791.2	122,750	13,159	(b)
1938-39..	2,552,092	658,232	3,210,324	1,142.0	190,827	24,848	(b)
1948-49..	2,278,043	855,223	3,133,266	1,153.2	157,064	42,343	135,137
1958-59..	2,333,147	1,032,243	3,365,390	1,330.9	187,393	41,567	213,555
Year—							
1956-57..	2,354,301	1,097,149	3,451,450	1,357.9	192,854	45,216	210,664
1957-58..	2,281,571	1,080,003	3,361,574	1,264.4	175,757	35,976	213,716
1958-59..	2,363,569	919,578	3,283,147	1,370.2	193,568	43,509	216,287
1959-60..		3,243,472		1,406.5	197,552	44,517	221,260
1960-61..		3,162,449		1,339.3	181,653	46,947	223,815

(a) "Number of Stands" indicates the number of cows that can be milked simultaneously—i.e., the cow capacity of installed milking machines. (b) Not available.

5. **Official Supervision of the Dairying Industry.**—Dairy experts of the various State Agricultural Departments give instruction in approved methods of production, and inspect animals, buildings and marketable produce, with the result that a high standard of cleanliness prevails.

The export trade is regulated by the terms of the Commonwealth Customs Act 1901-1954 and the Commonwealth Commerce (Trade Descriptions) Act 1905-1950, and regulations thereunder. This legislation requires that the true trade description, etc., be marked on all produce intended for export, while official inspection ensures the maintenance of purity and quality. Upon request of the exporter, the goods are given a certificate by the inspector.

6. **Australian Agricultural Council.**—General information on the constitution and functions of the Australian Agricultural Council is given on page 896 of Chapter XXII.—Agricultural Production.

## § 2. Value of Farmyard, Dairy and Bee Production and Indexes of Price and Quantum of Production.

1. **Gross Value of Farmyard, Dairy and Bee Production, 1956-57 to 1960-61.**—The following table shows the gross value of recorded farmyard, dairy and bee production at the principal markets in Australia.

### GROSS VALUE OF FARMYARD, DAIRY AND BEE PRODUCTION: AUSTRALIA. (£'000.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Whole Milk used for—					
Butter <sup>(a)</sup> .. .. .	66,991	61,252	66,328	72,615	64,601
Cheese <sup>(a)</sup> .. .. .	9,398	7,399	10,120	10,124	10,658
Preserved Milk Products .. .. .	8,901	9,540	9,230	10,340	9,376
Other purposes .. .. .	55,393	58,179	59,887	61,768	64,098
Subsidy Paid on Whole Milk for Butter and Cheese .. .. .	13,500	13,500	13,500	13,500	13,500
<i>Total Whole Milk (including   Subsidy) .. .. .</i>	<i>154,183</i>	<i>149,870</i>	<i>159,065</i>	<i>168,347</i>	<i>162,233</i>
Pigs Slaughtered .. .. .	25,948	25,032	25,553	30,121	30,659
Dairy Cattle Slaughtered .. .. .	8,280	10,425	15,721	14,228	11,864
Eggs .. .. .	43,567	42,320	40,397	45,249	50,716
Poultry .. .. .	11,432	13,150	14,380	14,588	16,240
Honey .. .. .	2,371	1,794	1,803	2,390	1,772
Beeswax .. .. .	157	115	105	155	111
<b>Total .. .. .</b>	<b>245,938</b>	<b>242,706</b>	<b>257,024</b>	<b>275,078</b>	<b>273,595</b>

(a) Excludes Commonwealth subsidy which is shown separately.

2. Gross, Local and Net Values, 1960-61.—The values of dairy, poultry and bee farming production on gross, local and net bases are shown in the following table. Further information on values, including definitions of the terms used, is given in Chapter XXX.—Miscellaneous.

GROSS, LOCAL AND NET VALUE OF FARMYARD, DAIRY AND BEE PRODUCTION, 1960-61.

(£'000.)

State.	Gross Production Valued at Principal Markets.	Marketing Costs.	Gross Production Valued at Farm.	Value of Materials Used in Process of Production.	Net Value of Production.(a)
New South Wales .. ..	94,354	14,775	79,579	(b) 15,646	63,933
Victoria .. ..	99,294	5,194	94,100	25,823	68,277
Queensland .. ..	36,378	2,473	33,905	11,462	22,443
South Australia .. ..	19,100	881	18,219	8,233	9,986
Western Australia .. ..	12,959	948	12,011	6,936	5,075
Tasmania .. ..	11,046	599	10,447	3,233	7,214
Northern Territory .. ..	105	5	100	12	88
Australian Capital Territory ..	359	27	332	96	236
<b>Total .. ..</b>	<b>273,595</b>	<b>24,902</b>	<b>248,693</b>	<b>71,441</b>	<b>177,252</b>

(a) No deduction has been made for depreciation and maintenance. (b) No allowance has been made for costs of power, power kerosene, petrol and other oils.

3. Net Value of Production, 1956-57 to 1960-61.—In the following table, the net values of farmyard, dairy and bee production (total and per head of population) are shown by States.

NET VALUE OF FARMYARD, DAIRY AND BEE PRODUCTION.(a)

Year.	N.S.W. (b)	Vic.	Q'land	S. Aust.	W. Aust.	Tas.	Australia. (c)
NET VALUE. (£'000.)							
1956-57 .. ..	57,852	60,945	25,836	14,496	4,610	(b) 7,372	171,448
1957-58 .. ..	55,511	60,463	19,150	9,572	4,203	(b) 7,342	156,516
1958-59 .. ..	65,077	57,362	26,113	11,351	3,549	7,108	170,909
1959-60 .. ..	69,285	62,533	29,579	10,912	4,565	7,492	184,677
1960-61 .. ..	63,933	68,277	22,443	9,986	5,075	7,214	177,252

NET VALUE PER HEAD OF POPULATION. (£)

1956-57 .. ..	16.1	23.2	18.5	16.8	6.8	(b) 22.7	18.0
1957-58 .. ..	15.2	22.5	13.5	10.8	6.1	(b) 22.1	16.1
1958-59 .. ..	17.5	20.9	18.0	12.5	5.0	21.0	17.2
1959-60 .. ..	18.2	22.2	20.0	11.7	6.4	21.8	18.2
1960-61 .. ..	16.5	23.6	14.9	10.4	7.0	20.6	17.1

(a) No deduction has been made for depreciation and maintenance. (b) No deduction has been made for costs of power, power kerosene, petrol and other oils. (c) Includes Northern Territory and Australian Capital Territory.

4. Indexes of Quantum and Price of Farmyard, Dairy and Bee Production, 1956-57 to 1960-61.—For details of the methods of calculating these indexes and of the weights used see Chapter XXX.—Miscellaneous.

INDEXES OF QUANTUM<sup>(a)</sup> AND PRICE OF FARMYARD, DAIRY AND BEE PRODUCTION: AUSTRALIA.

(Base: Average 3 years ended June, 1939 = 100.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<i>Quantum(a) of Production—</i>					
Milk .. .. .	119	111	120	123	116
Other Products .. .. .	114	120	118	122	127
<i>Total Farmyard and Dairy ..</i>	<i>117</i>	<i>114</i>	<i>119</i>	<i>123</i>	<i>120</i>
Total per Head of Population	84	80	82	83	79
<i>Price—</i>					
Milk .. .. .	365	375	372	383	384
Other Products .. .. .	438	399	421	450	454
<i>Total Farmyard and Dairy ..</i>	<i>386</i>	<i>382</i>	<i>386</i>	<i>402</i>	<i>404</i>

(a) Indexes of value at constant prices, i.e., quantities revalued at average unit values of base years (1936-37 to 1938-39).

## § 3. Dairy Cattle and Dairy Products.

1. **Dairy Herds.**—Lack of uniformity in the schedules used by the various States in the collection of livestock statistics makes it impossible to measure with complete accuracy the growth of dairy herds prior to 1943. Statistics of dairy cows—which form the largest part of herds—are, however, available on a comparable basis for a series of years. From 1,326,524 in 1902, their numbers rose gradually, with frequent reversals in trend, to a peak of 3,292,048 in 1936. This level was not reached again until 1956, when the number recorded was 3,403,507, and 1957, when the record level of 3,451,450 was attained. In the last four years, however, numbers have declined gradually to 3,153,875 in 1961.

There is a preponderance of dairy cattle in Victoria and Tasmania, while in New South Wales and South Australia the proportion of dairy to all cattle is high. In Queensland, the Northern Territory, and Western Australia, other cattle predominate, the main use of cattle in these areas being for the production of beef. The numbers of dairy cattle in Australia classified according to age and sex are shown in the following tables for the average of the three-year periods ended March, 1939, 1949 and 1959, and for the years 1957 to 1961.

## NUMBER OF DAIRY CATTLE: AUSTRALIA.

Period.	Dairy Cows (in milk and dry).	Dairy Heifers 1 year and over.	Dairy Calves under 1 year.	Dairy Bulls.	Total Dairy Cattle.
Average for three years ended					
31st March—					
1939 .. .. .	3,210,324	(a)	(a)	(a)	(a)
1949 .. .. .	3,133,266	827,609	712,688	107,708	4,781,271
1959 .. .. .	3,365,390	839,048	670,956	110,656	4,986,050
Year ended 31st March—					
1957 .. .. .	3,451,450	835,620	716,321	114,759	5,118,150
1958 .. .. .	3,361,574	851,407	667,836	112,892	4,993,709
1959 .. .. .	3,283,147	830,116	628,710	104,317	4,846,290
1960 .. .. .	3,243,472	781,862	752,107	99,925	4,877,366
1961 .. .. .	3,153,875	857,642	785,403	103,852	4,900,772

(a) Not available.

The following table shows the total dairy cattle in each State and the Australian Capital Territory for the same periods as in the previous table, except that details for 1939 are not available by States.

## NUMBER OF DAIRY CATTLE: STATES.

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Average for three years ended 31st March—								
1949 ..	1,289,846	1,467,100	1,379,172	272,073	226,340	143,809	2,931	4,781,271
1959 ..	1,307,834	1,699,301	1,295,141	257,569	221,694	201,383	3,128	4,986,050
Year ended 31st March—								
1957 ..	1,334,210	1,720,564	1,374,674	265,484	224,061	195,894	3,263	5,118,150
1958 ..	1,307,567	1,723,845	1,269,969	258,798	225,651	204,773	3,106	4,993,709
1959 ..	1,281,726	1,653,493	1,240,779	248,425	215,369	203,482	3,016	4,846,290
1960 ..	1,278,051	1,678,359	1,255,009	239,603	216,508	206,770	3,066	4,877,366
1961 ..	1,280,823	1,716,840	1,213,391	247,556	224,273	214,382	3,507	4,900,772

Maps showing the distribution of dairy cattle in Australia at 31st March, 1955 and 1948, appear on page 910 of Official Year Book No. 43 and page 906 of Official Year Book No. 39, respectively.

2. Size of Dairy Herds.—For information on the size of dairy herds see references to bulletins *Classification of Rural Holdings by Size and Type of Holding*, 1959–60, in §1, para. 2, page 989, and in the note at the beginning of this chapter.

3. Total Milk, Butter and Cheese Production.—The total production of these commodities for each State in 1960–61 is shown below.

## UTILIZATION OF WHOLE MILK, PRODUCTION OF BUTTER AND CHEESE, 1960-61.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Australia.
MILK ('000 GALLONS).								
Used for—								
Butter ..	(a) 170,725	(b) 415,418	(c) 139,185	30,462	35,529	48,264	13	839,596
Cheese ..	11,259	45,086	16,625	27,569	3,043	888	..	104,470
Preserved Milk Products ..	16,149	48,532	8,309	..	435	3,194	..	76,619
Other purposes	121,277	87,670	48,630	28,999	19,537	11,512	992	318,617
<b>Total ..</b>	<b>319,410</b>	<b>596,706</b>	<b>212,749</b>	<b>87,030</b>	<b>58,544</b>	<b>63,858</b>	<b>1,005</b>	<b>1,339,302</b>
BUTTER (TONS).								
In Factories ..	(d) 33,996	(e) 89,356	(e) 31,081	6,858	7,661	10,256	..	179,208
On Dairy and other Farms ..	1,384	576	195	111	50	127	2	2,445
<b>Total ..</b>	<b>35,380</b>	<b>89,932</b>	<b>31,276</b>	<b>6,969</b>	<b>7,711</b>	<b>10,383</b>	<b>2</b>	<b>181,653</b>
CHEESE (TONS).								
In Factories ..	5,296	20,000	7,222	(f) 12,654	1,351	348	..	46,871
On Dairy and other Farms ..	..	22	..	..	9	45	..	76
<b>Total ..</b>	<b>5,296</b>	<b>20,022</b>	<b>7,222</b>	<b>12,654</b>	<b>1,360</b>	<b>393</b>	<b>..</b>	<b>46,947</b>

(a) Includes 5,404,000 gallons of milk, the produce of New South Wales, sent as cream to factories in Victoria and Queensland. (b) Includes 1,277,000 gallons of milk, the produce of Victoria, sent as cream to New South Wales. (c) Includes 448,000 gallons of milk, the produce of Queensland, sent as cream to New South Wales. (d) Includes butter made from cream, the produce of Victoria and Queensland. (e) Includes butter made from cream, the produce of New South Wales. (f) Includes cheese made in establishments not classified as factories.

4. Whole Milk.—(i) *Production and Utilization.* During the three years ended 1938–39, approximately 78 per cent. of Australia's milk supply was used for making butter, 5 per cent. for cheese manufacture, 3 per cent. for preserved milk products and 14 per cent. for fluid consumption and other purposes. There has since been a considerable decline in the proportion of milk used for butter-making, with a corresponding increase in the quantity used for other purposes. For the average of the three years ended 1958–59, 65 per cent. of the total milk supply was used for butter, 7 per cent. for cheese, 6 per cent. for preserved milk products and 22 per cent. for other purposes.

Details of the production of whole milk for various purposes are shown in the following table for each of the years 1956–57 to 1960–61 compared with the averages for the three year periods ended 1938–39, 1948–49 and 1958–59.

#### PRODUCTION AND UTILIZATION OF WHOLE MILK: AUSTRALIA.

(\*000 Gallons.)

Period.	Total Production.	Quantity used for—			
		Butter (Factory and Farm).	Cheese (Factory and Farm).	Preserved Milk Products.	Other purposes. (a)
Average for three years ended—					
1938–39 .. ..	1,142,006	891,742	54,934	33,226	162,104
1948–49 .. ..	1,153,248	738,377	91,642	78,739	244,490
1958–59 .. ..	1,330,853	865,347	90,561	79,687	295,258
Year—					
1956–57 .. ..	1,357,942	890,833	98,233	78,123	290,753
1957–58 .. ..	1,264,421	811,583	78,550	79,864	294,424
1958–59 .. ..	1,370,197	893,626	94,900	81,074	300,597
1959–60 .. ..	1,406,501	912,271	100,856	82,636	310,738
1960–61 .. ..	1,339,302	839,596	104,470	76,619	318,617

(a) Principally fluid milk for domestic purposes.

In the following table, particulars of the production of whole milk in the several States are shown for the years 1956–57 to 1960–61 compared with the averages for the three years ended 1938–39, 1948–49 and 1958–59. Victoria is the principal milk-producing State, and in 1960–61 the output from that State, 596.7 million gallons, represented 45 per cent. of total production. Output from New South Wales in 1960–61 was 319.4 million gallons, or 24 per cent. of the total, and that of Queensland 212.7 million gallons (16 per cent.). Production in the remaining States accounted for 15 per cent. of the total Australian output.

#### TOTAL PRODUCTION OF WHOLE MILK.

(\*000 Gallons.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Average for three years ended—								
1938–39 .. ..	319,003	403,152	275,898	68,429	42,358	32,803	363	1,142,006
1948–49 .. ..	280,460	445,517	252,469	92,587	49,004	32,638	573	1,153,248
1958–59 .. ..	307,514	578,529	240,446	84,185	54,218	65,032	929	1,330,853
Year—								
1956–57 .. ..	306,298	587,199	252,336	89,882	57,008	64,262	957	1,357,942
1957–58 .. ..	288,565	565,439	210,827	80,606	53,480	64,655	849	1,264,421
1958–59 .. ..	327,679	582,948	258,174	82,071	52,167	66,178	980	1,370,197
1959–60 .. ..	348,389	598,323	252,562	78,483	57,549	70,226	969	1,406,501
1960–61 .. ..	319,410	596,706	212,749	87,030	58,544	63,858	1,005	1,339,302

(ii) *Production per Cow.* The quantity of milk produced by a dairy cow can be as high as 1,000 gallons a year, varying greatly with breed, locality and season. For the whole of Australia, for all dairy cows and for all seasons prior to 1916, production averaged considerably less than 300 gallons per annum. In later years, not only has there been an improvement in the quality of the cattle, but the application of scientific methods has been continually extended, and the 300-gallon average has been exceeded in each year since 1924. More than 400 gallons per cow has been obtained in five of the last seven years. In 1960-61, the average yield was 418 gallons. The annual average yields per cow shown in the following table are obtained by dividing the total production of whole milk for the year ended June by the mean of the number of dairy cows (in milk and dry) at 31st March of that year and of the preceding year. They are, in effect, based on the approximate number of dairy cows which were in milk during any part of the year. The average shown is, therefore, less than that for cows which were yielding during the greater part of the year, but it may be accepted as sufficiently reliable to show the general trend.

## AVERAGE MILK PRODUCTION PER DAIRY COW.

(Gallons.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust.
Average for three years ended—								
1938-39 .. ..	315	439	298	442	353	349	349	354
1948-49 .. ..	310	506	267	565	370	419	328	371
1958-59 .. ..	324	521	267	513	407	537	420	393
Year—								
1956-57 .. ..	314	538	267	541	424	560	424	396
1957-58 .. ..	302	505	233	488	398	529	383	371
1958-59 .. ..	355	520	302	510	398	521	453	412
1959-60 .. ..	382	544	301	518	452	554	447	431
1960-61 .. ..	355	548	263	574	468	505	447	418

5. *Factory System.*—(i) *General.* Cream separation and butter-making are often carried on together under the co-operative system. The establishment of large central butter factories, either on the co-operative system or on an independent basis, has resulted in a considerable reduction in the cost of manufacture. The product is also of a more uniform quality, and whereas formerly the average quantity of milk used per pound of hand-made butter was about three gallons, factory butter requires only about two gallons. In addition, subsidy payments by the Commonwealth Government are made only on factory-produced butter. As a result, the production of farm-made butter has declined substantially, and in 1960-61 represented only about 1.3 per cent. of all butter made. A similar position exists in the cheese-making industry where a negligible amount is now made on farms.

(ii) *Number of Factories.* In 1960-61, factories in Australia engaged in the processing of milk into butter or cheese or the various preserved milk products numbered 361 and were distributed among the States as follows:—New South Wales, 72; Victoria, 130; Queensland, 74; South Australia, 44; Western Australia, 19; and Tasmania, 22. More details regarding numbers of factories, output, etc., are given in Chapter VI.—Manufacturing Industry.

6. *Butter Production.*—There was a steady increase in the annual output of butter for many years prior to the 1939-45 War. Following the record output of 211,987 tons in 1939-40, the general trend of butter production declined until 1946-47, when 143,308 tons were produced. Output increased again in subsequent years and in 1955-56 was 208,911 tons, the highest figure recorded in post-war years. Production in 1960-61, 181,653 tons, was 15,899 tons (8.0 per cent.) less than that produced in 1959-60, and 27,258 tons (13.0 per cent.) less than production in 1955-56. The foregoing figures include butter produced on farms, which has shown a decline from 8,714 tons in 1938-39 to 2,445 tons in 1960-61.

The following table shows production of butter in factories and on farms in each State for the years 1956-57 to 1960-61 compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.



## BUTTER PRODUCTION IN FACTORIES AND ON FARMS.

(Tons.)

Period.	Factory Production.							Factory and Farm Production, Aust.(a)
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.	
Average for three years ended—								
1938-39 .. ..	49,665	61,566	52,637	7,977	5,803	3,934	181,582	190,827
1948-49 .. ..	31,394	58,715	42,243	9,028	6,632	4,484	152,496	157,064
1958-59 .. ..	33,832	87,659	38,131	7,509	6,812	10,618	184,561	187,393
Year—								
1956-57 .. ..	33,826	88,598	41,089	8,440	7,462	10,426	189,841	192,854
1957-58 .. ..	29,939	86,236	32,281	7,032	6,807	10,623	172,918	175,757
1958-59 .. ..	37,733	88,143	41,022	7,054	6,166	10,805	190,923	193,568
1959-60 .. ..	41,373	89,388	38,932	6,194	7,376	11,744	195,007	197,552
1960-61 .. ..	33,996	89,356	31,081	6,858	7,661	10,256	179,208	181,653

(a) Includes small quantities produced in the A. C. T. There is no recorded production in the Northern Territory.

7. Cheese Production.—Prior to 1937-38, the annual production of cheese in factories and on farms had not reached 20,000 tons. From then on, it increased, but with frequent reversals of trend, to an output of 49,057 tons in 1953-54. Production has fluctuated in succeeding years between 35,000 and 47,000 tons, 46,947 tons being recorded in 1960-61.

The following table shows production of cheese in factories and on farms in each State in the years 1956-57 to 1960-61 compared with the averages for the three years ended 1938-39, 1948-49 and 1958-59.

## CHEESE PRODUCTION IN FACTORIES AND ON FARMS.

(Tons.)

Period.	Factory Production.							Factory and Farm Production, Australia. (a)
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.	
Average for three years ended—								
1938-39 .. ..	3,280	7,206	5,277	6,866	427	1,424	24,480	24,848
1948-49 .. ..	2,385	17,378	8,916	11,984	969	641	42,273	42,343
1958-59 .. ..	4,368	17,607	6,844	11,218	1,127	335	41,499	41,567
Year—								
1956-57 .. ..	4,019	20,542	7,137	11,958	1,182	333	45,171	45,216
1957-58 .. ..	4,042	14,840	5,175	10,495	1,017	326	35,895	35,976
1958-59 .. ..	5,044	17,441	8,220	11,200	1,181	345	43,431	43,509
1959-60 .. ..	4,348	19,217	8,492	10,593	1,443	328	44,421	44,517
1960-61 .. ..	5,296	20,000	7,222	12,654	1,351	348	46,871	46,947

(a) Northern Territory and Australian Capital Territory: nil.

8. **Production of Preserved Milk Products.**—The manufacture of these products expanded greatly after 1938–39 to meet the needs of the Services during the 1939–45 War and for export purposes since the war. The average output of condensed, concentrated and evaporated full cream milk (sweetened and unsweetened) for the three years ended 1958–59 was three and a half times as high as the average for the three years ended 1938–39, while that of powdered milk (full cream and skim) was more than five times as high. Over the same period, the quantity of whole milk used in the manufacture of the products shown below increased from 33.2 million gallons to 79.7 million gallons or by 140 per cent. These products are manufactured mainly in Victoria, which produced 63 per cent. of the total (in terms of whole milk equivalent) in 1960–61. New South Wales accounted for 21 per cent. and the remaining States for 16 per cent.

The following table shows details of the output of preserved milk products during the years 1956–57 to 1960–61, compared with the averages for the three years ended 1938–39, 1948–49 and 1958–59.

PRODUCTION OF PRESERVED MILK PRODUCTS: AUSTRALIA.

Period.	Full Cream Milk Products.				Total Whole Milk Equivalent of Full Cream Milk Products. '000 gals.	Milk By-products.		
	Condensed, Concentrated and Evaporated Full Cream Milk. (a)		Powdered Full Cream Milk.	Infants' and Invalids' Foods. (b)		Condensed, Concentrated and Evaporated Skim Milk.	Powdered Skim Milk.	Powdered Butter-milk, mixed Skim and Butter-milk and Whey.
	Sweetened. (c)	Unsweetened.						
	tons.	tons.	tons.	tons.		tons.	tons.	tons.
Average for three years ended—								
1938–39 .. ..	18,702		9,464	1,131	33,226	(d)	(e)	(f) 701
1948–49 .. ..	28,452		16,650	10,182	78,739	(e)	4,782	3,078
1958–59 .. ..	36,322	29,137	18,373	13,846	79,687	5,649	29,758	5,748
Year—								
1956–57 .. ..	39,980	28,221	17,864	13,567	78,123	4,731	30,567	5,551
1957–58 .. ..	37,358	28,317	18,073	13,977	79,864	7,274	24,580	5,668
1958–59 .. ..	31,627	30,872	19,183	13,993	81,074	4,943	34,128	6,024
1959–60 .. ..	33,867	32,505	19,592	15,985	82,636	4,689	41,204	7,215
1960–61 .. ..	29,534	32,067	18,555	16,257	76,619	4,651	36,952	7,828

(a) Includes mixtures of full cream and skim milk and mixtures of full cream, skim and buttermilk.

(b) Includes malted milk and milk sugar (lactose). (c) Includes Coffee and Milk. (d) Not available separately—included in condensed, concentrated and evaporated full cream milk. (e) Not available separately—included in powdered full cream milk. (f) Excludes powdered whey.

9. **Local Consumption of Butter and Cheese.**—In the last year of the war-time and post-war rationing of butter, 1949–50, consumption was 25.3 lb. per head per annum compared with an average of 32.9 lb. during the years 1936–37 to 1938–39. Following the cessation of rationing, consumption rose sharply to 31.2 lb. in 1951–52, and until 1955–56, fluctuated between 29 lb. and 31 lb. per head per annum. It has since declined to 25.1 lb. per head in 1960–61.

Cheese consumption rose considerably during the period of butter rationing, from 4.4 lb. per head pre-war to 6.3 lb. per head in 1947–48. Consumption has fluctuated considerably since then between a minimum of 5.2 lb. in 1948–49 and a maximum of 6.8 lb. in 1957–58.

The following table shows details of the production and disposal of butter and cheese for each of the years 1956–57 to 1960–61 compared with the averages for the three years ended 1938–39, 1948–49 and 1958–59.

## PRODUCTION AND DISPOSAL OF BUTTER AND CHEESE: AUSTRALIA.

Period.	Change in Stocks. (a)	Production.	Exports. (b)	Apparent Consumption in Australia.	
				Total.	Per Head per annum.
<b>BUTTER.</b>					
Average for three years ended—	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
1938-39.. .. .	..	190.8	90.0	100.8	32.9
1948-49.. .. .	-3.5	157.1	75.9	84.7	24.8
1958-59.. .. .	-0.7	187.4	69.7	118.4	27.2
Year—					
1956-57.. .. .	-4.3	192.9	77.8	119.4	28.0
1957-58.. .. .	+2.8	175.8	52.2	120.8	27.8
1958-59.. .. .	-0.4	193.6	78.9	115.1	25.9
1959-60.. .. .	+0.2	197.6	78.7	118.7	26.2
1960-61.. .. .	+1.9	181.7	63.4	116.4	25.1

<b>CHEESE.</b>					
Average for three years ended—	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
1938-39.. .. .	..	24.9	11.5	13.4	4.4
1948-49.. .. .	-0.8	42.3	24.3	18.8	5.5
1958-59.. .. .	+2.8	41.6	13.8	25.0	5.7
Year—					
1956-57.. .. .	+5.1	45.2	17.6	22.5	5.3
1957-58.. .. .	-2.8	36.0	9.3	29.5	6.8
1958-59.. .. .	+6.1	43.5	14.4	23.0	5.2
1959-60.. .. .	-2.8	44.5	18.5	28.8	6.3
1960-61.. .. .	-1.0	46.9	18.1	29.8	6.4

(a) Includes allowance for movements in stocks other than those held in main cold stores.  
 (b) Figures for butter include ghee expressed as butter as well as butter shipped as ships' stores. Figures for cheese include ship's stores.

10. Butter and Cheese Equalization Schemes.—During the period from January, 1926, to April, 1934, a voluntary scheme for equalizing returns to all participating factories from their sales of butter, known as the "Paterson Plan" was in operation. This had the effect of stabilizing the price of butter in Australia. Details of this scheme may be found on page 1028 of Official Year Book No. 38 and in earlier issues.

On 1st May, 1934, the "Paterson Plan" was superseded by a compulsory price equalization plan, details of which are shown on page 1029 of Official Year Book No. 38 and earlier issues. This compulsory plan was invalidated in 1936 by the decision of the Privy Council which declared in the James (Dried Fruits) Case that the Commonwealth had no power under the Constitution to regulate trade between the States.

Since 1936, the butter price equalization scheme has operated by voluntary action based on agreements between manufacturers and the Commonwealth Dairy Produce Equalization Committee Ltd. The Committee, which comprises members of the State Dairy Products Boards and other persons representing the industry, enters into agreements with manufacturers to secure to them equal rates from sales of butter and cheese, and for this purpose may fix basic prices at which these products sold in Australia or abroad are to be taken into account. The effect is that local and export trade are distributed in equitable proportions among the manufacturers by means of quotas. The Committee fixes basic prices and equalizes returns to factories through an Equalization Fund. The States originally participating in the scheme were New South Wales, Victoria, Queensland and Tasmania in respect of both butter and

cheese, and South Australia in respect of cheese. South Australia and Western Australia entered the scheme in respect of butter on 1st April, 1946, and Western Australia extended its participation to include cheese in January, 1947.

Details are given in para. 15 on page 1002 of the returns realized on local and oversea sales and of the average equalization rate for the years ended June, 1957 to 1961. Details are also given in para. 12 of the wholesale prices of butter and cheese for home consumption as determined by the Commonwealth Dairy Produce Equalization Committee Ltd.

11. **Casein Equalization Scheme.**—A similar equalization scheme to that for butter and cheese has been operated by the Commonwealth Dairy Produce Equalization Committee Ltd. for casein since 1952. Average realizations under the scheme were 184s. 6 d. in 1956–57, 185s. 3 d. in 1957–58, 171s. 7.9d. in 1958–59 and 175s. 7.5d. in 1959–60. The interim equalization value for 1960–61 has been fixed at 172s. 0d. per cwt.

12. **Wholesale Price of Butter and Cheese in Australia.**—Details of prices operating in each of the States since 1st July, 1952, are shown in the following table.

### WHOLESALE PRICES OF BUTTER AND CHEESE: AUSTRALIA.(a)

(s. d. per cwt.)

Date from which Prices became Effective.	New South Wales.	Victoria.	Queensland	South Australia.	Western Australia.	Tasmania.
<b>BUTTER.</b>						
1st July, 1952 .. ..	417 8	417 8	417 8	417 8	422 4	417 8
26th July, 1955 .. ..	452 8	452 8	451 6	450 4	452 8	452 8
1st July, 1956 .. ..	466 8	466 8	465 6	464 4	466 8	466 8
1st July, 1958 .. ..	485 4	485 4	484 2	484 2	485 4	485 4
1st July, 1960 .. ..	501 8	501 8	500 6	501 8	501 8	501 8
<b>CHEESE.</b>						
1st July, 1952 .. ..	256 8	256 8	256 8	256 8	256 8	256 8
26th July, 1955 .. ..	275 4	275 4	275 4	274 2	275 4	275 4
1st July, 1956 .. ..	282 4	282 4	282 4	281 2	282 4	282 4
1st July, 1958 .. ..	291 8	291 8	291 8	291 8	291 8	291 8
1st July, 1960 .. ..	296 4	296 4	296 4	296 4	296 4	296 4

(a) Maximum prices as determined by the Commonwealth Dairy Produce Equalization Committee Ltd., for choicest grade bulk butter and cheese.

13. **Marketing of Dairy Products.**—(i) *The Dairy Produce Export Control Act 1924–1958.* Introduced at the request of the dairying industry, this Act was passed by the Commonwealth Parliament with the object of organizing the oversea marketing of Australian dairy produce. A Dairy Produce Control Board was appointed and was in existence from 1924 to 1935. The Board regulated shipments to ensure regularity of supply in the London market, controlled forward selling, obtained reductions in oversea freights and insurance rates, and participated in an advertising campaign in the United Kingdom.

Prior to the appointment of the Dairy Produce Control Board, a voluntary body—the Australian Dairy Council—was established to advise and make recommendations to the Governments on problems connected with the production, manufacture and quality of dairy produce, pasture improvements and diseases of dairy cattle.

Following a recommendation by the Australian Agricultural Council, the functions of these bodies were combined by an amending Act of 1935 under the Australian Dairy Produce Board and provision was made for the allocation of money from the Board's funds for research and investigation into pastures, diseases of dairy cattle and the quality of butter. The functions of the Board were later extended to enable it to advise the Government in connexion with the transport of dairy produce, the securing of new markets, the expansion of existing markets and other matters.

The Australian Dairy Produce Board was re-constituted in 1947 by an amendment to the Dairy Produce Export Control Act, its membership being reduced from seventeen to twelve. The functions of the Board were extended to enable it to purchase and sell, on behalf of the Commonwealth, dairy produce intended for export, and to control all matters concerning the handling, storage, protection, treatment, transfer and shipment of the produce so purchased or sold. In 1953, the direct dairy farmer representation on the Board was increased from two to three members, thus raising the total membership from twelve to thirteen.

In April, 1954, the Act was further amended to prepare for the implementation of an export marketing plan to follow the expiration of the United Kingdom-Australia Butter and Cheese Contract. The amendment enabled the Board to purchase dairy produce intended for export to the United Kingdom and to sell such produce on behalf of the dairying industry in lieu of its previous function of selling on behalf of the Commonwealth Government. In the interests of the stability of the industry, the Act provides that the Board may be the sole Australian exporter of butter and cheese to the United Kingdom.

The Dairy Produce Export Control Act was again amended in 1958, principally to increase the membership of the Board by one to a total of 14 members. The additional member, designated the Administrative Member, is charged with the task of executing the Research and Sales Promotion campaign.

(ii) *The Dairy Produce Research and Sales Promotion Act 1958.* This Act provides for a levy on all butter and cheese produced in Australia to provide funds for research and for sales promotion on the local market. Two-thirds of the levy is paid into the Sales Promotion Fund and one third into the Research Trust Account. As is the case in other industries, expenditure on research is supported by the Commonwealth Government on a £1 for £1 basis of actual expenditure. Research is carried on in the Universities, C.S.I.R.O. and by other competent institutions. Both schemes are administered by the Australian Dairy Produce Board.

(iii) *The Dairy Produce Export Charges Act 1924-1937.* This Act provides for the imposition of a levy on all butter and cheese exported from Australia to cover the administrative expenses of the Board and for advertising and other purposes. The rate of the levy is fixed by regulation.

**14. Commonwealth Subsidies and Stabilization Plans.—(i) *Butter, Cheese and Processed Milk Products.*** Under the provisions of the various Dairy Industry Assistance Acts, the first of which was passed in 1942, the Commonwealth Government has provided subsidies on milk supplied for the manufacture of butter and cheese. Subsidies were paid on a seasonal basis prior to 1st April, 1946, but from that date have been on a flat rate basis. Subsidies are distributed by the Commonwealth Dairy Produce Equalization Committee Ltd. through factories to milk producers by payments on butter and cheese manufactured. Subsidy on milk supplied for the manufacture of processed milk products was also payable from 1942 until 30th June, 1948, and again from 1st July, 1949, to 30th June, 1952.

The first of the two five-year stabilization plans came into operation on 1st July, 1952. Under this plan, the Commonwealth Government, with the approval of the States, determined the ex-factory prices of butter and cheese, guaranteed to dairy farmers a return, based upon costs of efficient production, in respect of quantities of butter and cheese sold within the Commonwealth, plus an additional 20 per cent. (if produced), and agreed to make available an amount by way of subsidy to lift the return on that part of output covered by the guarantee to the guaranteed level. The second five-year stabilization plan, which came into operation on 1st July, 1957, continued all the important features of the first plan. A new feature, however, was that any subsidy made available under the scheme should be on the basis of a fixed amount in any dairying year.

The actual amount of subsidy paid by the Commonwealth Government was in excess of its original commitment in 1955-56, when, to assist in offsetting a fall in export returns, the Government agreed to increase subsidy payments to a fixed figure of £14,500,000. In each of the years 1956-57 to 1961-62, a fixed amount of £13,500,000 was provided.

In 1958, following a period of low incomes due to drought and low export returns, the Government decided to give additional support to the dairy industry. This support took the form of underwriting a final equalization payment to factories on total production of butter and cheese for the 1958-59 season. The amount underwritten for butter was 40d. per lb. commercial butter basis. The Government also decided that it would consider applying the same principle of underwriting a final equalized return at levels determined by it each year, after an examination of all relevant factors for the remaining period of the 1957-62 five-year stabilization plan. For the 1959-60, 1960-61 and 1961-62 seasons, the underwriting of a final minimum return of 40d. per lb. commercial butter was again determined. The principal value underlying this guarantee is that it enables the Commonwealth Dairy Produce Equalization Committee Ltd. to make a higher initial payment to factories than would otherwise be possible without risk of over-payment.

Following representations by industry organizations, the Commonwealth Government established the Joint Dairy Industry Advisory Committee in November, 1946, comprising a chairman nominated by the Government, four representatives of Commonwealth Government Departments and four industry representatives from the several States. The Committee's functions, broadly, were to advise and assist in conducting cost and other surveys of dairy farm production and to act as an advisory body to the Government in these matters. From 1st April, 1947, to 30th June, 1952, the rates of overall return to milk producers determined by the Commonwealth Government for the purpose of subsidy payments were based on recommendations made by the Committee following surveys of production costs in the dairy industry.

Early in 1953, the Dairy Industry Investigation Committee, an independent body consisting of three members, was appointed to advise the Commonwealth Government on the guaranteed return to producers during 1953-54. The Committee was re-established in March, 1954, to advise the Government on the guaranteed return for each year of the remaining three-year period of the Stabilization Plan. For the current five-year plan, the Committee has been re-appointed to determine the cost of efficient production of butter-fat only.

Amounts realized on exports of butter and cheese in excess of the f.o.b. equivalent of the guaranteed return have been credited to the Dairying Industry Stabilization Fund, which was established in July, 1948, for the purpose of stabilizing returns from exports. During 1951-52, the Stabilization Fund met the deficiency in respect of all exports which did not return sufficient to meet the basic return to the factory. From 1st July, 1952, to 30th June, 1957, it was available to the industry to be used, in whatever manner it considered desirable, to make good any deficiency in respect of all exports other than the 20 per cent. provided for under the Commonwealth Government's Five-year Stabilization Plan. The Act was amended in 1957 to enable the Board to use the fund for such other purposes as are approved by the Minister for Primary Industry. After allowing for outstanding debits, the amount standing to the credit of the Dairying Industry Stabilization Fund at 30th June, 1961, totalled approximately £1,823,000.

(ii) *Whole Milk*. In addition to the subsidies referred to above, the Commonwealth Government subsidized the production of whole milk consumed directly from 1943-44 to 1948-49. Details of the amounts distributed during each year will be found in Official Year Book No. 38, page 1031.

15. *Average Returns from Butter and Cheese Sold and Assessed Farm Production Costs.*—The first of the two following tables shows, in respect of butter and cheese, particulars of the rates realized on local, interstate and oversea sales and the average equalization and subsidy rates in operation for the years ended June, 1957 to 1961. The second table shows the distribution between factory and farm of the overall return to manufacturers for butter. The assessed farm production cost for commercial butter is also shown for comparison with the average returns to dairy farmers.

**BUTTER AND CHEESE: RATES REALIZED ON SALES, AVERAGE EQUALIZATION RATES AND RATES OF COMMONWEALTH SUBSIDY UNDER DAIRY INDUSTRY ASSISTANCE ACTS.**

(Source: Commonwealth Dairy Produce Equalization Committee Ltd.)

(s. d. per cwt.)

Year ended 30th June—	Rates Realized on Sales.			Average Equalization Rate.	Rate of Subsidy.	Rate of Overall Return to Manu- facturers.
	Local.	Interstate.	Overseas.			
<b>BUTTER.</b>						
1957 .. ..	453 5.1	425 4 9	298 6.7	392 6.6	65 7 8	458 2.4
1958 .. ..	453 11.5	431 11 3	238 4.3	380 9.3	71 7 8	452 5 1
1959 .. ..	468 8.1	448 7.3	334 3.2	412 11.1	64 10 9	477 10 0
1960 .. ..	468 8.8	453 3.8	343 6.9	417 5.5	63 6 0	480 11 5
1961 .. ..	(a)	(a)	(a)	399 8.3	68 11.3	468 7.6
<b>CHEESE.</b>						
1957 .. ..	267 11.2	166 8 4	223 11.9	26 2 6	250 2.5	
1958 .. ..	270 7.4	137 8 0	240 0 7	35 11 2	275 11.9	
1959 .. ..	279 0.2	274 0.4	277 1.1	29 7.5	306 8.6	
1960 .. ..	279 6.6	204 9.2	247 10.7	29 1.4	277 0.1	
1961 .. ..	(a)	(a)	256 1.2	28 5.6	284 6.8	

(a) Not yet available.

**COMMERCIAL BUTTER: OVERALL RETURNS AND ASSESSED FARM PRODUCTION COSTS.**

(Pence per lb.)

Year ended 30th June—	Average Overall Returns on Commercial Butter.			Assessed Farm Production Cost.(a)
	Rate of Overall Return to Manufacturer.	Manufacturing Cost.	Return to Dairy Farmer.	
1957.. ..	49.093	4 626	44 467	51.00
1958.. ..	48.474	4 626	43 848	51.00
1959.. ..	51 196	4 826	46 370	53 00
1960.. ..	51 531	4.965	46 566	53 00
1961.. ..	50.210	5.339	44.871	54.19

(a) Up to 1956-57, the figures shown are the guaranteed returns as recommended by the Dairy Industry Investigation Committee and accepted by the Commonwealth Government; from 1957-58, they represent the cost of production as found by the Dairy Industry Investigation Committee.

16. **Dairy Industry Extension Grant.**—An annual grant of £250,000, to be expended by State Governments for the purpose of promoting improved farming practices in the dairying industry, was first made by the Commonwealth Government for the five years from 1st July, 1948. This assistance was continued by the Commonwealth Government for a further period of five years from 1st July, 1953, again by means of annual grants of £250,000, and similarly for a further five years from 1st July, 1958, at the same rate.

17. Dairy Industry Research and Sales Promotion.—At the request of the Australian Dairy Industry Council, legislation was enacted in 1958 to provide for a sales promotion campaign for butter and cheese in Australia and also for research into industry problems. The legislation provides for a statutory levy (the Dairy Produce Levy) to be imposed on all butter and cheese manufactured in Australia. The maximum rates of levy are  $\frac{1}{16}$ d. per lb. on butter and  $\frac{1}{8}$ d. per lb. on cheese, but the initial rates which commenced in November, 1958, were  $\frac{1}{8}$ d. per lb. on butter and  $\frac{1}{16}$ d. per lb. on cheese. Until November, 1959, the proceeds from the levy were divided equally between research and sales promotion, but after that date one-third was allocated to research and two-thirds to sales promotion. The rates of levy operative from November, 1959, were increased to the maximum provided under the Act, the increase being utilized solely for the purposes of intensifying the sales promotion campaign.

The Commonwealth Government agreed to contribute one half of the costs incurred on approved projects included in the programme of research, with a maximum contribution of £1 for £1 against funds raised by way of levy and allocated to research. The sales promotion programme is financed solely by the levy. The following table lists the amounts of levies collected, and the amounts allocated to research and sales promotion, during the three years 1958–59 to 1960–61.

**DAIRY PRODUCE LEVY: AMOUNTS COLLECTED AND ALLOCATED.**  
(£.)

Particulars.	1958–59.	1959–60.	1960–61.
Allocated to—			
Research(a) .. .. .	75,447	126,519	116,591
Sales promotion .. .. .	75,447	206,918	233,181
<b>Total Collected(a) .. .. .</b>	<b>150,894</b>	<b>333,437</b>	<b>349,772</b>

(a) Excludes amounts contributed by the Commonwealth Government.

The scheme is administered by the Australian Dairy Produce Board, which, in respect of research, is advised by a statutory committee—the Dairy Produce Research Committee.

18. Oversea Trade in Butter, Cheese and Milk.—(i) *General.* The production of butter and cheese in Australia is considerably in excess of local requirements and consequently a substantial surplus is available for export overseas. In normal circumstances, the extent of this surplus is chiefly dependent upon seasonal conditions. Exports of butter averaged 69,700 tons during the three years ended 1958–59, compared with 75,900 tons for the three years ended 1948–49 and 90,000 tons for the three years ended 1938–39. Exports of cheese for the same periods were 13,800 tons, 24,300 tons and 11,500 tons respectively.

During 1938–39, 96,900 tons of butter (95 per cent. of all butter exported) were shipped to the United Kingdom. With the decline in total exports, there has been a substantial reduction in the amount shipped to the United Kingdom. The quantity shipped in 1960–61 was 50,795 tons, representing 83 per cent. of total butter exports.

In 1938–39, exports of cheese totalled 16,000 tons, of which 15,500 tons or 97 per cent. were exported to the United Kingdom. Of the total of 18,000 tons exported in 1960–61, 13,000 tons or 72 per cent. were shipped to the United Kingdom.

Total quantities and values of exports of Australian origin of butter, cheese and preserved milk products are shown on page 1011.

(ii) *Butter and Cheese Exports graded according to Quality.* All butter and cheese exported comes under the provisions of the Exports (Dairy Produce) Regulations and is subject to the supervision, inspection and examination of officers appointed for that purpose. These commodities are graded according to quality which has been fixed by regulation as



follows:—Flavour and aroma, 50 points; texture, 30 points; and condition, 20 points. Butter and cheese graded at 93 to 100 points is of choicest quality; at 90 to 92 points, first quality; at 86 to 89 points, second quality; and at 80 to 85 points, pastry or cooking quality or, in the case of cheese, third quality.

In the following table, particulars are given of the relative proportions of butter and cheese graded for export according to quality. Further details, which include actual quantities by States, are to be found in *Primary Industries, Part I.—Rural Industries, 1959–60, Bulletin No. 54.*

**BULK BUTTER AND CHEESE GRADED FOR EXPORT: AUSTRALIA.**  
(Per Cent.)

Grade.	Butter.			Cheese.		
	1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1960–61.
Choicest .. .. .	58.8	62.9	66.0	7.6	9.9	11.7
First Quality .. .. .	30.3	27.5	25.8	78.3	77.2	76.8
Second Quality .. .. .	8.4	7.7	6.2	11.3	11.7	9.0
Third Quality(a) .. .. .	2.5	1.9	2.0	2.8	1.2	2.5
<b>Total .. .. .</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Includes rejected.

#### § 4. Pigs and Pig Products.

1. **Pigs.**—The number of pigs in Australia first reached a million in 1905, while the record level of 1,797,340 was attained in 1941. At 31st March, 1961, 1,615,303 pigs were recorded, representing a 13 per cent. increase on numbers a year earlier. The number of pigs in each State and Territory for each of the five years ended 1957 to 1961 compared with the averages for the three-year periods ended March, 1939, 1949 and 1959, are given in the following table.

#### NUMBER OF PIGS.

Period.	N.S.W.	Vic.	Qld.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.
<b>Average for three years ended—</b>									
1938–39 ..	374,963	285,465	299,707	74,329	74,657	42,802	404	481	1,152,808
1948–49 ..	366,267	261,922	375,191	101,934	91,862	43,184	424	554	1,241,338
1958–59 ..	377,510	263,363	405,702	99,632	135,404	61,389	2,543	160	1,345,703
<b>Year—</b>									
1956–57 ..	386,789	258,336	394,518	92,180	139,982	52,358	755	139	1,325,057
1957–58 ..	397,011	278,628	422,713	108,343	150,783	62,595	3,071	167	1,423,311
1958–59 ..	348,730	253,125	399,875	98,374	115,446	69,215	3,802	175	1,288,742
1959–60 ..	398,959	284,505	429,034	108,696	130,933	67,118	4,400	151	1,423,796
1960–61 ..	455,345	318,523	448,279	143,645	175,675	70,882	2,845	109	1,615,303

A long-term comparison of pig numbers is given in Chapter XXIII.—Pastoral Production. Maps showing the distribution of pigs in Australia at 31st March, 1955 and 1948, appear on page 912 of Official Year Book No. 43 and on page 908 of Official Year Book No. 39, respectively.

2. **Size of Pig Herds.**—For information on the size of pig herds see references to bulletins *Classification of Rural Holdings by Size and Type of Holding, 1959–60*, in § 1, para. 2, page 989, and in the note at the beginning of this chapter.

3. **Pigs Slaughtered.**—The number of pigs slaughtered during each of the years 1956-57 to 1960-61, compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59, is shown in the following table.

## PIGS SLAUGHTERED.

('000.)

Period.	Slaughtering Passed for Human Consumption.							Total Slaughtering (including Boiled Down).
	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust. (a)	
Average for three years ended—								
1938-39 .. ..	562	503	530	155	109	65	1,925	1,961
1948-49 .. ..	440	371	448	154	138	54	1,606	1,615
1958-59 .. ..	594	439	474	159	191	94	1,956	1,968
Year—								
1956-57 .. ..	541	382	438	124	157	82	1,730	1,740
1957-58 .. ..	638	473	462	175	219	91	2,066	2,077
1958-59 .. ..	604	462	521	179	197	108	2,077	2,087
1959-60 .. ..	584	458	530	171	168	115	2,033	2,043
1960-61 .. ..	655	513	554	183	194	111	2,219	2,229

(a) Includes Australian Capital Territory and Northern Territory.

4. **Pigmeat.**—(i) *Production.* In the following table, details of the production of pigmeat in each State are shown for the years 1956-57 to 1960-61, together with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

## PRODUCTION OF PIGMEAT (CARCASS WEIGHT).

(Tons.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia.
Average for three years ended—									
1938-39 .. ..	25,558	24,569	23,522	7,538	4,322	2,893	5	43	(a)88,450
1948-49 .. ..	27,182	22,308	22,856	8,993	8,500	2,916	24	36	92,815
1958-59 .. ..	28,272	23,097	23,180	8,778	9,624	4,156	84	209	97,400
Year—									
1956-57 .. ..	28,879	21,178	20,200	7,367	7,475	3,341	59	200	88,699
1957-58 .. ..	28,683	24,343	23,131	9,516	11,405	4,216	82	239	101,615
1958-59 .. ..	27,253	23,770	26,210	9,451	9,991	4,911	113	187	101,886
1959-60 .. ..	26,252	23,383	27,106	9,161	9,029	5,352	103	208	100,594
1960-61 .. ..	29,048	25,550	27,289	9,574	10,550	5,037	150	240	107,458

(a) Excludes trimmings from baconer carcasses.

(ii) *Consumption.* As in the case of most other meats, pork was subject to rationing during the 1939-45 War and immediate post-war years, and consumption was at a much lower level than pre-war. In 1954-55, consumption of pigmeat (as pork or smallgoods) reached 10.2 lb., only slightly below the immediate pre-war average, but after falling to 8.7 lb. per head in 1956-57, has since risen to 11.5 lb. per head in 1960-61. In the following table, details of the production and disposal of pigmeat are shown for the years 1956-57 to 1960-61 compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

## PRODUCTION AND DISPOSAL OF PIGMEAT (CARCASS WEIGHT): AUSTRALIA.

Period.	Change in Stocks.	Production.	Exports.	Curing and Canning.	Apparent Consumption (as Pork or Smallgoods) in Australia.	
					Total.	Per Head per annum.
	'000 tons.	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
Average for three years ended—						
1938-39 .. ..	..	94.1	13.7	48.6	31.8	10.4
1948-49 .. ..	-1.2	92.8	6.3	63.4	24.3	7.1
1958-59 .. ..	..	97.4	0.8	52.7	43.9	10.1
Year—						
1956-57 .. ..	+0.9	88.7	0.6	50.3	36.9	8.7
1957-58 .. ..	+0.8	101.6	1.0	52.6	47.2	10.9
1958-59 .. ..	-1.9	101.9	0.9	55.3	47.6	10.7
1959-60 .. ..	+0.8	100.6	0.4	52.2	47.2	10.4
1960-61 .. ..	+0.7	107.5	0.4	52.9	53.5	11.5

5. Bacon and Ham.—(i) *Production.* As in the case of pork, the increased demand for bacon and ham during the 1939-45 War stimulated production to a level not previously attained. Production reached its peak in 1944-45 when 56,246 tons of bacon and ham were cured. This was followed by a decline in output in each succeeding year to 36,628 tons in 1951-52. Production has been maintained at about this level in subsequent years, 36,895 tons being recorded in 1960-61. Details of production are shown by States in the following table for each year 1956-57 to 1960-61, compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59.

## PRODUCTION OF BACON AND HAM (CURED CARCASS WEIGHT).(a)

(Tons.)

Period.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Average for three years ended—							
1938-39 .. ..	10,396	7,556	8,759	2,940	1,838	1,022	32,511
1948-49 .. ..	14,436	10,787	9,846	4,580	4,209	1,196	45,054
1958-59 .. ..	11,132	8,299	10,294	3,275	2,987	902	36,889
Year—							
1956-57 .. ..	10,322	7,721	9,901	3,415	3,054	917	35,330
1957-58 .. ..	11,468	8,345	9,682	3,340	2,952	880	36,667
1958-59 .. ..	11,606	8,832	11,299	3,069	2,955	910	38,671
1959-60 .. ..	11,012	8,558	9,948	3,115	3,061	888	36,582
1960-61 .. ..	11,328	9,192	9,442	3,141	3,169	829	37,101

(a) Pressed and canned bacon and ham have been converted to cured carcass weight for periods subsequent to 1948-49.

(ii) *Consumption.* Consumption per head declined in the early stages of the 1939-45 War from the pre-war average of 10.2 lb. per annum, but subsequently increased to 12.7 lb. in 1946-47. It has declined to about 7 lb. per head in recent years. Details of production and disposal of bacon and ham for the years 1956-57 to 1960-61, compared with the averages for the three-year periods ended 1938-39, 1948-49 and 1958-59 are shown in the following table.

**PRODUCTION AND DISPOSAL OF BACON AND HAM (CURED CARCASS WEIGHT)(a): AUSTRALIA.**

Period.	Change in Stocks.	Production.	Exports.	Canning.	Apparent Consumption in Australia.	
					Total.	Per Head per annum.
Average for three years ended—	'000 tons.	'000 tons.	'000 tons.	'000 tons.	'000 tons.	lb.
1938-39 .. ..	..	32.5	1.0	..	31.5	10.2
1948-49 .. ..	..	45.1	3.1	2.1	39.9	11.7
1958-59 .. ..	+0.2	36.9	0.4	6.0	30.3	7.0
Year—						
1956-57 .. ..	+0.4	35.3	0.5	5.7	28.7	6.8
1957-58 .. ..	-0.2	36.7	0.5	6.1	30.3	7.0
1958-59 .. ..	+0.3	38.7	0.3	6.4	31.7	7.1
1959-60 .. ..	-0.7	36.6	0.3	5.3	31.7	7.0
1960-61 .. ..	+0.1	37.1	0.3	5.3	31.4	6.8

(a) Pressed and canned bacon and ham have been converted to cured carcass weight.

6. Oversea Trade in Pigs and Pig Products.—Total quantities and values of exports of Australian origin of pigs and pig products (bacon and ham, lard and frozen pork) for the years 1958-59 to 1960-61 are shown on page 1011.

### § 5. Poultry-farming.

1. General.—Poultry-farming has been carried on in Australia for many years, and the State Departments of Agriculture have encouraged its development by appointing experts to advise on the care and management of poultry and by conducting egg-laying competitions. Originally the industry was conducted in conjunction with other branches of rural activity, mainly dairying, but it is now a specialized and distinct industry and it is from this source that the bulk of the commercial production is obtained. Practically all farms keep poultry for the purpose of supplying their own domestic requirements and in many cases some supplies from this source are also marketed. In addition, many private homes keep small numbers of fowls in back-yard runs to satisfy domestic needs or to help towards this object. Because of the incompleteness of data available on poultry throughout Australia, details of poultry numbers are not published.

2. Recorded Production and Disposal of Eggs.—(i) *Shell Eggs*. Available statistics of the production and disposal of eggs in Australia are restricted to those recorded by the Egg Marketing Board of New South Wales and the Australian Egg Board. Details of production in the respective States as recorded by these authorities for the years 1956-57 to 1960-61 are shown in the following table.

**SHELL EGGS: PRODUCTION(a) RECORDED BY EGG BOARDS.**  
(<sup>'000 Dozen.</sup>)

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	52,334	49,168	45,221	53,495	62,156
Victoria .. ..	24,874	25,956	23,447	26,521	28,215
Queensland .. ..	8,848	7,894	8,692	10,007	10,810
South Australia .. ..	11,375	11,219	9,692	10,041	10,491
Western Australia .. ..	8,589	8,602	7,577	7,476	7,333
Tasmania .. ..	912	(b)	(b)	(b)	(b)
<b>Total(c)</b> .. ..	<b>106,932</b>	<b>102,839</b>	<b>94,629</b>	<b>107,540</b>	<b>119,005</b>

(a) Receipts from consignors and sales by producer agents. (b) Not available. (c) Excludes Tasmania for years subsequent to 1956-57.

(ii) *Egg Pulp and Egg Powder.* Prior to the 1939-45 War, production of egg pulp was about 7 million lb. per annum. This was used almost entirely for the manufacture of cakes, pastry and biscuits, only negligible quantities being exported. Production was expanded greatly during the war years to meet the requirements of the armed services and was increased further in post-war years to supply a large export market and also a substantially increased home consumption. During recent years, however, production has been at a somewhat lower level. The production of dried egg powder, established in Australia in 1942 as a war-time measure for export purposes, was continued for some time after the war, but has since declined to negligible proportions.

Particulars of the production of whole egg pulp as recorded by the Egg Marketing Board for the State of New South Wales and the Australian Egg Board for the other States are shown in the following table.

**LIQUID WHOLE EGG: PRODUCTION RECORDED BY EGG BOARDS.**  
(‘000 lb.)

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	18,755	13,198	9,808	17,791	21,446
Victoria .. ..	6,245	6,591	3,473	6,460	7,948
Queensland .. ..	3,302	1,658	2,011	2,767	3,716
South Australia .. ..	4,501	4,461	2,495	3,210	3,394
Western Australia .. ..	2,024	2,855	1,600	1,122	916
Tasmania .. ..	133	(a)	(a)	(a)	(a)
<b>Total(b) .. ..</b>	<b>34,960</b>	<b>28,763</b>	<b>19,387</b>	<b>31,350</b>	<b>37,420</b>

(a) Not available.

(b) Excludes Tasmania for years subsequent to 1956-57.

In addition to liquid whole egg, production was also recorded of liquid egg whites and liquid egg yolks. Output in 1960-61 amounted to 3,888,000 lb. and 2,788,000 lb. respectively, compared with 1,268,000 lb. and 815,000 lb. respectively in the previous year. These figures exclude small quantities produced in Tasmania for which details are not available.

3. *Production and Consumption of Eggs.*—Because of the operations of producers in areas outside the control of the Egg Boards and the extent of “back-yard” poultry-keeping, for which no statistics are collected, figures relating to total egg production must be accepted with some reserve. The production shown in the following table, together with details of exports and consumption, is based upon the records of Egg Boards of production from areas under their control, plus estimates of production from uncontrolled areas and from “back-yard” poultry-keepers.

**ESTIMATED PRODUCTION AND DISPOSAL OF EGGS IN SHELL:**  
**AUSTRALIA.**

Period.	Change in Stocks.	Estimated Total Production.	Exports.	For Drying and Pulping.(a)	Apparent Consumption in Australia.	
					Total.	Per Head per Annum.
	Mill. doz.	Mill. doz.	Mill. doz.	Mill. doz.	Mill. doz.	Dozen.
<b>Average for three years ended—</b>						
1938-39 .. ..	-0.1	152.7	13.0	5.5	134.3	19.5
1948-49 .. ..	+0.1	204.7	17.7	39.1	147.8	19.3
1958-59 .. ..	..	189.9	9.6	23.0	157.3	16.1
<b>Year—</b>						
1956-57 .. ..	+1.5	197.7	10.8	28.8	156.6	16.4
1957-58 .. ..	-1.2	190.8	12.4	23.7	155.9	16.0
1958-59 .. ..	-0.3	181.1	5.7	16.5	159.2	16.0
1959-60 .. ..	+0.6	198.6	3.4	27.2	167.4	16.5
1960-61 .. ..	+0.2	203.4	6.2	36.9	160.1	15.8

(a) Includes wastage.

Details of the consumption of shell eggs, liquid whole egg and total shell egg equivalent per head of population per annum are shown in the following table.

**SUPPLIES OF EGGS AND EGG PRODUCTS AVAILABLE FOR CONSUMPTION:  
AUSTRALIA.**

(Per Head per Annum.)

Period.	Shell Eggs.	Liquid Whole Egg and Egg Powder. (a)	Total.	
			Number.	Weight.(b)
Average for three years ended—	No.	No.	No.	lb.
1938-39 .. .. .	235	8	243	26.6
1948-49 .. .. .	232	23	255	27.9
1958-59 .. .. .	194	12	206	22.5
Year—				
1956-57 .. .. .	197	13	210	23.0
1957-58 .. .. .	192	11	203	22.2
1958-59 .. .. .	192	12	204	22.3
1959-60 .. .. .	198	14	212	23.2
1960-61 .. .. .	185	15	200	(c) 25.0

(a) In terms of the number of shell eggs. (b) The average weight of an egg in Australia has been taken as 1.75 oz. for the years prior to 1960-61. From 1960-61 the average weight is taken as 2 oz.  
(c) Not comparable with earlier years: see footnote (b).

4. Marketing of Eggs.—(i) *Markets.* Details of the annual contracts entered into between the United Kingdom and Australian Governments up to 1952-53 and of the results of trading under free market conditions in the four years following appear in earlier issues of the Official Year Book.

The United Kingdom's importance as a market for Australian shell eggs declined to 28 per cent. of total exports of eggs in both 1958-59 and 1959-60, compared with 86 per cent. in 1952-53. However, a recovery was recorded in 1960-61 when the United Kingdom took 54 per cent. of Australian exports of shell eggs.

The United Kingdom remains virtually the only export market for egg pulp. Australian exports of pulp to this country were approximately 7,000 tons in 1959-60 and 11,000 tons in 1960-61.

The main outlets for Australian eggs in 1960-61, other than the United Kingdom, were the United States of America (456,000 dozen) and Saudi Arabia (315,000 dozen).

(ii) *Egg Export Control Act 1947.* Details of this Act were given in previous issues of the Official Year Book (see No. 47, p. 997).

5. Oversea Trade in Poultry Products.—(i) *Exports.* Total quantities and values of exports of Australian origin of poultry products (live poultry, frozen poultry, eggs in shell, egg pulp and powder) for the years 1958-59 to 1960-61, are shown on page 1011.

(ii) *Imports.* During 1960-61, approximately 2 million lb. of canned chicken, valued at £0.2 million, were imported from the United States of America.

## § 6. Bee-farming.

1. Production of Honey and Bees-wax.—Although practised as a separate industry, bee-farming is also carried on in conjunction with other branches of farming. In recent years, there has been considerable growth in the number of itinerant apiarists operating on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to provide a continuous supply of nectar from suitable flora for their bees. The returns of honey from productive hives during 1960-61 showed an average of 111 lb. per hive and the average quantity of wax was 1.5 lb. per productive hive.

The number of hives and the production of honey and bees-wax during the year 1960–61 are shown in the following table.

## BEEHIVES, HONEY AND BEES-WAX, 1960-61.

State or Territory.	Beehives.			Honey Produced.		Bees-wax Produced.	
	Pro- ductive.	Unpro- ductive.	Total.	Quantity.	Gross Value.	Quantity.	Gross Value.
	'000.	'000.	'000.	'000 lb.	£'000.	'000 lb.	£'000.
New South Wales ..	134	56	190	15,286	812	197	50
Victoria ..	77	28	105	8,390	525	105	26
Queensland ..	23	11	34	1,848	77	32	7
South Australia ..	47	19	66	4,442	169	59	12
Western Australia ..	37	10	47	5,311	151	71	14
Tasmania ..	5	2	7	441	35	5	2
Aust. Cap. Territory ..	1	(a)	1	83	3	1	(b)
Australia ..	324	126	450	35,801	1,772	470	111

(a) Less than 500.

(b) Less than £500.

The production of honey and bees-wax fluctuates considerably and is determined mainly by the flow of nectar from flora, particularly the eucalypts, which varies greatly from year to year. Compared with pre-war, there has been a pronounced upward trend in the output of honey, and a record production of 53,200,000 lb. was obtained in 1948–49. The production in 1960–61 was 35,801,000 lb.

The table below shows the production of honey and bees-wax for periods from 1938–39 to 1960–61.

## HONEY AND BEES-WAX PRODUCTION.

('000 lb.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.(a)
<b>HONEY.</b>							
Average for three years ended—							
1938–39 ..	3,005	3,107	700	2,874	1,299	200	11,188
1948–49 ..	14,934	8,232	2,185	8,292	2,831	206	36,887
1958–59 ..	12,853	7,239	2,071	5,924	6,548	398	35,077
Year—							
1956–57 ..	14,946	8,210	3,075	8,169	5,650	372	40,458
1957–58 ..	13,029	5,884	1,373	4,151	7,313	481	32,286
1958–59 ..	10,583	7,624	1,766	5,453	6,680	342	32,487
1959–60 ..	18,682	9,661	4,119	7,221	5,549	296	45,562
1960–61 ..	15,286	8,390	1,848	4,442	5,311	441	35,801
<b>BEES-WAX.</b>							
Average for three years ended—							
1938–39 ..	49	39	11	38	23	2	162
1948–49 ..	174	86	36	110	34	3	443
1958–59 ..	163	81	31	94	81	5	455
Year—							
1956–57 ..	188	90	42	116	70	5	511
1957–58 ..	165	67	25	86	87	5	436
1958–59 ..	137	86	25	80	84	4	417
1959–60 ..	257	113	59	106	67	4	607
1960–61 ..	197	105	32	59	71	5	470

(a) Includes Australian Capital Territory and Northern Territory.

2. Oversea Trade in Bee Products.—Prior to the 1939–45 War, the production of honey exceeded Australian requirements and a small quantity was available for export. In 1948–49, the record quantity of 32.1 million lb., was exported. Exports amounted to 13.7 million lb. in 1959–60 and 16.8 million lb. in 1960–61, about two thirds going to the United Kingdom and most of the remainder to the Federal Republic of Germany.

The quantity of bees-wax imported generally exceeded that exported up to 1945-46, but since 1946-47, with the exception of 1951-52, local production has been higher and exports have exceeded imports by substantial margins. In 1960-61, exports exceeded imports by about 200,000 lb.

Total quantities and values of exports of honey and bees-wax for the years 1958-59 to 1960-61 are shown in § 7 below.

### § 7. Exports of Australian Farmyard, Dairy and Bee Products.

The quantities and values of Australian farmyard, dairy and bee products exported during the years 1958-59 to 1960-61 are shown below.

#### EXPORTS OF FARMYARD, DAIRY AND BEE PRODUCTS : AUSTRALIA.

Particulars.	Unit of Quantity.	Quantity.			Value (£A'000).		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Bees-wax .. ..	lb.	121,441	208,508	195,707	30	48	42
Butter .. ..	'000 lb.	173,189	172,410	136,948	24,956	28,646	19,651
Cheese .. ..	"	32,280	41,395	40,404	4,467	4,989	4,608
Eggs in shell .. ..	'000 doz.	5,031	2,582	5,443	899	506	847
Eggs not in shell—							
In liquid form .. ..	'000 lb.	8,518	16,153	26,807	832	1,999	3,111
Dry .. ..	"	5	6	8	8	6	5
Honey .. ..	"	11,194	13,706	16,770	508	545	708
Lard .. ..	"	146	185	539	13	19	47
Meats—							
Bacon and Ham (including canned) .. ..	"	2,534	694	1,575	565	184	405
Frozen Poultry .. ..	"	460	252	423	110	61	93
Frozen Pork .. ..	"	1,870	790	985	274	150	187
Milk—							
Condensed, Preserved, etc.—							
Sweetened Full Cream .. ..	"	50,671	50,542	38,188	3,542	3,527	2,553
Unsweetened .. ..	"	4,507	6,014	5,637	265	356	319
Dried or Powdered—							
Full Cream .. ..	"	17,149	18,184	15,690	2,521	2,641	2,608
Skim .. ..	"	52,082	56,893	33,734	1,905	2,445	1,363
Malted .. ..	"	5,998	6,078	6,759	898	947	1,012
Infants' and Invalids' Foods—							
Essentially of Milk .. ..	"	7,313	7,080	8,545	1,103	1,026	1,297
Other .. ..	"	5,675	8,821	8,147	1,099	1,632	1,539
Figs, live .. ..	Number	938	591	125	21	20	6
Poultry, live (a) .. ..	"	198,616	443,376	283,365	31	64	41

(a) Includes day-old chicks.

### § 8. Imports of Dairy and Farmyard Products into the United Kingdom.

(Source: Board of Trade Accounts relating to Trade and Navigation of the United Kingdom.)

NOTE.—Values of imports in this section are expressed in £ sterling c.i.f. at the landed point.

1. Butter.—Until 1950, Australia had regularly supplied between 20 and 30 per cent. of the butter imported into the United Kingdom. After 1950, when butter rationing was abolished in Australia, the quantity shipped was considerably lower, but in 1956 it again amounted to 1,515,000 cwt., or 21.4 per cent. of the total United Kingdom imports. Shipments fell away again in subsequent years. In 1961, Australia supplied 1,182,000 cwt. or 14.0 per cent. of the United Kingdom imports, New Zealand supplied 36.9 per cent. and Denmark 22.2 per cent.



In the following table, particulars of the quantity and value of butter imported into the United Kingdom are shown for the years 1959, 1960 and 1961 according to country of origin.

**BUTTER: IMPORTS INTO UNITED KINGDOM.**

Country from which Imported.	1959.		1960.		1961.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	'000 cwt.	£'000.	'000 cwt.	£'000.	'000 cwt.	£'000.
New Zealand .. .. .	3,250	53,475	2,899	45,002	3,124	38,750
Australia .. .. .	1,282	20,206	1,163	18,167	1,182	14,308
Other Commonwealth Countries and Republic of Ireland ..	160	3,611	153	2,211	553	6,871
Denmark .. .. .	1,891	33,185	1,963	29,737	1,878	26,006
Netherlands .. .. .	270	5,109	347	5,078	316	4,281
Other Foreign Countries ..	1,161	18,726	1,580	22,037	1,411	16,153
<b>Total .. .. .</b>	<b>8,014</b>	<b>134,312</b>	<b>8,105</b>	<b>122,232</b>	<b>8,464</b>	<b>106,369</b>

2. Cheese.—The value of cheese imported into the United Kingdom in 1961 was £31,466,000. Of this, £17,931,000 was imported from New Zealand, £3,276,000 from Australia, £2,546,000 from Denmark, £1,095,000 from Canada and £1,689,000 from the Netherlands.

3. Bacon.—Of a total import in 1961 of bacon (excluding bacon in airtight containers), valued at £95,072,000, the value of that supplied by Denmark was £69,077,000, Poland, £10,447,000, the Republic of Ireland, £7,061,000 and the Netherlands, £3,660,000.

4. Pork.—The value of the United Kingdom imports of pork (excluding pork in airtight containers) was £4,166,000 in 1961. The Republic of Ireland (£687,000) and Denmark (£406,000) were the principal suppliers.

5. Eggs.—In 1961, the value of eggs imported into the United Kingdom was £10,592,000, comprising eggs in shell, £4,805,000, and liquid or frozen eggs, £5,787,000. Eggs in shell were supplied principally by Denmark and the Republic of South Africa.

6. Milk Products.—In 1961, the value of preserved milk imported into the United Kingdom was £6,069,000. Of this total, imports from New Zealand amounted to £2,320,000, the Netherlands, £1,099,000 and Australia, £168,000.

## CHAPTER XXV.

### FORESTRY.

NOTE.—For further details on subjects dealt with in this chapter *see* the annual bulletins *Primary Industries, Part II.—Non-Rural Industries and Value of Production and Secondary Industries* (sawmills, etc., operations).

#### § 1. Introduction.

1. **Source of Statistics.**—Statistics relating to forestry are, in general, provided by the various authorities concerned with forestry administration. In each State, suitable areas of Crown Land have been reserved for forestry purposes, either as State forests or other reserves, and the administration of these is the responsibility of the respective State Government forestry authorities. In addition, in some States, areas of forests on Crown Lands dedicated as National Parks and the like are administered by Government Departments other than the forestry authorities. There are timber resources on private land in each State, but details concerning these areas and production therefrom are not complete for all States. Forestry activities in the Northern Territory and the Australian Capital Territory are administered by the Commonwealth Government.

Particulars of forested areas contained in this chapter have been collected by the Statisticians of the several States, mainly from information provided by the State Forestry authorities. The Forestry and Timber Bureau of the Commonwealth has provided figures for the Northern Territory and the Australian Capital Territory and, in addition, has made available certain other data.

Statistics of timber and by-products have been compiled from the annual factory collections undertaken by the Statisticians in the several States. Figures of production of gums, resins and tanning barks have been provided by the State Forestry authorities.

Data of imports and exports of forest products and timber and timber products have been compiled in the Commonwealth Bureau of Census and Statistics as part of the statistics of overseas trade.

The figures shown relate, in general, to financial years ending 30th June.

Forested areas shown in this chapter relate to areas administered by the State or Commonwealth authorities, or to those reserved by government legislation. They are not based on any inventory of forest resources using standard and uniform definitions throughout the Commonwealth. It should be noted, therefore, that the figures are not comparable between States owing to the lack of uniformity in the definition of a forest.

2. **Objects of Forestry.**—The main object of forestry authorities is to manage the forests of the country in a manner that will provide the maximum benefits, both direct and indirect. Direct benefits include the provision of essential commercial commodities such as structural timber, pulpwood, plywood, veneers, firewood, bark products, tars, oils and resins. Indirect benefits include protection of soil and stock from wind and exposure, regulation of stream flow, provision of recreational facilities and aesthetic effects. Forestry also aims at improving existing forests and woodlands by properly controlled exploitation, by protection from such destructive agencies as fire and insect attack, and by inducing regeneration where it is desirable. The provision of a partial tree cover on denuded lands where this cover is necessary for protective purposes, and a complete cover when the land is better under forest than under any other land use, is a further aim of forestry.

## § 2. Forestry in Australia.

1. **General Account of Forests and Timbers.**—The area of land in Australia suitable for the production of commercial timber as the primary crop is very small in comparison with the size of the continent. It is concentrated mainly around the wetter coastal belts in the eastern highlands and includes the bulk of the land suitable for intensive development by agricultural or pastoral undertakings or other forms of closer settlement.

The trees which make up the forests of Australia are mainly evergreen hardwoods. The characteristic genus is *Eucalyptus*. There are over 600 different species of eucalypts, and with few exceptions the natural occurrence of all of them is restricted to Australia. The genus includes species such as the mountain ash (*Eucalyptus regnans*) of Victoria and Tasmania, the world's tallest growing hardwood, and the karri (*E. diversicolor*) of Western Australia, another forest giant. At the other end of the scale, there are many eucalypts which do not grow to tall trees, including the species collectively known as the "mallees". The mallees develop a number of small stems from an underground structure called the "mallee root". Less than 100 species of eucalypts are used for sawmilling and not more than 40 are exploited extensively. The main commercial eucalypts are listed in Official Year Book No. 39 and earlier issues.

A large number of other genera represented in the Australian forest flora also produce commercial hardwoods. Among the outstanding furniture, cabinet and veneer timbers are red cedar (*Cedrela toona* var. *australis*), Queensland maple (*Flindersia brayleyana*), Southern and Northern silky oak (*Grevillea robusta* and *Cardwellia sublimis*, respectively), Queensland walnut (*Endiandra palmerstoni*), blackwood (*Acacia melanoxyton*), rose mahogany (*Dysoxylum fraserianum*), etc. Turpentine (*Syncarpia laurifolia*) ranks with the world's best as a harbour piling timber. Coachwood (*Ceratopetalum apetalum*) came into prominence for rifle furniture and for aircraft plywood during the 1939–45 War.

The most important indigenous softwood resources of Australia were in the forests of hoop pine (*Araucaria cunninghamii*) of Queensland and New South Wales. The greater part of the original hoop pine forest has been exploited, but considerable areas have been replanted with this species in Queensland and, to a lesser extent, in New South Wales. There are considerable areas of the useful termite-resisting cypress pine (*Callitris* spp.) in the inland areas of Queensland and New South Wales, which have not been cleared for grazing. These cypress pine areas are gradually being brought under systematic management.

Other native softwoods which have played a useful but minor part in the Australian timber industry include bunya pine (*Araucaria bidwilli*) and kauri (*Agathis* spp.) of Queensland, and huon pine (*Dacrydium franklinii*), celerytop pine (*Phyllocladus asplenifolius*) and King William pine (*Arthrotaxis selaginoides*) of Tasmania.

The lower quality forests of inland Australia yield such commercial commodities as sandalwood, tan-barks and essential oils. They also have an important function in providing fuel and rough timbers for the development of agricultural and pastoral holdings.

2. **Extent of Forests.**—According to data assembled for the Eighth British Commonwealth Forestry Conference held in Kenya in 1962, the total area of forest in Australia was estimated at 800,263 square miles, or about 27.2 per cent. of the total land area of the continent. The large apparent increase in forested land area, when compared with the previous (1955) land classification, is due to altered definitions which have resulted in the inclusion of approximately 625,000 square miles of land carrying only stunted tree growth. It has not been possible to show the distribution of the forested areas by States as this information is not available. Of the total forested area, it is estimated that approximately only 30,000 square miles consists of residual prime native forest. Further particulars are set out in the following table.

## CLASSIFICATION OF FOREST AREA(a): AUSTRALIA.

(Source.—Forestry and Timber Bureau.)

Forested Area.	Area in Square Miles.
LANDS.	
Accessible Forests—	
Productive Forests in Use—	
Coniferous (softwood) .. .. .	769
Non-coniferous (broadleaved) .. .. .	38,050
Mixed Woods .. .. .	8,806
Open Areas .. .. .	383
Total .. .. .	48,008
Productive Forests not in Use .. .. .	(b) 49,939
Unproductive Accessible Forests .. .. .	(c) 402,636
<i>Total Accessible Forests</i> .. .. .	(d) 500,583
Inaccessible Forests .. .. .	299,680
Total Forested Area .. .. .	800,263
OWNERSHIP OF ACCESSIBLE FORESTS.	
Publicly-owned Forests—	
State Forests .. .. .	36,772
Other Forests .. .. .	234,889
<i>Total</i> .. .. .	271,661
Privately-owned Forests .. .. .	227,402
Ownership not yet Determined .. .. .	1,520
Total Accessible Forests .. .. .	500,583

(a) Based on the 1960 classification of forests. (b) Includes approximately 39,062 square miles capable of producing fuelwood only. (c) This area carries only sparse, stunted trees. (d) Includes approximately 400,000 square miles of land carrying only stunted trees.

Further particulars of forested areas are set out in § 3, page 1017.

3. Persons Engaged.—Previous issues of this Year Book contained particulars collected in the Population Censuses of Australia of 30th June, 1947 and 1954, showing the numbers of persons whose "industry" was stated to be "forestry (excluding sawmilling)", together with the numbers engaged in all primary industries and the total work force. Corresponding information for the Census of 30th June, 1961, is not yet available.

Particulars of the number of persons employed by Forestry Departments and in Saw-mills are included in § 5, para. 2, page 1022.

4. Value of Production.—(i) *General.* Statistics of both the gross value (at principal markets) and local value (at place of production) of the forestry industry are available. Particulars of the value of materials used in the process of production are not available for all States; for this reason, values cannot be stated on a net basis, as has been done with most other industries.

In 1960–61, the local value of forestry production amounted to £52,057,000. The most important States were New South Wales, Victoria and Queensland with £15,300,000, £14,795,000 and £7,149,000 respectively.

(ii) *Gross and Local Values, 1960–61.* The following table shows gross and local values of forestry production for each State in 1960–61. A more detailed reference to the value of production of forestry and other industries in Australia, as well as a brief explanation of the terms used, will be found in Chapter XXX.—Miscellaneous.

**GROSS AND LOCAL VALUE OF FORESTRY PRODUCTION, 1960–61.**  
(£'000.)

State or Territory.	Gross Value (Gross Production Valued at Principal Markets).	Marketing Costs.	Local Value (Gross Production Valued at Place of Production).
New South Wales .. .. .	15,816	516	15,300
Victoria .. .. .	16,314	1,519	14,795
Queensland .. .. .	9,670	2,521	7,149
South Australia .. .. .	3,756	27	3,729
Western Australia .. .. .	5,541	374	5,167
Tasmania .. .. .	6,566	831	5,735
Northern Territory .. .. .	24	(a)	24
Australian Capital Territory .. .. .	158	(a)	158
<b>Australia .. .. .</b>	<b>57,845</b>	<b>5,788</b>	<b>52,057</b>

(a) Not available.

(iii) *Local Values, 1956–57 to 1960–61.* In the following table, the local value of forestry production and the local value per head of population are shown by States for the years 1956–57 to 1960–61.

**LOCAL VALUE OF FORESTRY PRODUCTION.**

Year.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Aust.(a)
LOCAL VALUE (£'000).							
1956–57 .. .. .	16,758	12,297	9,487	4,051	4,779	4,523	52,099
1957–58 .. .. .	15,341	13,088	9,414	3,587	5,112	4,547	51,306
1958–59 .. .. .	15,574	14,063	8,356	4,103	5,067	4,887	52,273
1959–60 .. .. .	15,169	15,476	8,469	3,929	5,085	5,556	53,859
1960–61 .. .. .	15,300	14,795	7,149	3,729	5,167	5,735	52,057

**LOCAL VALUE PER HEAD OF POPULATION (£).**

1956–57 .. .. .	4.7	4.7	6.8	4.7	7.0	13.9	5.5
1957–58 .. .. .	4.2	4.9	6.6	4.0	7.4	13.7	5.3
1958–59 .. .. .	4.2	5.1	5.8	4.5	7.2	14.4	5.3
1959–60 .. .. .	4.0	5.5	5.7	4.2	7.1	16.1	5.3
1960–61 .. .. .	3.9	5.1	4.8	3.9	7.1	16.4	5.0

(a) Includes Northern Territory and Australian Capital Territory.

## § 3. Forested Areas.

1. **Forest Reservations.**—The first estimate of the forest area which should be reserved solely for purposes of timber production was made at an interstate forestry conference held at Hobart in 1920. This conference decided that an area of 24½ million acres of indigenous forest should be permanently dedicated to timber production. According to statements furnished by State and Commonwealth authorities, reservations of forest areas in Australia as at 30th June, 1961, totalled 36,928,000 acres, of which 23,307,000 acres were Dedicated State Forests and 13,621,000 acres were Timber and Other Reserves. The distribution of those areas is shown by States in the following table.

## AREA OF FOREST RESERVATIONS, 30TH JUNE, 1961.

(Acres.)

State or Territory.	State Forests.	Timber Reserves (Forest Acts).	Other Reserves. (a)	Total.
New South Wales .. .. .	6,581,788	1,406,322	(b) 1,557,468	9,545,578
Victoria .. .. .	4,860,170	(c) 861,276	(b) 366,888	6,088,334
Queensland .. .. .	5,124,220	3,048,339	848,196	9,020,755
South Australia .. .. .	271,108	981	760,500	1,032,589
Western Australia .. .. .	4,343,153	(d) 2,554,920	321,015	7,219,088
Tasmania .. .. .	(e) 2,126,744	137,028	(f) 1,266,679	3,530,451
Northern Territory .. .. .	..	8,620	(g) 352,000	360,620
Australian Capital Territory .. .. .	..	..	(h) 131,000	131,000
<b>Australia .. .. .</b>	<b>23,307,183</b>	<b>8,017,486</b>	<b>5,603,746</b>	<b>36,928,415</b>

(a) Includes National Parks and Scenic Reserves. (b) Reserved under the Lands Acts.  
 (c) Includes 151,499 acres reserved under the Lands Acts. (d) Includes 775,339 acres reserved under the Lands Acts.  
 (e) Includes 464,984 acres of State Forests under pulpwood concession. (f) Includes 612,000 acres of pulpwood concessions over Crown land and 419,908 acres of exclusive forest permits on Crown land.  
 (g) Comprises mainly a fauna and flora reserve on Coburg Peninsula.  
 (h) Forest land not specifically reserved.

If the permanently reserved areas were all of good quality, accessible, and fully productive, and if they supplied the class of timber required, they could be regarded as adequate for a larger population than exists in Australia at the present time. Actually, a considerable proportion is in inaccessible mountainous country and many of the forests contain a mixture of species, only some of which are at present of commercial value. Much of the area consists of inferior forest and a large proportion of the whole has been seriously degraded by recurrent fires. Moreover, the indigenous forest does not contain adequate supplies of softwoods and Australia's requirements have had to be met largely by imports.

It is freely acknowledged by Australian forest authorities that information on forest resources is imperfect. It is not possible to give a reliable estimate of the forest area needed to meet future demands because of the unknown variables involved, in particular, the yield capacity per acre, future consumption of different classes of timber, and the future population.

It appears, however, that all available good forested country and an adequate area suitable for plantations of coniferous timber must be reserved, protected and systematically managed if Australia is to approach the goal of self-sufficiency in timber supplies in the future.

2. **Plantations.**—Reference has been made to the inadequacy of indigenous softwood supplies, but as a result of the planned policy of the Forest Services and of several private commercial organizations, the area of softwood plantations, mainly of exotic species, is steadily increasing. It was natural that this aspect of forestry should receive earliest attention in South Australia, as this is the State most poorly endowed with natural forest. South Australia now has a larger area of planted softwoods than any other State in Australia, and for some years has been exploiting considerable quantities of timber from these plantations. The total production is now over 200,000,000 super. feet per annum and is expected to be increased substantially during the next decade. Production is also increasing in the other States and the thinnings from their plantations are already supplying a significant volume of timber.

Data relating to areas of plantations for years prior to 1960 were shown as at 30th June. As new areas are being planted in most States at this time of the year, data for 1960 and 1961 have been compiled by the Forestry and Timber Bureau as at 30th September. The following table shows particulars for 30th September, 1961.

**SOFTWOOD PLANTATIONS, 30TH SEPTEMBER, 1961.**  
(Acres.)

State or Territory.	Government.			Private (mainly <i>P. radiata</i> ).	Total.
	<i>Pinus radiata</i> .	Other species.	Total.		
New South Wales .. ..	68,343	19,198	87,541	12,495	100,036
Victoria .. .. .	36,609	10,931	(a) 47,540	(b) 61,600	109,140
Queensland .. .. .	1,957	92,421	94,378	5,970	100,348
South Australia .. ..	107,900	9,700	117,600	(c) 33,100	150,700
Western Australia .. ..	11,670	22,832	34,502	864	35,366
Tasmania .. .. .	15,528	410	15,938	5,915	21,853
Australian Capital Territory ..	22,260	2,101	24,361	100	24,461
<b>Australia .. .. .</b>	<b>264,267</b>	<b>157,593</b>	<b>421,860</b>	<b>120,044</b>	<b>541,904</b>

(a) Forests Commission area only. There are approximately 4,000 acres of plantations owned by other State instrumentalities about which no reliable information is available. (b) Estimated. (c) Excludes plantings during 1961.

A special article giving a detailed account of the history and development of softwood plantations and of the characteristics of individual species has been prepared by the Forestry and Timber Bureau, and is included in Official Year Book No. 45, pages 975 *et seq.*

Hardwood plantations (mainly *Eucalyptus spp.*) comprise a much smaller area and the total acreage at 30th June, 1961, was 31,266 acres, nearly two-thirds of which was mallet (*Eucalyptus astringens*). Plantations of this species have been established in Western Australia for tan-bark production.

#### § 4. Forestry Production.

1. Timber.—Particulars of logs treated and the production of sawn, peeled and sliced timber by sawmills and other woodworking establishments are shown in the following table, by States, for the year 1960-61. These figures have been compiled from the annual factory collections in each State which cover virtually all sawmills. The only omissions are some small portable mills operated by itinerants, e.g., sleeper cutters.

**OUTPUT OF AUSTRALIAN-GROWN TIMBER : ALL MILLS, 1960-61.**  
(‘000 super. feet.)

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aust.(a)
<b>LOGS TREATED.</b>							
Hardwood .. .. .	641,585	650,103	399,212	9,824	559,789	408,475	2,668,988
Softwood .. .. .	148,567	71,973	142,421	246,659	14,438	13,899	637,957
<b>Total .. .. .</b>	<b>790,152</b>	<b>722,076</b>	<b>541,633</b>	<b>256,483</b>	<b>574,227</b>	<b>422,374</b>	<b>3,306,945</b>
<b>SAWN, PEELLED OR SLICED TIMBER PRODUCED FROM LOGS ABOVE.</b>							
Hardwood .. .. .	321,024	293,706	193,902	3,483	181,481	159,399	1,152,995
Softwood .. .. .	69,848	28,419	68,239	88,824	5,276	5,136	265,742
<b>Total .. .. .</b>	<b>390,872</b>	<b>322,125</b>	<b>262,141</b>	<b>92,307</b>	<b>186,757</b>	<b>164,535</b>	<b>1,418,737</b>

(a) Excludes the Australian Capital Territory and the Northern Territory, details of which are not available for publication.

The following table shows logs used, and sawn, peeled, and sliced timber produced, in Australia for the years 1956-57 to 1960-61.

**OUTPUT OF AUSTRALIAN-GROWN TIMBER : ALL MILLS, AUSTRALIA.(a)**  
(\*000 super. feet.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>LOGS TREATED.</b>					
Hardwood .. .. .	2,682,236	2,624,436	2,726,768	2,789,406	2,668,988
Softwood .. .. .	571,998	580,856	677,255	705,405	637,957
<b>Total .. .. .</b>	<b>3,254,234</b>	<b>3,205,292</b>	<b>3,404,023</b>	<b>3,494,811</b>	<b>3,306,945</b>

**SAWN, PEELED OR SLICED TIMBER PRODUCED FROM LOGS ABOVE.**

Hardwood .. .. .	1,151,428	1,127,150	1,158,799	1,208,595	1,152,995
Softwood .. .. .	267,431	264,027	301,175	312,451	265,742
<b>Total .. .. .</b>	<b>1,418,859</b>	<b>1,391,177</b>	<b>1,459,974</b>	<b>1,521,046</b>	<b>1,418,737</b>

(a) Excludes the Australian Capital Territory and the Northern Territory, details of which are not available for publication.

The next table shows the sawn, peeled and sliced output of Australian-grown timber from sawmills and other wood-working establishments in each State for the years 1956-57 to 1960-61.

**OUTPUT(a) OF AUSTRALIAN-GROWN TIMBER : ALL MILLS.**  
(\*000 super. feet.)

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. .. .	365,548	359,737	373,515	398,727	390,872
Victoria .. .. .	342,288	346,473	344,018	350,458	322,125
Queensland .. .. .	275,936	268,200	262,033	274,701	262,141
South Australia .. .. .	94,869	84,541	122,456	128,442	92,307
Western Australia .. .. .	204,474	201,664	211,943	199,059	186,757
Tasmania .. .. .	135,744	130,562	146,009	169,659	164,535
<b>Australia(b) .. .. .</b>	<b>1,418,859</b>	<b>1,391,177</b>	<b>1,459,974</b>	<b>1,521,046</b>	<b>1,418,737</b>

(a) Total production of sawn, peeled and sliced timber. (b) Excludes the Australian Capital Territory and Northern Territory, details of which are not available for publication.

In addition to the sawn timber shown in the preceding table, a large amount of hewn and round timber, e.g., sleepers, piles, poles, fencing timber, timber used in mining, and fuel, is obtained from forest and other areas. Complete information in respect of the volume of this output is not available.

2. **Veneers, Plywood, etc.**—Cutting of timber for the manufacture of veneers, plywood etc., has been carried out in most States for a number of years. In recent years, this has been considerably extended, since plywood manufacture has allowed the use of some species unsuitable for sawing. Special attention has been paid to ensure that logs suitable for peeling are diverted to ply factories. However, the supply of Australian-grown logs is inadequate and greater use is being made of imported logs.



The following table shows the production of plywood for each of the years 1956–57 to 1960–61.

**PLYWOOD PRODUCED.**  
(’000 square feet— $\frac{3}{16}$ -in. basis.)

State.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales .. ..	41,921	45,647	56,378	62,701	64,930
Queensland .. ..	118,647	131,205	139,743	134,824	112,414
Other States .. ..	33,797	35,784	40,083	44,574	46,045
<b>Australia .. ..</b>	<b>194,365</b>	<b>212,636</b>	<b>236,204</b>	<b>242,099</b>	<b>223,389</b>

Of the total plywood produced in 1960–61, 155,737,000 square feet ( $\frac{3}{16}$ -in. basis) were classed as “Commercial”, 44,907,000 as “Waterproof”, 2,544,000 as “Case” and 20,201,000 as “Sliced Fancy”.

During 1960–61, 593.7 million square feet ( $\frac{1}{8}$ -in. basis) of veneers were produced by the rotary process for the manufacture of plywood, and 230.5 million square feet ( $\frac{1}{8}$ -in. basis) were sold or added to stock, the bulk of which would eventually be used in the production of plywood. In addition, 44.7 million square feet of sliced veneers were produced.

**3. Hardboard.**—The production of hardboard from pulped wood for building purposes has increased considerably in Australia in recent years. There were five factories producing hardboard during 1960–61 (two in New South Wales, and one in each of Victoria, Queensland and Tasmania) and during each of the three years ended 30th June, 1961, the following quantities were produced:—1958–59, 29,067,000 square yards; 1959–60, 31,645,000 square yards; and 1960–61, 31,085,275 square yards.

Most of this hardboard enters into usage in the condition in which it leaves the producing factories. The remainder is further treated and surfaced to a variety of finishes, and in 1960–61 this production accounted for 1,451,653 square yards valued at £548,328.

**4. Wood Pulp and Paper.**—(i) *Wood Pulp.* The manufacture of wood pulp from Australian-grown timber was established in Australia in 1939, after years of experimentation with eucalypt hardwoods. During 1960–61, six wood pulp mills were operating in three States and production was 148,640 tons of chemical pulp and 64,569 tons of mechanical pulp, a total of 213,209 tons. During the previous year, production was 144,872 tons of chemical pulp and 58,061 tons of mechanical pulp.

(a) *Victoria.* In Victoria, wood pulp is produced at Maryvale in Gippsland by a chemical process known as the Kraft or Sulphate process. The pulpwood used at this mill consists mainly of eucalypt timber below sawmilling quality, together with a quantity of plantation pine thinnings.

During the year 1960–61, 343,554 tons of eucalypt and pine pulpwood were supplied to Maryvale Mill. Plantations of both pines and eucalypts are being established in Gippsland at the rate of approximately 3,000 acres a year.

(b) *South Australia.* In South Australia, three wood pulp mills operate in the south-eastern part of the State, using raw material in the form of logs from the State forests. One mill produces paper board, one tissue paper, and the other particle board. During 1960–61, a total of 17 $\frac{1}{4}$  million super. feet of pulpwood was supplied to the three mills.

Investigations are proceeding for the establishment of another large pulp mill near Mount Gambier.

(c) *Tasmania.* In Tasmania, two large mills are making pulp and paper from indigenous hardwoods. At Burnie, on the north-west coast, a mill using the soda process produces wood pulp for fine writing parchment and printing papers. A continuous digester at the Burnie mill makes it the only one in Australia to use a continuous pulping process. In addition, a semi-chemical pulp plant was brought into operation in 1959 by the same company.

In 1960-61, 71,827 tons of paper were produced. The company holds freehold and State concession forest areas which are managed on a permanent yield basis with regeneration of the eucalypts in all suitable areas. Pine plantations are being established to provide softwoods for pulping.

The other mill at Boyer, 20 miles from Hobart, is the only producer of newsprint in Australia. Wood pulp is produced from hardwoods drawn from State timber concession areas. A mechanical process was used until 1957, when additional plant was installed for the manufacture of semi-chemical pulp. This plant uses the cold soda process which allows the utilization of additional species not suitable for ground wood pulp. The components of Boyer newsprint average 60 per cent. of groundwood pulp, 22 per cent. of cold soda pulp (both made at Boyer from hardwoods) and 18 per cent. of imported Kraft pulp made from *Pinus radiata* in New Zealand. Newsprint production capacity is 85,000 long tons per annum. To secure more complete bush utilization, the company has established sawmills to convert understory species, principally myrtle and sassafras, to sawn timber. The forests are managed on a sustained yield basis. Forest utilization and management are designed to promote eucalypt regeneration. Experimental work into the problems involved is being carried out by the company and the Tasmanian Forestry Commission.

(ii) *Paper and Paper Board.* Paper and paper board are manufactured in all States but the greater part of the industry is in New South Wales, Victoria and Tasmania. During 1960-61, twenty-two paper mills were operating, ten in Victoria, four in New South Wales, three in Tasmania, two each in Queensland and South Australia and one in Western Australia. A wide variety of paper and paper board is produced in Australian mills. The quantity and value of paper produced in 1960-61 includes the following items. Comparable figures for 1959-60 are shown in parentheses. Newsprint, 88,039 (88,510) tons valued at £6,490,754 (£6,682,005); blotting, 755 (800) tons, £133,373 (£144,685); duplicating, 7,055 (5,804) tons, £1,176,251 (£916,420); printing and writing, 80,166 (67,825) tons, £12,640,988 (£11,507,234); kraft wrapping, 98,607 (66,451) tons, £12,226,040 (£9,000,408); other wrapping, 9,828 (12,600) tons, £1,828,591 (£2,275,045); felt and carpet felt, 3,112 (4,145) tons, £326,760 (£472,668). In addition, 209,532 (221,338) tons of paper boards valued at £17,687,277 (£18,724,122) were produced.

5. *Other.*—(i) *Eucalyptus Oil.* Oil may be distilled from the foliage of all varieties of *Eucalyptus*, and several of them furnish a product widely known for its commercial and medicinal uses. Complete information regarding Australian production and consumption of eucalyptus oil is not available, but considerable quantities are manufactured, particularly in New South Wales and Victoria. The quantity and value of exports of eucalyptus oil distilled in Australia were 209,451 lb., £77,083 in 1958-59; 256,888 lb., £94,760 in 1959-60; and 236,921 lb., £80,738 in 1960-61.

(ii) *Gums and Resins.* Gums and resins are produced in most States of Australia, the main product being grass tree or yacca gum. This gum, which is used in the preparation of varnishes and lacquers, comes chiefly from South Australia, but small quantities are also produced in New South Wales and Western Australia. In 1960-61, the recorded production for Australia of gums and resins was 9,659 cwt. Exports of acaroid resin, grass tree and yacca gum from Australia during the same period amounted to 8,949 cwt. valued at £17,173.

(iii) *Tanning Barks.* The forests of Australia are capable of yielding a wealth of tanning materials. Many species of *Eucalyptus* and other genera contain varying proportions of tannin, chiefly in the bark, but also in the wood and twigs. Their scattered distribution, however, has resulted in the use of only the richest tan-bearing species in Australia. These are:—Golden wattle (*Acacia pycnantha*), green or black wattle (*Acacia decurrens* or *mollissima*), and mallet (*Eucalyptus astringens*). Mallet (*E. astringens*), of Western Australia, is not extensively used in Australian tanneries, but is exported. References to oversea trade in tanning substances are made in § 8, pages 1025 and 1026.

The production of extract from the bark of karri (*E. diversicolor*), of which very large quantities are available at karri sawmills, has passed the experimental stage, and private enterprise has started production on a commercial scale. The experimental work in kino impregnated marri (*E. calophylla*) bark is not yet complete. The total production of tanning bark in Australia approximated 25,000 tons per annum in the years prior to 1939, but since then production has declined and in 1960-61 was only 3,715 tons. However, this decrease is offset by the increased use of vegetable tanning extracts and synthetic tanning agents.

## § 5. Employment in Forestry.

1. **Persons Engaged in Forestry Activities.**—Particulars of the numbers of persons who, at the population censuses of 30th June, 1947 and 1954, stated that they were engaged in "forestry (excluding sawmills)" are shown in previous issues of this Year Book. Corresponding information for the census of 30th June, 1961, is not yet available.

2. **Employment by Forestry Departments.**—In the table below, details are shown of the number of persons employed by State Forestry Departments, and by the Forestry and Timber Bureau in the Australian Capital Territory and the Northern Territory, at 30th June, 1961.

## PERSONS EMPLOYED BY FORESTRY DEPARTMENTS, 30TH JUNE, 1961.

Occupational Group.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Professional Staff	208	201	87	80	59	33	3	7	678
Non-professional									
Field Staff ..	203	250	95	2	139	85	4	1	779
Clerical Staff ..	334	232	183	103	52	80	1	5	990
Extraction of Timber	1,240	117	117	74	31	4	6		6,095
Milling of Timber Labour (Forest Workers, etc.)		19	..	716	21	..	13	..	
		743	1,748	242	634	226	98	46	
Total ..	1,985	1,562	2,230	1,217	936	428	(a) 125	59	8,542

(a) Includes 105 full blood aboriginals who were employed in the following occupations: 4 in extraction of logs, 11 in milling of timber, and 90 as forest workers.

3. **Employment in Milling Operations.**—Details of the average number of persons employed, including working proprietors, in sawmills during the year 1960-61 are shown in the next table. Further details regarding the operations of sawmills in 1959-60 are shown in Chapter VI.—Manufacturing Industry.

## NUMBER OF SAWMILLS AND NUMBER OF PERSONS EMPLOYED, 1960-61.

Particulars.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Aust.(a)
Number of Sawmills .. ..	907	506	583	84	222	328	2,630
Average number of Persons Employed during Year—							
Males .. ..	8,857	6,465	5,941	2,062	3,798	2,721	29,844
Females .. ..	411	232	297	186	47	84	1,257
Total .. ..	9,268	6,697	6,238	2,248	3,845	2,805	31,101

(a) Excludes Northern Territory and Australian Capital Territory, details of which are not available for publication.

## § 6. Forest Administration and Research.

1. **Forestry Activities of the Commonwealth.**—Although control of forests is a function of the State Governments, the Commonwealth Government has entered the research field with the aim of assisting both public and private enterprise. The two main research authorities administered by the Commonwealth Government are the Commonwealth Forestry and Timber Bureau and the Division of Forest Products of the Commonwealth Scientific and Industrial Research Organization. A brief account of the activities of these two organizations is given below.

(i) *Commonwealth Forestry and Timber Bureau.* In 1925, the Commonwealth Government established the Commonwealth Forestry Bureau which received statutory powers in 1930. Its functions included advising the various Territorial Administrations on forestry

matters, the management of forests placed under its control, the establishment of experimental forest stations the training of professional foresters, etc. In 1946, the title of the Bureau was changed to "The Forestry and Timber Bureau" and its functions were extended to embrace investigations, research and advice relating to the supply, production, distribution and use of timber.

The main activities of the Bureau under its statutory functions are as follows.

(a) *Forestry Education.* The Australian Forestry School, located in Canberra, trains professional foresters. Training at the school covers the third and fourth years of a four-year degree course in forestry. The first two years of the course are spent in a study of prescribed science subjects at one of the Australian universities. The third and fourth years are spent at the Forestry School studying specialized forestry subjects. Students who satisfactorily complete the course graduate in Forestry at their home university and are awarded the Commonwealth Diploma in Forestry. The Commonwealth Diploma in Forestry or the Diploma in Forest Technology may also be awarded to suitable graduates from Australia or overseas who complete an appropriate course at the Australian Forestry School.

(b) *Silvicultural Research.* Research headquarters and a Central Experimental Station have been established in Canberra. Other forest experimental stations have been established at Mount Burr in the south-east of South Australia, in Tasmania, and at Dwellin; up in Western Australia, on a co-operative basis with the Forest Service of those States. An experimental station is also operating at Traralgon, Victoria in co-junction with a private company. It is proposed to establish similar co-operative experimental stations in other States and Territories.

The research work being carried out covers a wide field of studies of forest conditions; the genetic relationships and soil and climatic requirements of various species; forest nutrition; factors affecting the growth of trees; and the improvement of forest yields. Studies in fire protection, watershed management, forest entomology and pathology are also being actively pursued. Considerable expansion in research activities is planned as suitable trained staff becomes available.

(c) *Forest Management Research.* A national forest stocktaking is being carried out in co-operation with the Forest Services of the States, and special consideration is given to the use of aerial surveys to assist in forest assessment.

Research in the fields of forest management and mensuration is being carried out and further investigations into the economics of management are proposed.

A research station has been established at Darwin for the Northern Territory Administration.

In 1961, the Commonwealth Government decided to expand the research work of the Bureau and to form a Forest Research Institute to carry out silvicultural and forest management investigations.

(d) *Timber Supply Economics.* Advice is currently made available to government departments and private enterprise on timber supply matters. Research is undertaken on logging methods and machines and on matters associated with the marketing of timber products.

(e) *Management of Forests.* A Division of the Bureau manages the forests of the Australian Capital Territory, while the Darwin research station advises on the management of the forests of the Northern Territory. In addition, advice is made available to the Administrations of the Australian External Territories on the management of the forests in those Territories.

(ii) *Commonwealth Scientific and Industrial Research Organization, Division of Forest Products.* Fundamental investigations connected with the properties and uses of timber and forest products generally are carried out by the Division of Forest Products of the Commonwealth Scientific and Industrial Research Organization. These investigations cover a very wide field, e.g., structure and chemistry of wood, tans, etc.; properties and uses of wood; methods of production of sawn timber, pulp, paper, etc.

2. *Forestry Activities of the States.*—The powers and functions of State Forest Authorities are laid down under Forestry Acts and Regulations. In each State, there is a department or commission to control and manage State forests, etc. Its functions are summarized as follows: (a) the introduction of proper measures for the control and management of forest

land; (b) the protection of forest land; (c) the conversion, marketing and economic utilization of forest products; (d) the securing of an adequate and permanent reservation of State forests; (e) the establishment and maintenance of coniferous forests to remedy the existing deficiency of softwoods in Australia. All State forest services are actively engaged on research programmes involving problems of a more practical nature as opposed to the fundamental biological research being carried out by the federal authorities.

Annual reports are issued by each State forest authority. The Forestry Commission of Victoria maintains a Forestry School at Creswick, where recruits are trained for employment in the Commission or in other avenues of forestry.

In addition to developing permanent forest reserves in each State, foresters are surveying all timber lands with a view to obtaining dedications of new State forests to add to the permanent forest estate or to release areas unsuitable for forestry for other uses. State forest authorities also usually control all timber on unoccupied Crown lands as well as over 10 million acres of timber reserves, national parks, etc.

The Universities in all States provide facilities for forestry graduates attending the Universities or, in some cases, for forestry graduates working within, or outside, the States to proceed to advanced degrees. The University of Melbourne has established a Department of Forestry to assist both undergraduates and post-graduate students.

3. **Private Forestry.**—A number of private forestry companies are now operating in Australia. They are concerned mainly with the supply of raw materials to specific wood processors (often parent companies). The majority have professional foresters on their staff, several being engaged on research.

An estimate of the area of softwood plantations established by private companies and individuals is included in the table in § 3, para. 2, page 1018.

## § 7. Fire Protection.

Fire control measures in Australia are the responsibility of the individual State Governments, and the provision of adequate fire protection is one of the main problems facing forest authorities. Of some 52 million acres of dedicated and reserved forest areas throughout Australia, the forest services maintain a high degree of protection over a relatively accessible area of about 20 million acres; about 19 million acres, being more difficult of access, are not so highly protected; about 13 million acres are, at present, not protected.

The responsibility for the protection of private property outside urban areas rests with volunteer bush fire brigade organizations which are co-ordinated in each State by a committee or board carrying out functions of an advisory or educational nature and fostering the growth and organization of the bush fire brigade movement. Throughout the main agricultural and forest areas of Australia there are over 5,000 registered volunteer bush fire brigades with a membership approaching 250,000. Although both forest and rural fire organizations are entirely separate entities, a high degree of co-operation and liaison is maintained.

In addition to the forest service and rural organizations, various private and semi-Government bodies in each State maintain fire protection organizations, which are generally concerned with the protection of private forestry operations and hydro-electric and water catchment areas.

Over the five-year period 1957–61, the annual cost of protecting from fire the 39 million acres of forest land for which State Forest Services provide protection is estimated at £2,100,000 or about 1s. 1d. an acre. The cost of rural fire control as a whole cannot be estimated with any degree of accuracy, because by far the greatest contribution comes from the personal efforts of volunteer brigade members.

The Australian fire season is very variable, with an average of a particularly bad fire season every seven years or so. Such years as 1926, 1939, 1944, 1952 and 1957 account for a large proportion of the average annual burn. Over 80 per cent. of the area burnt carries little commercial timber, being mainly firewood and protection forest. The number of fires and the forest area burnt during the last five years is shown in the following table.

## NUMBER OF FIRES AND FOREST AREAS BURNT: AUSTRALIA.

(Source: Forestry and Timber Bureau.)

Year.	Number of Fires.	Forest Areas Burnt.		Burnt Areas as a Proportion of Total Forest Areas.
		No.	'000 Acres.	
1956-57	1,999	344	0.86	
1957-58	2,908	2,073	5.11	
1958-59	1,175	456	1.10	
1959-60	1,504	1,314	2.48	
1960-61	2,667	1,294	2.47	

Since the 1939-45 War, forest services have greatly expanded their fire detection facilities and big advances have been made in the use of power water-pumping equipment. Radio communication is now being used extensively by both forest services and rural organizations, and considerable progress has been made in the provision of legislative power for the rural bush fire movement, although the volunteer movement itself dates back to the turn of the century.

Intensive research work is being undertaken on fire problems, and several governmental groups are working on such projects as the study of fire behaviour and associated fuel and meteorological conditions; the use of chemical aids in fire suppression; the development of protective clothing and devices to aid fire-fighters and of more efficient fire-fighting equipment.

Since fire prevention is one of the most important aspects of the problem, intensive campaigns are being conducted to reduce the incidence of man-caused fires. A study of fire causes in recent years reveals that human agencies account for 90 per cent. of all fires, and of this figure at least 80 per cent. were preventable. It is estimated that "burning-off" (much of which is started illegally) accounts for 30 per cent. of all fires. Lightning accounts for a little over 10 per cent. of all fires in Australia, although the incidence of fires caused by lightning is much higher in certain areas, especially the Southern Highlands region in New South Wales and Victoria. Although lightning is a relatively small numerical cause of fire, the percentage area burnt from this cause is estimated at about 20 per cent. This high percentage is due to the multiple fire outbreaks causing fire fighting difficulties and to the general inaccessibility of the areas in which such fires generally occur.

## § 8. Oversea Trade in Forest Products, Timber and Timber Products.

1. Imports.—Quantities and values of forest products, timber and timber products imported into Australia during the years 1958-59 to 1960-61 are shown in the following table.

IMPORTS OF FOREST PRODUCTS, TIMBER AND TIMBER PRODUCTS:  
AUSTRALIA.

Particulars.	Unit of Quantity.	Quantity.			Value (£A.f.o.b. Port of Shipment).		
		1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Logs not sawn—							
Softwoods (a)	'000 sup. ft.	4,969	3,714	1,872	150,781	117,068	58,210
Hardwoods (b)	"	50,212	60,010	58,460	1,253,733	1,585,362	1,715,251
Undressed timber—							
Sleepers	"	(c)	"	"	26		
Dunnage	"	"	"	"	4,204	4,822	2,514
Softwoods (a), n.e.i.—							
Douglas Fir	'000 sup. ft.	147,647	182,265	183,126	5,533,649	8,365,462	8,498,234
Radiata Pine	"	33,700	43,500	33,462	1,196,846	1,630,525	1,213,071
Other	"	15,370	19,741	35,152	936,697	1,723,063	2,704,577
Hardwoods (b), n.e.i.	"	55,412	67,387	85,262	2,892,734	3,651,162	5,156,597
Box shooks, n.e.i.	"	633	610	567	41,471	38,702	33,212
Dressed timber	"	14,906	11,711	13,178	996,659	729,825	921,836
Veneers	'000 sq. ft.	14,035	13,192	18,755	137,808	146,835	184,581
Plywood	"	24,680	29,523	31,618	885,742	1,074,189	1,089,658
Tanning substances	cwt.	137,847	148,542	164,596	383,020	435,348	402,394
Sandalwood oil	lb.	1,206	1,402	1,540	5,717	8,050	8,712

(a) Non-pored woods.

(b) Pored woods.

(c) Less than 500 super. feet.

Imports of softwood logs in recent years have come almost exclusively from British Borneo and the Solomon Islands, and more than 90 per cent. of the imports of hardwood logs have also come from British Borneo. Imports of undressed softwood timber comprise mainly Douglas Fir (Oregon Pine) from Canada and the United States of America and Radiata Pine from New Zealand. Imports of undressed hardwood timber come mainly from Malaya and British Borneo. Timbers from Scandinavian countries provide most of the dressed timber imports.

Imports of timber products are mainly veneers and plywoods. The Australian Trust Territory of New Guinea provides most of the plywood imports and together with the United Kingdom, more than half of Australia's imports of veneer.

Tanning substances are the only other forest products imported in significant quantities. The most important of these is wattle bark produced in the Republic of South Africa.

2. Exports.—The quantities and values of timber, railway sleepers, veneers, plywood and other timber and forest products exported during the years 1958–59 to 1960–61 are shown in the following table. The figures given represent total exports and therefore include particulars of re-exported materials, but the amounts involved are, in general, relatively small.

**EXPORTS OF FOREST PRODUCTS, TIMBER AND TIMBER PRODUCTS:  
AUSTRALIA.**

Particulars.	Unit of Quantity.	Quantity.			Value (£A.f.o.b. Port of Shipment.)		
		1958–59.	1959–60.	1960–61.	1958–59.	1959–60.	1960–61.
Logs not sawn ..	'000 sup. ft.	4,257	4,099	6,502	258,732	237,416	371,461
Undressed timber (a)—							
Sleepers ..	"	39,842	32,090	17,779	2,287,676	1,775,477	930,566
Fence posts, girders and pole blocks ..	"	1,501	614	387	83,932	42,584	31,030
Softwoods (b), n.e.i. ..	"	387	536	751	32,014	47,621	69,118
Hardwoods (c), n.e.i. ..	"	14,682	13,948	21,145	981,036	954,300	1,464,465
Dressed timber ..	"	863	1,471	1,040	110,982	193,576	144,199
Veneers ..	'000 sq. ft.	7,789	4,037	2,201	219,251	112,888	52,488
Plywood ..	"	701	757	1,103	60,879	86,045	124,461
Tanning substances ..	cwt.	79,983	138,132	63,587	218,649	351,196	183,343
Charcoal ..	"	4,232	7,049	5,712	18,660	31,103	22,385
Eucalyptus oil ..	lb.	209,541	256,888	236,921	77,083	94,760	80,738

(a) Excludes stumps and the like.

(b) Non-pored woods.

(c) Pored woods.

In 1960–61, New Zealand received more than 50 per cent. of Australia's exports of sleepers as well as the greater part of exports of logs and almost 40 per cent. of exports of all undressed timber. The United Kingdom received most of Australia's exports of plywood and veneers.

Exports of tanning substances in 1960–61 were mainly to the United States of America and that country also was the largest importer of eucalyptus oil produced in Australia. More than 60 per cent. of the charcoal exports were shipped to New Zealand.

## CHAPTER XXVI.

### FISHERIES.

NOTE.—Values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b. port of shipment, except where otherwise indicated.

Further information on subjects dealt with in this chapter is contained in the annual printed bulletin *Primary Industries, Part II.—Non-Rural Industries and Value of Production* and in the annual mimeograph statistical bulletin *Fishing and Whaling*, particularly as regards types of fish, etc., caught.

#### § 1. Introduction.

1. **Source of Statistics.**—Fisheries statistics in Australia are, in general, collected by the various authorities responsible for the administration of the industry. The fisheries within territorial waters (i.e. within three miles of the shore) are administered by State Departments, while the Fisheries Division of the Department of Primary Industry develops and administers fisheries in extra-territorial waters and co-ordinates fisheries administration.

Statistics of production of fish, crustaceans, molluscs and pearl-shell and trochus-shell included in this chapter are collected and supplied by State Fisheries Authorities through the Statisticians of the several States. Statistics are provided on a year ended 30th June basis, although figures for pearl-shell and trochus-shell refer to the season ended December or January of the fiscal year shown.

Details of the catch shown in this chapter refer in most instances to the recorded commercial production only. In view of the importance of amateur fishermen in certain types of fishing, details shown (both for particular species and for totals) cannot be taken as representing the total catch. In addition, it is likely that the figures shown may understate to some extent the full commercial catch because no information is available on fish taken for sale by persons not licensed as professional fishermen.

Particulars of whaling are collected on a calendar year basis and are supplied for publication by the Fisheries Division of the Department of Primary Industry.

Data of imports and exports of fisheries and whaling products are compiled in the Commonwealth Bureau of Census and Statistics as part of the statistics of oversea trade.

2. **Presentation of Fisheries Statistics.**—In the preparation of Australian fisheries production statistics, the quantities of individual products are, generally, in terms of the form in which they are taken from the water. For example, the statistics of fish production published in this chapter are in terms of "estimated live weights" which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on a "whole weight" basis, and molluscs (edible) on a "gross (in-shell) weight basis". The figures of pearl-shell and trochus-shell refer to the actual quantities of dry shell for sale and exclude the weight of the fish.

The catch is generally shown according to the State in whose waters it was taken. However, a quantity of sharks and crayfish taken by Victorian-based fishermen in Tasmanian waters, but marketed in Victoria, is included in the Victorian catch, since the economy of that State is most directly affected. Similarly, pearl-shell taken by Queensland luggers operating in Northern Territory waters is included in the Queensland take. Pearl-shell taken by Japanese fishermen operating in Australian waters is excluded from Australian production figures, although the quantities taken are shown as a footnote to the table on page 1030.



## § 2. The Fishing and Whaling Industries.

1. **Resources and Fishing Areas.**—(i) *Fish.* The waters surrounding the Australian continent contain a great variety of marine fauna. Despite this, the fish stocks in Australian waters, with the exception of a few species, are small by comparison with the stocks in the Northern Hemisphere, which supplies most of the world production. Nevertheless, the Australian catch is low, even after making allowance for the smaller resources available, and the estimated consumption of fish in Australia per head of population is small. Consequently, with the exception of crayfish, there is not the pressure on resources necessary to induce expansion in the fishing industry and to encourage the investment of large amounts of capital. On the other hand, even this somewhat restricted Australian demand for fish is not met from purely local sources of supply, and large quantities of fish are imported each year. This is explained by the fact that the fisheries in the estuaries of the Australian coasts (the so-called estuarine fisheries) and those offshore for fish that dwell on the bottom of the sea (the demersal fisheries) have been over-exploited, with a consequent diminution of stocks. On the other hand, of those species of fish which have their environment near the surface of the sea (the pelagic fish), some have been continuously exploited, while others of value to Australia are still comparatively unexploited. It can be anticipated that the greatest future development of the Australian fishing industry will take place in the pelagic fisheries. However, no great contribution to the supplies of fresh fish can be expected from this source since most of the pelagic species caught are canned or processed.

The principal fishing areas at present are the coastal lakes, streams, estuaries and beaches which are for the most part associated with coastal streams. The offshore demersal grounds fall into two classes—(a) the reefs extending virtually right around Australia, from which cod, snapper, etc., are taken, and (b) the grounds from which flathead, morwong, etc., are taken. The flathead grounds lie on the continental shelf off south-east Australia, chiefly from Port Macquarie to south of Gabo Island and off the eastern Tasmanian coast. The demersal shark grounds lie principally in Bass Strait and on the continental shelf off eastern South Australia. Other demersal grounds also exist in the Great Australian Bight and off the southern part of Western Australia.

The grounds of existing pelagic fisheries include those for tuna which is taken in commercial quantities off the New South Wales and South Australian coasts. Barracouta is taken in Bass Strait and off eastern Tasmania. Spanish mackerel is found off the north-eastern coast from about Coff's Harbour to Cairns, and along the northern and north-western coast of Australia.

(ii) *Crustaceans.* Of the crustaceans exploited in Australia, crayfish is the most important and is taken on reefs of the continental shelf in the waters of all States. Considerable development has taken place in the crayfish fisheries, particularly in Western Australian, South Australian and Tasmanian waters, owing to the large market which has been established in the United States of America for these crustaceans. Crabs of various species are found in practically all coastal waters, while prawns are taken in the temperate waters of Queensland, New South Wales and Western Australia. Lobsters are caught in some freshwater streams of New South Wales.

(iii) *Molluscs (Edible).* In the mollusc group, edible oysters of various species are distributed around the entire Australian coastline. Oysters are taken in all States, with the exception of South Australia, and in the Northern Territory, but their commercial cultivation is restricted mainly to New South Wales. Until 1956, scallops were taken commercially only in Tasmanian waters, but since then they have been taken also in Queensland and Western Australia. Small quantities of other molluscs are also taken in some States.

(iv) *Pearl-shell and Trochus-shell.* Australia is the world's largest producer of pearl-shell, which is fished from Cairns in northern Queensland round the north coast of Australia to Exmouth Gulf in Western Australia. Trochus-shell is obtained from Mackay in Queensland to King Sound in Western Australia.

(v) *Whales.* Baleen whales, particularly the humpback whale, migrating from Antarctic waters to their breeding grounds in the warmer waters of low latitudes, pass up both the western and eastern coasts of Australia, returning to the Antarctic in the spring. Two whaling stations operate in Western Australia, one in New South Wales, and one in Queensland.

The company operating in New South Wales also operates a station at Norfolk Island. In addition to baleen whales, one of the two Western Australian stations also processes sperm whales, which are taken off the south-west coast of that State throughout the year.

2. *Persons Engaged.*—Particulars collected in the Population Censuses of Australia at 30th June, 1947 and 1954, showing the numbers of persons whose "industry" was stated to be "fishing and whaling", were included in previous issues of this Year Book. Corresponding particulars from the Census of 30th June, 1961, are not yet available.

Particulars of the number of persons engaged in the fishing industry, as shown in licensing records of the various States, are included in § 7, page 1039.

3. *Value of Production.*—(i) *General.* Although statistics of the value of production of the fishing industry have been on an established basis for some years, the actual collection of statistics of the quantity of fish taken presents many difficulties, and, consequently, any defects which may occur in the quantities must necessarily be reflected in the value of production. Statistics of both the gross value (at principal markets) and local value (at place of production) of the fishing industry are available. Particulars of the value of materials used in the process of production are not available for all States, so that value of production cannot be stated on a net basis as has been done with most other industries.

In 1960–61, the local value of fishing and whaling amounted to £12,813,000. The most important State was Western Australia with £4,220,000, followed by New South Wales with £3,299,000.

(ii) *Gross and Local Values, 1960–61.* Values of fishing and whaling production for each State are shown for 1960–61 in the following table. A more detailed reference to the value of production of fishing and whaling and other industries in Australia, as well as a brief explanation of the terms used, is included in Chapter XXX.—Miscellaneous.

## GROSS AND LOCAL VALUE OF PRODUCTION: FISHING AND WHALING, 1960-61.

(£'000.)

State or Territory.	Gross Value (Gross Production Valued at Principal Markets).	Marketing Costs.	Local Value (Gross Production Valued at Place of Production).
New South Wales .. ..	3,847	548	3,299
Victoria .. ..	2,064	277	1,787
Queensland .. ..	1,588	216	1,372
South Australia .. ..	1,425	188	1,237
Western Australia .. ..	4,285	65	4,220
Tasmania .. ..	960	147	813
Northern Territory .. ..	85	(a)	85
<b>Australia .. ..</b>	<b>14,254</b>	<b>1,441</b>	<b>12,813</b>

(a) Not available.

(iii) *Local Values, 1956–57 to 1960–61.* In the following table, the local value of fisheries production and the local value per head of population are shown by States for the years 1956–57 to 1960–61. Because the value of materials used in the course of production is not available for all States, it is not possible to show a comparison of net values.

## LOCAL VALUE OF FISHING AND WHALING PRODUCTION.

Year.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Australia (a)
LOCAL VALUE. (£'000.)							
1956-57 .. ..	2,939	1,178	1,575	1,295	2,737	609	10,506
1957-58 .. ..	2,792	1,104	1,542	1,074	3,226	508	10,402
1958-59 .. ..	2,947	1,265	1,343	1,071	3,867	664	11,243
1959-60 .. ..	3,101	1,771	1,448	975	4,276	683	12,325
1960-61 .. ..	3,299	1,787	1,372	1,237	4,220	813	12,813

LOCAL VALUE PER HEAD OF POPULATION.  
(£.)

1956-57 .. ..	0.8	0.4	1.1	1.5	4.0	1.9	1.1
1957-58 .. ..	0.8	0.4	1.1	1.2	4.7	1.5	1.1
1958-59 .. ..	0.8	0.5	0.9	1.2	5.5	2.0	1.1
1959-60 .. ..	0.8	0.6	1.0	1.0	6.0	2.0	1.2
1960-61 .. ..	0.8	0.6	0.9	1.3	5.8	2.3	1.2

(a) Includes Northern Territory.

## § 3. Fisheries Production.

1. Summary of Production of Fisheries.—The following table shows the production and gross values of the various fisheries products by States for the year 1960-61.

FISHERIES PRODUCTION: QUANTITY AND GROSS VALUE OF CATCH,  
1960-61.

Particulars.	Unit.	N.S.W.	Vic.(a)	Q'ld.	S.A.	W.A.	Tas.(a)	N.T.	Aust.
Fish(b)—									
Estimated Live Weight	'000 lb.	30,266	14,772	7,421	13,357	9,484	3,361	436	79,097
Gross Value ..	£'000.	2,283	1,559	472	805	600	175	40	5,934
Crustaceans—									
Gross Weight ..	'000 lb.	3,536	2,077	4,136	3,721	18,173	3,167	..	34,810
Gross Value ..	£'000.	660	485	493	620	3,025	554	..	5,837
Molluscs—									
Gross (in-shell) Weight	'000 lb.	c 13,296	719	1,909	..	583	5,301	..	21,808
Gross Value ..	£'000.	(c) 873	21	70	..	33	186	..	1,183
Pearl-shell(d)(e)—									
Weight ..	'000 lb.	..	..	1,821	..	1,270	..	222	3,313
Gross Value ..	£'000.	..	..	409	..	270	..	45	724
Trochus-shell(d)—									
Weight ..	'000 lb.	..	..	309	..	10	..	..	319
Gross Value ..	£'000.	..	..	26	..	1	..	..	27

(a) The catch by Victorian fishermen in Tasmanian waters, comprising 1,040,000 lb. estimated live weight of shark valued at £81,000 and 804,000 lb. crayfish valued at £187,000, is included in Victoria. (b) Includes quantity and value of shark livers for oil extraction; excludes freshwater fish caught in Queensland, particulars of which are not available. (c) Excludes pipis, particulars of which are not available for publication. (d) Western Australia, season ended December, 1960; Queensland and Northern Territory, season ended January, 1961. (e) Excludes 860,000 lb. of pearl-shell taken by Japanese pearl-ers operating in Australian waters. Shell taken by Queensland luggers operating in Northern Territory waters is included in Queensland.

In the table below, corresponding particulars are shown for the years 1956-57 to 1960-61.

**FISHERIES PRODUCTION : QUANTITY AND GROSS VALUE OF CATCH,  
AUSTRALIA.**

Particulars.	Unit.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Fish(a)—</b>						
Estimated Live Weight .. ..	'000 lb.	75,379	71,973	74,383	78,097	79,097
Gross Value .. ..	£'000.	5,711	5,228	5,294	5,851	5,934
<b>Crustaceans—</b>						
Gross Weight .. ..	'000 lb.	24,815	27,504	33,971	36,816	34,810
Gross Value .. ..	£'000.	3,284	3,772	4,585	5,561	5,837
<b>Molluscs(b)—</b>						
Gross (in-shell) Weight .. ..	'000 lb.	17,444	14,905	17,955	19,204	21,808
Gross Value .. ..	£'000.	861	825	1,037	1,089	1,183
<b>Pearl-shell(c)—</b>						
Weight .. ..	'000 lb.	3,724	4,102	2,890	2,408	3,313
Gross Value .. ..	£'000.	1,006	995	561	558	724
<b>Trochus-shell—</b>						
Weight .. ..	'000 lb.	1,911	1,229	916	869	319
Gross Value .. ..	£'000.	357	184	106	78	27

(a) Includes quantity and value of shark livers for oil extraction; excludes freshwater fish caught in Queensland in 1960-61 particulars of which are not available. (b) Excludes pipis in New South Wales for all years, scallops in Western Australia and oysters in Northern Territory for years prior to 1960-61, and oysters in Western Australia for years prior to 1959-60. (c) Excludes pearl-shell taken by Japanese pearl-ers operating in Australian waters. For particulars of quantities taken by these pearl-ers see footnote (e) to table on page 1030.

2. Fish.—The development of Australian fisheries proper has almost invariably occurred in the same sequence at each centre. The earliest fisheries were on-shore, followed by demersal reef fishing using long lines. Trawling operations then followed line fishing in suitable areas, and more recently the exploitation of pelagic fisheries has commenced.

The first major development of the demersal fishing industry came with the institution of trawling operations off the New South Wales coast in 1918, firstly by the New South Wales Government and later by private enterprise, and the fleet of vessels rapidly expanded. In recent years, the number of Danish seine vessels has continued to increase, particularly after the introduction of an improved multi-purpose type of vessel which can be used for tuna fishing as well as for seine trawling. Although steam trawlers based in Sydney formed an important part of the fleet in earlier years, only one boat of this type is still operating. A large diesel-powered trawler, based on Adelaide, now operates in the Great Australian Bight.\* Since 1930, fishing for school and gummy shark has rapidly extended its area of operations, particularly off the Victorian and Tasmanian coasts. A great impetus was given to this fishery during the war by the demand for livers for fish oil production for medicinal purposes. This demand, however, eased with the return of cod-liver oil and availability of synthetic vitamin "A".

As far as pelagic fisheries are concerned, the growth of the Australian tuna fishing industry has been substantial in recent years. Prior to 1959-60, mullet, shark and Australian salmon were the species of fish taken in greatest quantities. After the introduction of the pole fishing method in 1950, however, the catch of tuna increased considerably and by 1959-60 the tuna industry had grown to such an extent that the total catch at 9.8 million lb. estimated live weight was in excess of shark (7.6 million lb.) and Australian salmon (6.6 million lb.) thus placing the size of the catch second to that of mullet. Practically all the tuna catch was canned.

The demand justifying an increased production of other pelagic fish, such as pilchards, sprats, jack mackerel and anchovies, has not been as encouraging as that for tuna. With pilchards caught in southern waters of Australia and sprats taken in Tasmanian waters, there is usually some difficulty in finding a market. Considerable quantities of young jack mackerel, taken off the east coast of Tasmania and off Eden in New South Wales, are used as bait in tuna fishing. Anchovies caught by Victorian fishermen are used for manufacturing fish paste.

In the following table, total Australian recorded production of the main types of fish caught is shown by States in terms of estimated live weight for the year 1960-61.

\* This trawler has since been sold, because catches were not large enough to justify continuance of trawling in that area.

**FISH: PRODUCTION BY TYPE, 1960-61.**  
(\*000 lb. estimated live weight.)

Type.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	N.T.	Aust.
<b>Marine Types—</b>								
Mullet .. ..	5,937	710	2,712	612	1,375	12	4	11,362
Tuna .. ..	4,727	33	8	4,961	26	9	3	9,767
Shark .. ..	1,512	(a)2,974	39	1,682	459	(a) 969	1	7,636
Australian Salmon	1,538	1,050	..	740	2,101	1,201	..	6,630
Barracouta .. ..	3	5,154	..	..	(b)	824	..	5,981
Flathead .. ..	3,026	1,880	140	..	21	74	(b)	5,141
Snapper .. ..	1,903	132	93	571	1,985	..	..	4,684
Whiting .. ..	293	537	441	1,475	521	..	(b)	3,267
Leatherjacket	2,434	33	(b)	..	49	(b)	..	2,516
Morwong .. ..	1,827	138	..	286	2	5	..	2,258
Mackerel .. ..	224	..	1,408	..	145	1	1	1,779
Tailor .. ..	407	..	871	..	129	..	..	1,407
Garfish .. ..	190	310	94	585	79	56	1	1,315
Ruff .. ..	..	6	..	365	917	..	..	1,288
Bream .. ..	635	225	217	65	93	(b)	1	1,236
Luderick .. ..	1,046	39	11	..	..	..	..	1,096
Other .. ..	3,797	1,321	1,387	1,415	1,582	210	425	10,137
<b>Total Marine</b> .. ..	<b>29,499</b>	<b>a 14,542</b>	<b>7,421</b>	<b>12,757</b>	<b>9,484</b>	<b>(a)3,361</b>	<b>436</b>	<b>77,500</b>
<b>Freshwater Types</b> .. ..	<b>767</b>	<b>230</b>	<b>(c)</b>	<b>600</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>(d)1,597</b>
<b>Total</b> .. ..	<b>30,266</b>	<b>a 14,772</b>	<b>7,421</b>	<b>13,357</b>	<b>9,484</b>	<b>(a)3,361</b>	<b>436</b>	<b>d 79,097</b>

(a) 1,040,000 lb. taken by Victorian fishermen in Tasmanian waters is included in Victoria.  
 (b) Less than 500 lb. (c) Not available. (d) Excludes freshwater fish caught in Queensland, particulars of which are not available.

The production of these more common types of fish is shown in the following table for the years 1956-57 to 1960-61.

**FISH: PRODUCTION BY TYPE, AUSTRALIA.**  
(\*000 lb. estimated live weight.)

Type.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>Marine Types—</b>					
Mullet .. ..	11,244	11,566	14,063	12,340	11,362
Tuna .. ..	2,262	3,230	5,493	7,099	9,767
Shark .. ..	8,438	8,241	7,375	8,457	7,636
Australian Salmon	12,164	10,561	8,543	7,601	6,630
Barracouta .. ..	5,468	3,903	4,300	5,871	5,981
Flathead .. ..	5,015	4,108	4,599	4,902	5,141
Snapper .. ..	3,427	3,144	3,115	4,602	4,684
Whiting .. ..	2,680	3,000	2,990	3,297	3,267
Leatherjacket .. ..	1,885	1,658	1,866	2,476	2,516
Morwong .. ..	3,895	3,103	2,572	2,329	2,258
Mackerel .. ..	1,492	1,734	2,193	1,641	1,779
Tailor .. ..	1,185	894	845	1,199	1,407
Garfish .. ..	1,633	1,139	1,079	1,024	1,315
Ruff .. ..	1,918	1,563	1,860	1,506	1,288
Bream .. ..	982	1,064	1,207	1,123	1,236
Luderick .. ..	897	1,025	1,063	1,199	1,096
Other .. ..	8,960	9,815	8,927	9,819	10,137
<b>Total Marine</b> .. ..	<b>73,545</b>	<b>69,748</b>	<b>72,090</b>	<b>76,485</b>	<b>77,500</b>
<b>Freshwater Types</b> .. ..	<b>1,834</b>	<b>2,225</b>	<b>2,293</b>	<b>1,612</b>	<b>(a) 1,597</b>
<b>Total</b> .. ..	<b>75,379</b>	<b>71,973</b>	<b>74,383</b>	<b>78,097</b>	<b>(a) 79,097</b>

(a) Excludes freshwater fish caught in Queensland, particulars of which are not available.

Total production of fish by States for the years 1956-57 to 1960-61 is shown in the following table.

## FISH: PRODUCTION.

('000 lb. estimated live weight.)

State or Territory.	1956-57.	1957-58	1958-59.	1959-60.	1960-61.
New South Wales .. ..	28,992	27,926	29,632	29,716	30,266
Victoria(a) .. ..	14,112	13,305	11,685	15,397	14,772
Queensland .. ..	9,447	9,034	9,930	8,218 (b)	7,421
South Australia .. ..	9,688	9,591	9,990	11,006	13,357
Western Australia .. ..	9,545	9,783	10,114	10,255	9,484
Tasmania(a) .. ..	3,416	2,174	2,797	3,173	3,361
Northern Territory .. ..	179	160	235	332	436
<b>Australia .. ..</b>	<b>75,379</b>	<b>71,973</b>	<b>74,383</b>	<b>78,097</b>	<b>79,097</b>

(a) Catch by Victorian fishermen in Tasmanian waters is included in Victoria. (b) Excludes freshwater fish, particulars of which are not available.

3. Crustaceans.—In terms of gross value of catch, the importance of crustaceans has increased in recent years, and in 1960-61 was nearly equal to that of fish. The crayfish, which is caught in pots or traps in all States, is the most important crustacean. Crayfish fisheries have been developed greatly since the 1939-45 War in order to take advantage of the market in the United States of America for frozen crayfish tails. The total catch increased from approximately 3 million lb. in 1945-46 to more than 27 million lb. in 1960-61. Of the total catch in 1960-61, Western Australia produced about 66 per cent.

Prawns are taken by otter trawl, mainly in Queensland and New South Wales. In 1960-61, Queensland accounted for 54 per cent. of the total catch and New South Wales for 45 per cent.

Approximately three-quarters of Australia's production of crabs is taken from Queensland waters, and nearly all the remainder is caught in New South Wales.

Commercial lobster production, apart from the Queensland shovel-nosed lobster, which is scientifically classified as a crayfish, is restricted to a single freshwater species, *Euastacus serratus*, from some New South Wales streams.

Details of the production of crustaceans are shown by States in the table below on a whole weight basis for the year 1960-61.

## CRUSTACEANS: PRODUCTION BY TYPE, 1960-61.

('000 lb. whole weight.)

Type.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Aust.
Crayfish .. (a)	476	(b) 2,070	(c) 41	3,721	18,019	(b) 3,167	27,494
Prawns ..	2,916	7	3,500	..	106	..	6,529
Crabs ..	144	..	595	..	48	..	787
<b>Total ..</b>	<b>3,536</b>	<b>(b) 2,077</b>	<b>4,136</b>	<b>3,721</b>	<b>18,173</b>	<b>(b) 3,167</b>	<b>34,810</b>

(a) Includes catch of freshwater lobster (9,000 lb. in 1960-61). (b) The catch of crayfish by Victorian fishermen in Tasmanian waters (804,000 lb. in 1960-61) is included in Victoria. (c) For years prior to 1960-61, the catch was made up entirely of shovel-nosed lobster (*Thenus orientalis*). In 1960-61, the catch was made up of crayfish, 26,000 lb., and shovel-nosed lobster, 15,000 lb.

The following table contains details of production of crustaceans in Australia for the years 1956-57 to 1960-61.

**CRUSTACEANS: PRODUCTION BY TYPE, AUSTRALIA.**

(<sup>'000</sup> lb. whole weight.)

Type.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Crayfish(a) .. ..	18,905	21,991	26,314	28,023	27,494
Prawns .. .. .	5,075	4,687	6,751	7,749	6,529
Crabs .. .. .	835	826	906	1,044	787
<b>Total .. ..</b>	<b>24,815</b>	<b>27,504</b>	<b>33,971</b>	<b>36,816</b>	<b>34,810</b>

(a) Includes freshwater lobster caught in New South Wales.

4. **Molluscs (edible).**—Initially the Australian oyster fisheries depended solely upon the harvesting of naturally grown stock in littoral and submarine areas. However, the stocks soon deteriorated and attention was turned to methods of cultivation. Commercial oyster farming is carried on mainly in New South Wales, where there has been constant improvement in methods and the present technique in certain areas is highly efficient. In 1960-61, New South Wales provided more than 93 per cent. of the Australian production.

Scallops are taken by dredge in Tasmanian waters and by trawl in Queensland waters. Tasmania is the principal producing State and in 1960-61 contributed 77 per cent. of the recorded Australian production.

Of the other molluscs taken, squid is the most important. Smaller quantities of cuttlefish, octopus, mussels, abalone and pipi have been taken from time to time.

Details of the production of molluscs are shown by States in the table below on a gross (in-shell) weight basis for the year 1960-61.

**MOLLUSCS: PRODUCTION BY TYPE, 1960-61.**

(<sup>'000</sup> lb. gross (in-shell) weight.)

Type.	N.S.W.	Victoria.	Queensland.	Western Australia.	Tasmania.	Australia.
Oysters .. ..	13,296	162	242	515	5	14,220
Scallops .. ..	..	..	1,600	..	5,296	6,896
Squid .. .. .	..	141	67	20	..	228
Cuttlefish ..	..	..	..	34	..	34
Octopus .. ..	..	22	..	14	..	36
Pipis .. .. .	(a)	..	..	..	..	(a)
Mussels .. ..	..	394	..	..	..	394
<b>Total .. ..</b>	<b>(b) 13,296</b>	<b>719</b>	<b>1,909</b>	<b>583</b>	<b>5,301</b>	<b>(b) 21,808</b>

(a) Not available for publication.

(b) Excludes pipi production in New South Wales.

The table below shows details of the total production of edible molluscs in Australia for the years 1956-57 to 1960-61.

## MOLLUSCS: PRODUCTION BY TYPE, AUSTRALIA.

('000 lb. gross (in-shell) weight.)

Type.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Oysters .. ..	(a) 10,264	(a) 10,562	(b) 12,885	(c) 12,690	14,220
Scallops .. ..	7,074	(a) 4,207	(a) 4,786	(a) 6,105	6,896
Squid .. .. .	106	134	225	210	228
Cuttlefish .. .	..	..	57	60	34
Octopus .. ..	..	..	2	52	36
Abalone .. ..	..	2	..	..	..
Pipis .. .. .	(d)	(d)	(d)	(d)	(d)
Mussels .. ..	..	..	..	87	394
<b>Total(e) .. .</b>	<b>17,444</b>	<b>14,905</b>	<b>17,955</b>	<b>19,204</b>	<b>21,808</b>

(a) Excludes Western Australia.  
(c) Excludes Northern Territory.  
notes to individual types.

(b) Excludes Western Australia and Northern Territory.  
(d) Not available for publication. (e) Incomplete; see

5. Pearl-shell and Trochus-shell.—Pearl-shell and trochus-shell are taken from tropical waters of Australia, mostly during the period from April to January. In Western Australia, annual production is recorded for the year ended December, while in Queensland and Northern Territory the annual production is recorded for the year ended January. Statistics in this chapter are these annual production figures related to the financial year ending 30th June following the close of the season.

Australia's pearling industry, which ceased operations on Japan's entry into the war in December, 1941, was faced at the end of hostilities not only with a shortage of ships and gear but also with the scarcity of expert labour, particularly divers. Before the war, a large proportion of the key men were Japanese; others included Malays, Chinese, Koepangers, Filipinos, Papuans and Torres Strait Islanders. The Commonwealth Government, with the view of overcoming this shortage, permitted in 1953 the employment of 35 Japanese divers, tenders and engineers in Australian luggers. At 31st January, 1961, the number of Japanese, employed mainly in Western Australia and in the Northern Territory, was 126, out of a total number of 995 employed in the industry. Queensland, with a more ready source of labour from Torres Strait Islands, was able to expand its fishing more rapidly, and in the 1949 season achieved its highest post-war production of 1,191 tons. At 31st January, 1961, Queensland pearl-ers employed 487 Torres Strait Islanders in its total personnel of 654. Torres Strait Islanders therefore represented almost half of the total number of 995 employed in the Australian pearl-fishing industry at that date.

Australia's pearl-fishing takes place offshore to the 25 fathom line. In September, 1953, following the arrival of a Japanese pearl-fishing fleet in Australian waters, the Commonwealth Pearl Fisheries Act 1952-1953 was brought into operation. This Act aims at the management of the pearl-shell resources in accord with Australia's proclamation of sovereign rights over the natural resources of the sea bed and subsoil to the 100 fathom line. Japan disputed Australia's right to apply this legislation to foreign ships, and Australia agreed to refer the dispute to the International Court of Justice on condition that meanwhile Japanese pearling in Australian waters would be conducted in conformity with the Australian Government's policy of regulation and conservation, and that Japan would abide by the Court's decision. On these conditions, a Japanese pearling fleet has operated in prescribed waters since 1954. No pronouncement has yet been made by the International Court of Justice on the dispute.

In 1960-61, Australian production of pearl-shell and trochus-shell was 3,313,000 lb. and 319,000 lb. respectively. In addition, Japanese pearl-ers took 860,000 lb. of pearl-shell from Australian waters, but as this was not landed in Australian ports it is not regarded as Australian production. The seasons of highest recorded production of pearl-shell have been—Queensland, 3,200,000 lb. in 1929; Western Australia, 4,480,000 lb. in 1917; and Northern Territory, 1,800,000 lb. in 1937.



In the following table, particulars of the quantity of pearl-shell and trochus-shell produced are shown for the years 1956-57 to 1960-61.

**PEARL-SHELL AND TROCHUS-SHELL: PRODUCTION.**

(<sup>0</sup>000 lb.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Pearl-shell(a)—					
Queensland(b) .. ..	1,127	1,131	889	1,082	1,821
Western Australia(c) ..	2,012	2,218	1,687	1,138	1,270
Northern Territory(b) ..	585	753	314	188	222
Australia .. ..	<b>3,724</b>	<b>4,102</b>	<b>2,890</b>	<b>2,408</b>	<b>3,313</b>
Trochus-shell—					
Queensland(b) .. ..	1,900	1,207	887	847	309
Western Australia(c) ..	11	22	29	22	10
Australia .. ..	<b>1,911</b>	<b>1,229</b>	<b>916</b>	<b>869</b>	<b>319</b>

(a) Excludes pearl-shell taken by Japanese pearl-ers operating in Australian waters. The quantities taken were as follows:—1956-57, 1,458,000 lb.; 1957-58, 1,572,000 lb.; 1958-59, 1,064,000 lb.; 1959-60 763,000 lb.; 1960-61, 860,000 lb. (b) Season ended January of years shown. Shell taken by Queensland luggers operating in Northern Territory waters is included in Queensland. (c) Season ended December of years shown.

Complete particulars are not available of the production of natural pearls in Australia.

In 1956, the production of cultured pearls was introduced into Australia, with the establishment of a station at Augustus Island, off the northern coast of Western Australia. This station was later moved to Kuri Bay (Brecknock Harbour). This station, 130 miles north-east of Derby, produced its first crop of high quality pearls in 1958. Following the success of the operations at Kuri Bay, four culture farms have commenced operations in Queensland and one in Western Australia. Particulars of the production of cultured pearls are not available for publication.

Exports of pearls from Australia were valued at £158,000 in 1960-61, including cultured, £67,000.

#### § 4. Marketing and Distribution of Fish.

Most of the fish taken in Australian waters is sold in the metropolitan markets, although many of the fisheries are considerably distant from these centres. The arrangements for marketing of fresh fish vary from State to State, and in some cases the State Government exercises a certain amount of control.

In New South Wales, marketing of fish is controlled by the Chief Secretary. The bulk of the State's catch is sold through the Sydney market, owned by municipal authorities but controlled by the Chief Secretary. A small branch market operates in Wollongong, and the eighteen fishermen's co-operatives market fish in their own regions also. By law, all fish for human consumption must be sold through a recognized market (i.e. Sydney, Wollongong or the co-operatives), unless ministerial consent for direct sale to consumers has been obtained.

In Victoria, there are no fish marketing regulations, and most of the catch, as well as considerable quantities of interstate fish, is sold by agents at the main Melbourne market, owned and controlled by the City of Melbourne. In addition, the fishermen's co-operatives engage in the wholesale and retail sale of fish within their own areas.

In Queensland, the Government Fish Board controls all marketing and, in addition to the main Brisbane market, regulates the sale of fish through eighteen coastal markets and eight agencies extending along the coast from Southport to Port Douglas.

In South Australia, the Adelaide city fish market, the only one in the State, is owned and operated by the South Australian Fishermen's Co-operative. Of the total State catch, approximately 80 per cent. is handled by the co-operative, the balance being sold privately either to local or to interstate fish agents.

In Western Australia, the Perth market is established as a government instrumentality, but handles only a portion of the fish offered for sale in the main metropolitan area. Besides this, there are two other markets in Fremantle. One is conducted by the local fishermen's co-operative and the other by a private concern. Both are erected on land leased from the Crown. Outside the main metropolitan area, marketing is conducted on a more or less private basis.

In Tasmania, there is no established market, and the sale of fish is conducted on a private basis with fish agents playing a considerable part in the disposal of fish locally and to the mainland.

§ 5. Freezing, Processing and By-products.

1. Freezing.—Cold storage facilities, which were rather inadequate in the past, have in most States been improved and increased in recent years. In Queensland and New South Wales particularly, most depots which have been established at fishing ports have now been equipped with cold storage space. In several States, there has been a development of establishments equipped for snap freezing of fish, in particular the freezing of crayfish tails, prawns and scallops for export. In Western Australia, 41 vessels have been equipped with freezing plants to process crayfish at sea.

2. Processing.—The attempt to establish the fish preserving industry at the commencement of this century met with little success, although a bounty was paid to encourage production. The industry, however, continued to operate, but there was no marked development until after the 1939-45 War. Production of canned fish in 1960-61 was 8,212,000 lb.

In addition to the fish canned in 1960-61, 252,000 lb. of smoked fish, 1,193,000 lb. of fish paste, more than 7,500,000 lb. of frozen crayfish tails and whole cooked crayfish for export, and a considerable quantity of quick-frozen fish for the local market were produced.

In 1939, New South Wales and Tasmania were the only States canning fish, but the industry has since been extended to Victoria, South Australia and Western Australia. Details of production are given in the following table for the years 1956-57 to 1960-61.

FISH PROCESSING (EXCEPT FREEZING): AUSTRALIA.  
(‘000 lb.)

Particulars.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Number of Factories .. ..	13	14	18	19	18
Fish Used (a)—					
Whole .. .. .	8,072	9,293	10,603	12,507	15,211
Headed and/or Gutted .. ..	7,356	5,600	4,825	3,773	3,758
Estimated Live Weight Equivalent (b) .. .. .	16,700	15,900	16,300	16,900	19,600
Production—					
Canned Fish (c)—					
Australian Salmon .. .. .	(d)	5,198	4,756	4,559	3,480
Tuna .. .. .	(d)	1,300	1,609	1,986	3,070
Other .. .. .	(d)	1,358	1,418	1,573	1,647
Total .. .. .	8,268	7,856	7,783	8,118	8,197
Canned Oysters and Clams .. ..	(e)	(e)	(e)	(e)	(e)
Canned Prawns .. .. .	(e)	(e)	(e)	(e)	(e)
Canned Lobsters (incl. Crayfish) ..	(e)	(e)	(e)	(e)	(e)
Smoked Fish .. .. .	487	439	286	296	301
Fish Paste .. .. .	1,266	1,700	1,314	1,379	1,261
Fish Meal(f) .. .. .	1,840	1,294	1,442	1,718	2,041

(a) Fish used for canning (including fish loaf), smoking and the manufacture of fish paste, but excluding the weight of oysters, other shellfish and crustaceans used for canning. (b) The weight of headed and/or gutted fish is taken as 85 per cent. of live weight. (c) Includes fish loaf, fish cakes, etc. (d) Not available. (e) Not available for publication. (f) Excludes whale meal.

The varieties canned in the several States differ according to the species caught, but complete details for each variety are not available. Tuna is the principal variety canned in New South Wales and South Australia, while barracouta is of major importance in Victoria and Tasmania. The greater proportion of fish canned in Western Australia is Australian salmon.

3. **By-products.**—Processing of offal for fish-meal, etc., has been established in certain States. The processing of livers for vitamin-rich oils was undertaken in several States but, as mentioned in § 3, para. 2, page 1031, production has fallen to a low level in recent years.

### § 6. Consumption of Fish.

Particulars of the estimated supplies of fish, crustaceans and molluscs available for consumption per head of population, in terms of edible weight, are included in the table below for the years 1956–57 to 1960–61. For the purpose of compiling this table, the non-commercial fish catch has been estimated at ten per cent. of the recorded catch.

#### ESTIMATED SUPPLIES OF FISHERIES PRODUCTS AVAILABLE FOR CONSUMPTION: AUSTRALIA.

(lb. edible weight per head per annum.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
<b>Fresh or Frozen—</b>					
<b>Fish—</b>					
Australian Origin .. ..	3.3	3.1	3.1	3.2	3.1
Imported .. ..	1.8	2.1	2.2	3.2	3.0
Crustaceans and Molluscs .. ..	0.9	0.8	0.9	1.0	1.2
Cured (incl. Smoked and Salted) .. ..	0.5	1.3	0.8	1.1	1.1
<b>Canned—</b>					
Australian Origin .. ..	0.8	0.7	0.8	0.8	0.7
Imported .. ..	1.7	1.8	1.7	2.0	2.6
<b>Total .. ..</b>	<b>9.0</b>	<b>9.8</b>	<b>9.5</b>	<b>11.3</b>	<b>11.7</b>

### § 7. Boats and Equipment.

The boats used for the inshore and estuary fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The fishing gear used includes mesh nets, beach seines, various types of pots and traps, trolling and hand lines, and small otter type prawn trawls. The offshore vessels range in length from 30 feet to approximately 100 feet, and are almost invariably powered by diesel engines. Many of them have insulated holds to carry fish in ice, while some of the crayfish boats are fitted with wells in which the catch is kept alive. Other vessels have dry or brine refrigeration.

Almost every type of fishing equipment is used. This includes otter trawls for fish and prawns, Danish seines, beach seines for Australian salmon, mullet and other species, beehive type pots for crayfish, traps for crayfish and reef fish, long lines for fish and edible shark, and trolling gear for pelagic fishes including spanish mackerel, barracouta and the tunas. Most of the tuna is now taken by the live bait pole fishing method, the bait fish generally being caught with a lampara net, although several of the larger vessels have employed small purse seine or ring nets very successfully for this purpose in recent years.

The following two tables show details of the number of boats, value of boats and equipment, and number of persons employed in the taking of fish, crustaceans, molluscs (edible), pearl-shell and trochus-shell, together with some other particulars of oyster fisheries. These details have been compiled from information supplied for licensing purposes.

It should be noted that the data shown are not comparable between States. In some States, besides professional full-time fishermen, amateur part-time fishermen are licensed and the figures shown are overstated to this extent. These data should not be used as a guide to the relative effort applied in obtaining the recorded catch. Figures for 1959-60 and 1960-61 are not all comparable with those for previous years for the following reasons: in Queensland, numbers of men employed and boats engaged now refer only to those licensed to take fish for sale, whereas previously all licensed men and boats were included; in South Australia, the value of boats and equipment has been adjusted upward compared with previous years.

**FISHERIES: BOATS AND EQUIPMENT IN USE AND PERSONS ENGAGED, ETC.,  
1960-61.**

Particulars.	Unit.	N.S.W.	Vic.	Qld.	S.A.	W.A. (a)	Tas.	N.T.	Aust.
<b>General Fisheries (b)(c)—</b>									
Boats Engaged ..	No.	2,359	714	1,476	1,650	1,053	477	27	7,756
Value of Boats and Equipment ..	£'000.	2,857	1,427	1,908	1,700	3,440	1,060	19	12,411
Persons Engaged ..	No.	2,327	993	2,126	6,452	1,923	1,070	64	14,955
<b>Edible Oyster Fisheries—</b>									
Boats Engaged ..	No.	1,398	9	38	..	3	1	..	1,449
Value of Boats and Equipment ..	£'000.	379	15	14	..	4	(e)	..	412
Persons Engaged ..	No.	712	9	89	..	10	2	..	822
Leases Granted ..	..	4,859	5	221	..	..	..	..	5,085
Length of Foreshore in Leases ..	'000 yds.	904	16	(f)	..	..	..	..	(g) 920
Area of Offshore Leases	Acres.	6,051	..	..	..	..	..	..	6,051
<b>Pearl, Pearl-shell and Trochus-shell Fisheries (h)—</b>									
Boats Engaged ..	No.	..	..	53	..	27	..	5	85
Value of Boats and Equipment ..	£'000.	..	..	286	..	151	..	30	467
Persons Engaged ..	No.	..	..	654	..	302	..	39	995
<b>Total. All Fisheries(c)—</b>									
Boats Engaged ..	No.	3,757	723	1,567	1,650	1,083	478	32	9,290
Value of Boats and Equipment ..	£'000.	3,236	1,442	2,208	1,700	3,595	1,060	49	13,290
Persons Engaged ..	No.	3,039	1,002	2,869	6,452	2,235	1,072	103	16,772

(a) Year ended 31st December, 1960. (b) Excludes edible oyster fisheries but includes crustacean and other mollusc fisheries. (c) See text above referring to comparison with years prior to 1939-60. (d) Includes licensed amateur fishermen. (e) Less than £500. (f) Not available. (g) Excludes Queensland. (h) Excludes Japanese pearling fleet which operated in Australian waters.

**FISHERIES: BOATS AND EQUIPMENT IN USE AND PERSONS ENGAGED, ETC.:  
AUSTRALIA.**

Particulars.	Unit.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
<b>General Fisheries(a)—</b>						
Boats Engaged .. .. .	No.	10,471	10,237	10,135	(b)7,890	(b) 7,756
Value of Boats and Equipment .. .. .	£'000.	7,039	7,476	8,344	b 10,762	(b)12,411
Persons Engaged .. .. .	No.	21,702	20,871	21,015	b 13,319	(b)14,955
<b>Edible Oyster Fisheries(c)—</b>						
Boats Engaged .. .. .	No.	1,031	1,070	1,122	1,213	1,449
Value of Boats and Equipment .. .. .	£'000.	164	171	(d) 377	368	412
Persons Engaged .. .. .	No.	870	909	812	917	822
Leases Granted .. .. .	"	5,452	5,042	4,965	4,897	5,085
Length of Foreshore in Leases(e) .. .. .	'000 yds.	970	893	867	860	920
Area of Offshore Leases ..	Acres.	6,037	5,415	5,508	5,537	6,051
<b>Pearl, Pearl-shell and Trochus-shell Fisheries(f)</b>						
Boats Engaged .. .. .	No.	150	151	110	85	85
Value of Boats and Equipment .. .. .	£'000.	826	790	647	515	467
Persons Engaged .. .. .	No.	1,742	1,487	1,419	1,120	995
<b>Total, All Fisheries(f)(g)—</b>						
Boats Engaged .. .. .	No.	11,652	11,458	11,367	9,188	9,290
Value of Boats and Equipment .. .. .	£'000.	8,029	8,437	9,368	11,645	13,290
Persons Engaged .. .. .	No.	24,314	23,267	23,246	15,356	16,772

(a) Excludes edible oyster fisheries, except in Tasmania for years prior to 1959-60, but includes crustacean and other mollusc fisheries. (b) Figures not comparable with those for previous years. See text preceding table on page 1039. (c) Excludes particulars for Western Australia and Tasmania for years prior to 1959-60 and for Northern Territory for all years except 1960-61. (d) Figures for years prior to 1958-59 exclude the value of stakes, timber frames, etc., used on oyster leases in New South Wales. (e) Excludes Queensland. (f) Excludes Japanese pearling fleet which operated in Australian waters. (g) Excludes particulars of edible oyster fisheries for Western Australia and Tasmania for years prior to 1959-60 and for Northern Territory for all years except 1960-61.

### § 8. Whaling.

The whaling industry was re-established in Australia in 1949, operations being carried out from shore-based stations. In that year, a station began operating at Point Cloates, Western Australia. The Australian Whaling Commission, established in 1949, built a station at Babbage Island near Carnarvon, Western Australia, and began operations towards the end of the 1950 season. In 1956, legislation was passed to dissolve the Commission and its assets were sold to the private company operating at Point Cloates. The operations of this company were transferred to Babbage Island and the Point Cloates station was closed in 1956. Other stations commenced operations in the following years: Cheynes Beach, near Albany (Western Australia), in 1952, Moreton Bay (Queensland) in 1952, Byron Bay (New South Wales) in 1954, and Norfolk Island in 1956.

Each of the stations operating is allowed a quota (in terms of humpback whales) determined by the Minister for Primary Industry, acting on the advice of the Secretary of the Department of Primary Industry, who represents Australia on the International Whaling Commission. This catch quota, which may not be exceeded, was introduced in Australia in 1951 and aims at conserving the stock of whales to enable the industry to continue on a stable basis.

Sperm whaling, which commenced in 1955 on an exploratory basis, is still being carried out on the Western Australian coast, but the catch of this species is not subject to the quotas determined.

There is no prescribed season for sperm whaling, but other details shown in the following table relate to seasons extending from 1st May to 31st October of each year.

#### WHALING STATISTICS: AUSTRALIA AND NORFOLK ISLAND.

(Source: Fisheries Division, Department of Primary Industry.)

Particulars.	Unit.	1957.	1958.	1959.	1960.	1961.
Seasonal Quota(a) .. ..	No.	1,960	1,960	2,080	1,850	1,560
Whales Taken and Processed(a)	"	(b)1,961	(c)1,812	(d)1,673	(e)1,530	1,482
Average Length of Whales Processed(f) .. ..	ft.	40.7	40.8	40.3	40.3	38.7
Average Production of Oil per Whale(f) .. ..	Barrel(g)	52.5	54.1	52.3	51.3	45.0
Persons Employed—						
At Sea(h) .. ..	No.	140	157	165	155	175
Ashore(h) .. ..	"	431	440	468	445	(f) 260
Whale Oil Produced—Quantity(f) .. ..	Barrel(g)	102,966	97,698	88,415	78,378	66,675
Whale Products—Value(f) ..	£'000.	2,205	1,866	1,727	1,453	1,304

(a) In terms of humpback whales. For quota purposes, 1 blue whale is taken as equivalent of 2 fin, 2½ humpback, 6 sei or 6 bryde whales. Sperm whales are not subject to quota restrictions. (b) Includes 1 humpback whale taken on special permit. (c) Includes 2 blue whales and 3 bryde whales. (d) Includes 12 blue whales and 1 fin whale. (e) Includes 2 blue whales. (f) Excludes sperm whales, particulars of which are not available for publication. (g) 6 barrels = 1 ton. (h) Estimated. (i) Personnel employed at the beginning of the season were considerably reduced as the season progressed.

### § 9. Inquiries and Research.

1. General.—Research into the Australian fishing industry has been directed mainly towards seeking an explanation of the very slow rate of development and the conditions prevailing within the industry, as well as the paucity of supplies available to the public. Details of the inquiries undertaken and the recommendations arising from them are given in Official Year Book No. 38, page 1082, and subsequent developments are outlined below.

2. **Commonwealth Scientific and Industrial Research Organization, Division of Fisheries and Oceanography.**—The work of this Division was referred to in earlier issues of the Official Year Book (*see* No. 47, p. 1029).

3. **Fisheries Division, Department of Primary Industry.**—The creation of the Fisheries Division of the Department of Primary Industry arose from a Tariff Board recommendation in 1941. Details of the establishment, organization and functions of the division, which was formerly known as the Commonwealth Fisheries Office, are given in Official Year Book No. 38, page 1084.

In accordance with the Tariff Board report, scientific research, as distinct from developmental and administrative functions, was left to the Commonwealth Scientific and Industrial Research Organization, which had established a Division of Fisheries for this purpose in 1937.

The Fisheries Division of the Department of Primary Industry is responsible for the development and administration of all forms of fishing in extra-territorial waters, commercial development of fisheries, management of marine resources (fishing, pearling and whaling), co-ordination of conservation measures imposed by the States and the Commonwealth, economic research statistics, and negotiations with foreign nations on fisheries matters, information and extensions.

4. **Fisheries Development Trust Account.**—In early 1956, the assets of the Australian Whaling Commission, an authority set up by the Commonwealth Government in 1949, were sold to private interests. The finance derived from the sale, authorized by the Fishing Industry Act 1956, was paid into a fund, known as the Fisheries Development Trust Account. Provision was made in the Act for the moneys to be used for the purposes of developing the fishing industry through research, direct financial assistance, the development of particular fisheries, training schemes, and the dissemination of information and advice through various publications and the press.

An Advisory Committee on fisheries development was formed to advise the Minister on specific projects for fisheries development. Projects which have so far been approved following recommendations by this committee include:—the purchase of a modern diesel trawler to investigate the commercial potentialities of trawling in the Great Australian Bight; a survey of the prawn resources off the east coast of Australia; a survey of the pilchard resources off the New South Wales coast; a barracouta survey in Bass Strait; a crayfish survey off the south coast of Western Australia; a tuna survey in Western Australian waters and a training school for fisheries field officers.

5. **North Australia Development Committee.**—Reference to the North Australia Development Committee was made in previous issues of the Official Year Book (*see* No. 47, p. 1030).

## § 10. Oversea Trade in Products of Fishing and Whaling.

1. **Imports of Fish.**—The value of edible fish and fish products imported in 1960–61 amounted to £9,693,000 compared with £8,047,000 in 1959–60.

Of the total quantity of 34.6 million lb. of fresh and frozen fish imported in 1960–61, South Africa contributed 12.9 million lb., United Kingdom 6.8 million lb., New Zealand 5.8 million lb., and Denmark 4.1 million lb. A quantity of 27.5 million lb. of canned fish and fish products was imported in 1960–61, and of this 9.0 million lb. originated in Japan, 6.9 million lb. in the United Kingdom and 4.2 million lb. in Canada. Particulars of the imports of fish and edible fisheries products are shown below for the years 1958–59 to 1960–61.

## IMPORTS OF FISH, CRUSTACEANS AND MOLLUSCS: AUSTRALIA.

Classification.	Quantity ('000 lb.).			Value (£'000.)		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Fresh or Frozen(a) .. ..	24,618	35,480	34,594	2,405	3,335	3,423
Smoked or Dried .. ..	6,284	9,206	8,695	491	704	692
Potted or Concentrated(b) .. ..	117	175	361	34	54	131
Canned—						
Herrings .. ..	4,008	5,237	7,427	443	586	821
Salmon .. ..	7,407	8,129	10,398	1,518	1,903	2,775
Sardines and Pilchards .. ..	4,456	6,148	7,598	829	1,058	1,241
Tuna .. ..	62	56	424	12	9	63
Other Fish .. ..	269	310	812	66	71	110
Crustaceans .. ..	449	354	544	171	130	238
Molluscs .. ..	145	179	290	23	40	60
<i>Total Canned</i> .. ..	<i>16,796</i>	<i>20,413</i>	<i>27,493</i>	<i>3,062</i>	<i>3,797</i>	<i>5,308</i>
Fisheries Products, not elsewhere included .. ..	..	..	..	148	157	139
<i>Total Fisheries Products</i> .. ..	..	..	..	<i>6,140</i>	<i>8,047</i>	<i>9,693</i>

(a) Excludes frozen smoked which is included with "Smoked or Dried". (b) Includes extracts and caviare.

2. Exports of Fish.—In 1960-61, exports of items other than crayfish remained at the low levels of earlier years, but crayfish still retained its relative importance, its value representing nearly 92 per cent. of the total value of fish, etc., exports. Nearly all of this was exported to the United States of America.

The following table shows details of the total exports of edible fisheries products (including those produced in other countries) from Australia for the years 1958-59 to 1960-61.

## EXPORTS OF FISH, CRUSTACEANS AND MOLLUSCS: AUSTRALIA.

Particulars.	Quantity ('000 lb.).			Value (£'000.)		
	1958-59.	1959-60.	1960-61.	1958-59.	1959-60.	1960-61.
Fresh or Frozen(a)—						
Crayfish tails .. ..	7,281	7,777	6,023	3,202	3,810	3,400
Crayfish, Whole Cooked .. ..	1,431	806	1,783	367	296	649
Other .. ..			1,773			269
Canned—						
Salmon .. ..	57	39	42	8	10	10
Other Fish .. ..	417	111	156	78	17	21
Crustaceans .. ..	58	73	95	15	23	42
Molluscs .. ..	14	33	6	3	15	3
<i>Total Canned</i> .. ..	<i>546</i>	<i>256</i>	<i>299</i>	<i>104</i>	<i>65</i>	<i>76</i>
Fisheries Products, not elsewhere included .. ..	..	..	..	2	25	4
<i>Total Fisheries Products</i> .. ..	..	..	..	<i>3,675</i>	<i>4,196</i>	<i>4,398</i>

(a) Excludes frozen smoked, which is included with "Fisheries Products, not elsewhere included".



**3. Imports and Exports of Unmanufactured Shell.**—Imports of unmanufactured shell include quantities of pearl, trochus and green snail shell from New Guinea, Papua and the Pacific Islands which are subsequently re-exported from Australia.

Imports of unmanufactured shell for the three years 1958–59 to 1960–61 were, respectively, 227,000 lb. (£44,000); 156,000 lb. (£18,000); and 114,000 lb. (£10,000). Exports during the same years were:—4,312,000 lb. (£832,000); 3,572,000 lb. (£752,000); and 3,629,000 lb. (£717,000). Pearl and trochus shell accounted for most of this, the quantity and value exported in 1960–61 being:—pearl-shell, 3,089,000 lb. (£661,000); trochus-shell, 519,000 lb. (£51,000).

**4. Imports and Exports of Marine Animal Oils.**—Imports of marine animal oils during the three years 1958–59 to 1960–61 were, respectively:—494,000 gals. (£232,000); 588,000 gals. (£266,000); 774,000 gals. (£338,000). Whale oil constituted the major part of these imports.

Of the total quantity of 486,000 gals. of whale oil imported in 1960–61, 348,000 gals. originated in Norfolk Island. Imports of other marine animal oils consisted of 115,000 gals. of cod liver oil, 127,000 gals. of unrefined fish oils and 45,000 gals. of other marine animal oils.

Exports of marine animal oils during the three years 1958–59 to 1960–61, consisting almost entirely of whale oil, amounted to:—3,403,000 gals. (£1,156,000); 3,062,000 gals. (£900,000); 2,304,000 gals. (£885,000). Of the total exports in 1960–61, whale oil accounted for 2,298,000 gallons valued at £865,000.

## CHAPTER XXVII. MINERAL INDUSTRY.

**NOTE.**—Values of Australian oversea trade shown throughout this chapter are expressed as £A. f.o.b. port of shipment, except where otherwise indicated. Further detailed information on the subjects dealt with in this chapter is contained in the annual printed Bulletin *Primary Industries, Part II.—Non-Rural Industries and Value of Production* issued by this Bureau, and in *The Australian Mineral Industry—Annual Review* and other publications issued by the Bureau of Mineral Resources, Geology and Geophysics, which also issues, in co-operation with this Bureau, a quarterly publication *The Australian Mineral Industry*, comprising two parts—Part I.—Quarterly Review, and Part II.—Quarterly Statistics. The mimeograph statistical bulletin *Mining and Quarrying* of this Bureau contains annual statistics of the industry prepared and published as soon as possible after the data have been compiled. A monthly statistical bulletin *The Gold Mining Industry, Australia* is issued also, and other current information on mining or mine products is contained in the *Quarterly Summary of Australian Statistics*, the *Monthly Review of Business Statistics*, the *Digest of Current Economic Statistics*, and the *Monthly Bulletin of Production Statistics*.

### § 1. Introduction.

**1. Sources of Statistics.**—In the main, the data contained in this chapter consist of official statistics of the Mines Departments of the several States and of the Northern Territory Mines Branch. The particulars shown have been compiled as far as practicable on the standardized basis which has been used in Australia since 1950, and this presentation has involved some rearrangement of official statistics published by the Mines Departments in some States. These statistics have been supplemented, as necessary, by data obtained from the Statisticians of the several States, the Commonwealth Bureau of Mineral Resources, the Joint Coal Board, the Australian Mines and Metals Association (Inc.), the Mineral Resources Division of the United Kingdom Overseas Geological Surveys and from several other sources.

**2. Presentation of Mineral Statistics.**—(i) *Mineral Industry Data.* The mineral industry includes all mining and quarrying and the recovery of minerals from ore dumps, tailings, etc. Ore-dressing and elementary smelting of metallic minerals (e.g., in the case of gold) and miscellaneous treatment of non-metallic minerals, where these are carried out in an associated plant at or near the mine, are included in the mineral industry. However, establishments primarily engaged in smelting and/or refining (including the smelting and refining sections of the large plants operated at Mount Morgan and Mount Isa in Queensland and at Mount Lyell in Tasmania are omitted and classified to the manufacturing industry.

For mines and quarries which produce more than one product, it is not possible to apportion some particulars relating to the operations of the mine (employment, salaries and wages paid, and costs incurred in production) to the minerals produced. It is, therefore, the practice to record these data only as a total for each mine and then to classify each mine to the industry of the most important mineral produced. Thus a mine producing, say, both tin and tungsten minerals, would be classified as a tin mine if tin were the more important product by value, or vice versa if tungsten were the dominant product.

The mineral industries are classified into four major groups, namely, Metal Mining, Fuel Mining, Non-metal (excluding Fuel) Mining, and Construction Material Quarrying.

Mineral industry data have been obtained annually, since 1952, from the Mining and Quarrying Census. This census is carried out in collaboration with the several Mines Departments and involves the uniform collection of particulars from all establishments employing on the average four or more persons during the period worked by the mine. A representative specimen collection form is included in the Bulletin *Primary Industries, Part II.*, No. 54, 1959–60, pages 47 and 48. For smaller mines, either simplified Census returns covering number of persons employed and value of output are collected, or these particulars are compiled from data made available by the Mines Departments.

Statistics of oil search operations have been excluded in accordance with the definition of the mining industry set out above, but a special article on current developments in the search for oil, contributed by the Commonwealth Bureau of Mineral Resources, may be found in § 15 of this chapter. Details of the activities of establishments engaged in the mining and treatment of uranium ore have been excluded because of the confidential nature of these operations.

(ii) *Mineral Product Data.* In the preparation of Australian mineral production statistics, the quantities and values of individual minerals produced are recorded in terms of the products in the form in which they are dispatched from the locality of each mine. For example, in the case of a metal mine, the output is recorded as ore when no treatment is undertaken at the mine, or as a concentrate where ore-dressing operations are carried out in associated works in the locality of the mine. In addition to the basic quantity data, the

contents of metallic minerals and contents or average grade of selected non-metallic minerals are recorded. Whenever practicable, contents (based on assay) of metallic minerals are shown for each metal which is a "pay metal" or a "refiners' prize" when present in the particular mineral. Other metallic contents which are not recovered are excluded.

Minerals are divided into four major groups, namely, Metals, Fuels, Non-metals (excluding Fuels) and Construction Materials. In this chapter, individual mineral products are arranged in these four groups.

Particulars relating to uranium-bearing minerals are excluded.

**3. Occurrences of Minerals.**—The greatest part of the area of outcropping rock on the Australian continent is Precambrian in age. These basement rocks form the western and central core of the continent and are flanked by younger Palaeozoic rocks which, along the eastern edge of the continent, form a belt several hundred miles wide extending from north Queensland to Tasmania. Smaller areas of Palaeozoic rocks occur in other States. Mesozoic sediments overlie large areas of the continent and reach their greatest development in central Queensland. Cainozoic rocks occur mainly in the southern parts of Victoria and South Australia and as residual basalt cappings over an extensive area of the Palaeozoic rocks of eastern Australia.

Minerals occur widely throughout the Precambrian and Palaeozoic rocks of the continent. Palaeozoic mineralization is perhaps more varied, but the deposits now being worked are in general smaller than those found in Precambrian rocks. Most of the larger deposits of minerals now being mined in Australia are shown in the following table according to the geological era in which they were formed.

#### PRINCIPAL AUSTRALIAN MINERAL DEPOSITS.

Age of Geological Formation in which Located.	Metal or Mineral.	State or Territory.	Locality.
Precambrian (more than 520 million years old)	Copper ..	Queensland ..	Mount Isa
	Gold .. ..	Northern Territory	Tennant Creek
	Iron .. ..	Western Australia	Kalgoorlie and other localities
	Lead-Silver-Zinc	South Australia ..	Middleback Ranges
	Uranium ..	Western Australia	Yampi Sound
Palaeozoic (between 200 and 520 million years old)		New South Wales	Broken Hill
	Black Coal ..	Queensland ..	Mount Isa
		Western Australia	Mary Kathleen
	Copper-Gold ..	Queensland ..	Radium Hill
	Lead-Silver-Zinc	South Australia ..	Rum Jungle and South Alligator River Area
	Tin (Iode) ..	Northern Territory	
	Tungsten ..	New South Wales	Hunter Valley, Lithgow, South Coast
		Queensland ..	Baralaba, Blair Athol, etc.
		Western Australia	Collie
		Queensland ..	Mount Morgan
Mesozoic (between 75 and 200 million years old)		Tasmania ..	Mount Lyell
	Black Coal ..	Tasmania ..	Mount Read and Rosebery
	Mineral Sands(a)	Queensland ..	Herberton
		Tasmania ..	North-east of State
		Tasmania ..	King Island and North-east of State
Cainozoic (less than 75 million years old)	Black Coal ..	Queensland ..	Ipswich
	Mineral Sands(a)	South Australia ..	Leigh Creek
		Tasmania ..	St. Marys
		New South Wales	North Coast
	Queensland ..	South Coast	
Cainozoic (less than 75 million years old)	Brown Coal ..	Victoria ..	Gippsland
	Tin (alluvial) ..	New South Wales	Tingha
		Queensland ..	Herberton
		Tasmania ..	North-east of State

(a) The deposition of mineral sands, derived from Palaeozoic granites, continued throughout the Cainozoic Era.

The large bauxite (aluminium) deposits of Cape York Peninsula in Queensland, for which an extensive mining programme is being developed, were formed during the early part of the Cainozoic Era as a result of climatic conditions then prevailing.

Of the non-metallic minerals, many, such as clay, sand and silica, etc., are not restricted to the rocks of any particular era. However, Precambrian rocks do contain important deposits of asbestos in Western Australia, limestone and dolomite in South Australia, and mica in the Northern Territory. All crude salt is produced by the evaporation of water from pans constructed along the sea coast or from inland lakes.

4. **Mineral Concentrates.**—Concentration is a physical process involving the removal of mineral impurity from the ore. Most mines now dispatch ore in concentrate form, as this considerably reduces the transport costs and produces a saleable product in the form required by smelters. Most concentrates are nearly pure mineral and the ore-dressing processes (with the exception of that for uranium) involve no chemical change to the mineral being won. Various methods are used in concentration. Sulphide ores which now comprise the greatest tonnages treated are, in most instances, separated from the gangue by flotation. In this method of concentration, the ore is ground finely enough to liberate the individual mineral particles, aerated, and agitated in tanks of water to which chemicals have been added. Under certain conditions, particles of one sulphide mineral adhere to the froth bubbles and are collected in the froth overflow, while gangue and even other sulphides are depressed. By treating the tailings of one flotation process with different chemicals and conditions, it is often possible to separate a further concentrate, as is done at Broken Hill where the zinc sulphide is recovered from the tailings of the lead sulphide concentration process. Until operations ceased in 1962, differential flotation was extensively developed at Captain's Flat, in New South Wales, where successive concentrates of copper, lead, zinc and pyrite were obtained from a lead-silver-zinc-copper ore.

Other methods of concentration used are gravity (alluvial tin, mineral sands, some lead-zinc ores), electromagnetic (wolfram, scheelite, glauconite and mineral sands) and electrostatic (mineral sands).

Particulars of an average Broken Hill ore mined during 1960, showing metal contents before and after differential flotation, are shown in the following table. It should be noted that in both the ore and the concentrate, lead and zinc are contained in the form of lead sulphide and zinc sulphide respectively. Most of the silver is contained in minerals which are collected with the lead sulphide.

**ORE TREATED AND CONCENTRATES PRODUCED BY DIFFERENTIAL  
FLOTATION AT BROKEN HILL (a), 1960.**

Particulars.	Quantity.	Proportion of weight of ore mined.	Average Assays.			Proportion of Metal Distribution.		
			Lead.	Silver.	Zinc.	Lead.	Silver.	Zinc.
	tons.	%	%	f. oz.	%	%	%	%
Ore treated ..	1,996,365	100.0	11.4	4.1	11.9	100.0	100.0	100.0
Lead Concentrate	294,555	14.8	75.3	25.9	4.1	97.9	94.0	5.2
Zinc Concentrate	413,727	20.7	0.8	0.7	52.3	1.5	3.8	91.4
Residues(b) ..	1,288,083	64.5	0.1	0.1	0.6	0.6	2.2	3.4

(a) Average particulars for the five operating companies. (b) These are of no economic use at present and are either pumped as filling for underground workings or otherwise discarded.

## § 2. The Mineral Industry.

1. **Persons Engaged.**—Particulars collected in the Population Censuses of Australia at 30th June, 1947 and 1954, showing the numbers of persons whose "industry" was stated to be "mining and quarrying", were included in previous issues of the Year Book. Corresponding particulars from the 1961 Census are not yet available.

Particulars of the numbers of persons engaged in the various mining and quarrying industries, as collected in the Annual Mining and Quarrying Census, are included in paras. 4 (ii) and (iii), pages 1051-2.

2. **Size Classification of Mines and Quarries.**—Most of the mines and quarries worked during 1960 employed less than four persons, including working proprietors. However, more than half of the persons engaged in mining and quarrying were in the 56 mines each employing 200 persons or more. The following table shows the distribution of the total number of mines into various size groups according to the average number of persons employed during the period worked by each mine in 1960. For particulars of the method of compiling these industry statistics, see para. 2 (i), page 1045.

**MINING AND QUARRYING: SIZE CLASSIFICATION OF ESTABLISHMENTS, 1960.**

Mines and Quarries employing on the average(a)—	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T. (b)	Aust.
<b>Less than 4 persons—</b>								
Establishments ..	639	83	298	271	248	64	71	1,674
Persons ..	1,026	147	433	478	578	126	105	2,893
<b>From 4 to 20 persons—</b>								
Establishments ..	181	108	85	91	73	41	6	585
Persons ..	1,429	1,020	920	722	590	314	52	5,047
<b>From 21 to 200 persons—</b>								
Establishments ..	90	27	74	12	28	13	2	246
Persons ..	6,878	1,203	(c)	(c)	1,657	608	125	14,347
<b>More than 200 persons—</b>								
Establishments ..	31	3	4	2	11	4	1	56
Persons ..	13,002	1,770	(c)	(c)	5,230	1,903	222	26,823
<b>Total—</b>								
Establishments ..	941	221	461	376	360	122	80	2,561
Persons ..	22,335	4,140	8,796	2,329	8,055	2,951	504	49,110

(a) Average during period worked. Includes working proprietors. (b) Includes Australian Capital Territory, details of which are not available for publication separately. (c) Not available for publication; included in total.

3. **Value of Production.**—(i) *General.* In 1960, the local value of mining and quarrying in Australia (the value of output, or the selling value of mine and quarry products at the mine or quarry) was £180,898,000, or 12.3 per cent. of the production of all primary industries. The most important State was New South Wales with £79,204,000, followed by Queensland with £37,608,000 and Western Australia with £22,166,000.

(ii) *Local and Net Values of Production, 1960.* Local and net values of mining and quarrying production for each State are shown for 1960 in the following table. A more detailed reference to the value of production of mining and quarrying and other industries in Australia as well as a brief explanation of the terms used will be found in Chapter XXX.—Miscellaneous.

## MINING AND QUARRYING: LOCAL AND NET VALUES OF PRODUCTION, 1960.

(£'000.)

State or Territory.	Local Value (Value of Output at Mine or Quarry).	Cost of Power, Fuel, Light and Other Materials and Stores Used.	Net Value. (a)
New South Wales .. ..	79,204	16,427	62,777
Victoria .. .. .	16,267	3,109	13,158
Queensland .. .. .	37,608	10,148	27,460
South Australia .. ..	13,952	2,548	11,404
Western Australia .. ..	22,166	6,722	15,444
Tasmania .. .. .	8,162	2,591	5,571
Northern Territory(b) .. ..	3,539	668	2,871
<b>Australia .. .. .</b>	<b>180,898</b>	<b>42,213</b>	<b>138,685</b>

(a) Local value less cost of power, fuel, light and other materials and stores used; depreciation and maintenance costs have not been deducted. (b) Includes Australian Capital Territory, details of which are not available for separate publication.

(iii) *Local Values, 1956 to 1960.* In the following table, the local values of mining and quarrying production are shown by States and Territories for the years 1956 to 1960.

## MINING AND QUARRYING: LOCAL VALUE OF PRODUCTION.(a)

(£'000.)

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1956 ..	88,790	11,891	30,204	11,910	20,230	10,555	2,594	146	176,320
1957 ..	83,170	12,728	25,576	11,872	20,979	8,421	2,195	170	165,111
1958 ..	71,414	13,694	27,632	12,308	20,777	7,358	2,564	208	155,955
1959 ..	71,090	14,935	33,329	13,209	21,787	7,639	2,727	269	164,985
1960 ..	79,204	16,267	37,608	13,952	22,166	8,162	b 3,539	(c)	180,898

(a) Value of output or selling value of products at the mine or quarry. (b) Includes Australian Capital Territory. (c) Not available for publication; included with Northern Territory.

(iv) *Net Values of Production, 1956 to 1960.* In the following table, the net value of mining and quarrying production and the value per head of population are shown by States and Territories for the years 1956 to 1960.

## MINING AND QUARRYING: NET VALUE OF PRODUCTION.(a)

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
NET VALUE OF PRODUCTION.(a) (£'000.)									
1956 .. ..	72,053	9,457	24,148	9,487	14,350	8,298	2,084	105	139,982
1957 .. ..	66,091	9,944	18,810	9,320	14,889	5,897	1,741	110	126,802
1958 .. ..	55,801	10,987	19,796	9,999	14,454	5,168	1,997	134	118,336
1959 .. ..	56,331	12,101	24,481	10,698	14,765	5,398	2,202	179	126,155
1960 .. ..	62,777	13,158	27,460	11,404	15,444	5,571	(b)2,871	(c)	138,685

NET VALUE OF PRODUCTION(a) PER HEAD OF POPULATION.  
(£.)

1956 .. ..	20.1	3.6	17.3	11.0	21.2	25.6	104.6	2.9	14.7
1957 .. ..	18.2	3.7	13.2	10.5	21.5	17.8	82.0	2.8	13.0
1958 .. ..	15.0	4.0	13.6	11.0	20.5	15.3	88.7	3.1	11.9
1959 .. ..	14.8	4.3	16.6	11.5	20.6	15.7	89.6	3.6	12.4
1960 .. ..	16.2	4.5	18.3	11.9	21.2	15.9	(b) 35.5	(c)	13.3

(a) Local value, or value of output, less cost of power, fuel, light and other materials and stores used; depreciation and maintenance costs have not been deducted. (b) Includes Australian Capital Territory. (c) Not available for publication; included with Northern Territory.

4. Statistics of the Principal Mining and Quarrying Industries.—(i) Summary, 1960. In the next table, statistics of numbers of mines and quarries, persons employed, local and net value of production and other particulars are shown for the major industry groups for the year 1960. For particulars of the method of compiling these industry statistics, see para. 2 (i), page 1045.

## MINING AND QUARRYING: SUMMARY OF OPERATIONS, INDUSTRY GROUPS, AUSTRALIA, 1960.

Industry Group.	Mines and Quarries.	Persons Employed. (a)	Salaries and Wages Paid. (b)(c)	Local Value of Production. (d)	Total Fuel, Materials, etc., Used.	Net Value of Production. (e)	Value of Additions and Replacements to Fixed Assets.(b)
	No.	No.	£'000.	£'000.	£'000.	£'000.	£'000.
Metal Mining ..	746	19,889	26,727	83,918	23,504	60,414	6,823
Fuel Mining ..	221	19,812	27,703	61,609	11,942	49,667	12,861
Non-metal (excluding Fuel) Mining(f) ..	702	2,925	2,664	10,866	2,340	8,526	588
<i>Total, All Mining ..</i>	<i>1,669</i>	<i>42,626</i>	<i>57,094</i>	<i>156,393</i>	<i>37,786</i>	<i>118,607</i>	<i>20,272</i>
Construction Material Quarrying(g) ..	892	5,016	3,628	24,505	4,427	20,078	1,624
<b>Total, All Mining and Quarrying</b>	<b>2,561</b>	<b>47,642</b>	<b>60,722</b>	<b>180,898</b>	<b>42,213</b>	<b>138,685</b>	<b>21,896</b>

(a) Average number employed (including working proprietors) during whole year. (b) Excludes mines and quarries employing less than four persons. (c) Excludes drawings by working proprietors; the amounts are net after deducting value of explosives sold to employees. (d) Value of output or selling value of products at mine or quarry. (e) Local value less cost of power, fuel, light and other materials and stores used; depreciation and maintenance costs have not been deducted. (f) Incomplete for some industries outside the normal administrative control of State Mines Departments (e.g., clays and salt). (g) Incomplete owing to difficulties of coverage.

In the next table, statistics of numbers of mines and quarries, persons employed, local and net value of production are shown for each State and for the Northern Territory for the year 1960. Details for the Australian Capital Territory are included with the Northern Territory.

## MINING AND QUARRYING: SUMMARY OF OPERATIONS, 1960.

State or Territory.	Mines and Quarries.	Persons Employed. (a)	Salaries and Wages Paid. (b)(c)	Local Value of Production. (d)	Total Fuel, Materials, etc., Used.	Net Value of Production. (e)	Value of Additions and Replacements to Fixed Assets. (b)
	No.	No.	£'000.	£'000.	£'000.	£'000.	£'000.
New South Wales ..	941	22,091	29,489	79,204	16,427	62,777	10,665
Victoria ..	221	3,853	4,695	16,267	3,109	13,158	2,857
Queensland ..	461	8,454	10,900	37,608	10,148	27,460	4,160
South Australia ..	376	2,153	2,003	13,952	2,548	11,404	1,294
Western Australia ..	360	7,791	9,400	22,166	6,722	15,444	2,119
Tasmania ..	122	2,799	3,587	8,162	2,591	5,571	557
Northern Territory(f)	80	501	648	3,539	668	2,871	244
<b>Australia ..</b>	<b>2,561</b>	<b>47,642</b>	<b>60,722</b>	<b>180,898</b>	<b>42,213</b>	<b>138,685</b>	<b>21,896</b>

(a) Average number employed (including working proprietors) during whole year. (b) Excludes mines and quarries employing less than four persons. (c) Excludes drawings by working proprietors; the amounts are net after deducting value of explosives sold to employees. (d) Value of output or selling value of products at mine or quarry. (e) Local value less cost of power, fuel, light and other materials and stores used; depreciation and maintenance costs have not been deducted. (f) Includes Australian Capital Territory, details of which are not available for separate publication.

(ii) *Employment in Mining and Quarrying, 1960.* The following table shows the average numbers engaged in the various mining industries in each State or Territory in 1960.

## MINING AND QUARRYING: EMPLOYMENT(a), 1960.

Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Metal Mining—</i>									
Gold Mining ..	16	(b)	127	(b)	5,031	..	137	..	5,544
Lead-Silver-Zinc Mining ..	5,349	..	(b)	(b)	29	(b)	..	..	8,731
Copper-Gold Mining ..	49	..	(b)	(b)	235	(b)	224	..	2,364
Tin Mining ..	110	..	295	..	45	482	14	..	946
Mineral Sands Mining ..	659	..	328	..	140	..	..	..	1,127
Other Metal Mining ..	38	13	13	(b)	498	(b)	18	..	1,177
<i>Total, Metal Mining</i>	<i>6,221</i>	<i>(b)</i>	<i>4,468</i>	<i>(b)</i>	<i>5,978</i>	<i>2,173</i>	<i>393</i>	<i>..</i>	<i>19,889</i>
<i>Fuel Mining—</i>									
Black Coal Mining—									
Underground ..	13,030	407	3,092	..	990	(c) 313	..	..	17,832
Opencut ..	133	..	139	257	52	..	..	..	581
<i>Total ..</i>	<i>13,163</i>	<i>407</i>	<i>3,231</i>	<i>257</i>	<i>1,042</i>	<i>313</i>	<i>..</i>	<i>..</i>	<i>18,413</i>
Brown Coal Mining ..	..	1,399	..	..	..	..	..	..	1,399
<i>Total, Fuel Mining</i>	<i>13,163</i>	<i>1,806</i>	<i>3,231</i>	<i>257</i>	<i>1,042</i>	<i>313</i>	<i>..</i>	<i>..</i>	<i>19,812</i>
<i>Non-metal (excluding Fuel) Mining(d) ..</i>	<i>1,060</i>	<i>(b)</i>	<i>263</i>	<i>(b)</i>	<i>491</i>	<i>128</i>	<i>13</i>	<i>..</i>	<i>2,925</i>
<i>Total, All Mining</i>	<i>20,444</i>	<i>2,358</i>	<i>7,962</i>	<i>1,331</i>	<i>7,511</i>	<i>2,614</i>	<i>406</i>	<i>..</i>	<i>42,626</i>
<i>Construction Material Quarrying(e) ..</i>	<i>1,647</i>	<i>1,495</i>	<i>492</i>	<i>822</i>	<i>280</i>	<i>185</i>	<i>(f) 95</i>	<i>(g)</i>	<i>5,016</i>
<i>Total, All Mining and Quarrying ..</i>	<i>22,091</i>	<i>3,853</i>	<i>8,454</i>	<i>2,153</i>	<i>7,791</i>	<i>2,799</i>	<i>(f) 501</i>	<i>(g)</i>	<i>47,642</i>

(a) Average employment during whole year, including working proprietors. (b) Not available for publication. (c) Includes persons engaged by one mine which has both underground and opencut workings. (d) Incomplete for some industries outside the normal administrative control of State Mines Departments (e.g., clays and salts). (e) Incomplete owing to difficulties of coverage. (f) Includes Australian Capital Territory. (g) Not available for publication; included with Northern Territory.



(iii) *Employment in Mining and Quarrying, 1956 to 1960.* The following table shows particulars of mining employment in Australia for the years 1956 to 1960. The figures show the average number of persons employed during the whole year.

**MINING AND QUARRYING: EMPLOYMENT(a), AUSTRALIA.**

Industry.	1956.	1957.	1958.	1959.	1960.
<i>Metal Mining—</i>					
Gold Mining .. .. .	6,488	6,205	5,901	5,948	5,544
Lead-Silver-Zinc Mining .. .. .	10,627	10,354	9,461	9,031	8,731
Copper-Gold Mining .. .. .	2,301	2,151	2,057	2,301	2,364
Tin Mining .. .. .	938	856	944	926	946
Mineral Sands Mining .. .. .	1,592	2,062	1,102	1,019	1,127
Other Metal Mining .. .. .	1,407	1,300	1,030	1,031	1,177
<i>Total, Metal Mining</i> .. .. .	<i>23,353</i>	<i>22,928</i>	<i>20,495</i>	<i>20,256</i>	<i>19,889</i>
<i>Fuel Mining—</i>					
Black Coal Mining .. .. .	23,895	22,345	20,795	18,678	18,413
Brown Coal Mining .. .. .	1,566	1,579	1,540	1,519	1,399
<i>Total, Fuel Mining</i> .. .. .	<i>25,461</i>	<i>23,924</i>	<i>22,335</i>	<i>20,197</i>	<i>19,812</i>
<i>Non-metal (excluding Fuel) Mining(b)</i> .. .. .	<i>2,708</i>	<i>2,749</i>	<i>2,728</i>	<i>2,975</i>	<i>2,925</i>
<i>Total, All Mining</i> .. .. .	<i>51,522</i>	<i>49,601</i>	<i>45,558</i>	<i>43,428</i>	<i>42,626</i>
<i>Construction Material Quarrying(b)</i> .. .. .	<i>4,329</i>	<i>4,640</i>	<i>4,581</i>	<i>4,116</i>	<i>5,016</i>
<b>Total, All Mining and Quarrying</b> .. .. .	<b>55,851</b>	<b>54,241</b>	<b>50,139</b>	<b>47,544</b>	<b>47,642</b>

(a) Average employment during whole year, including working proprietors.

(b) Incomplete.

(iv) *Salaries and Wages Paid in Mining, 1956 to 1960.* Salaries and wages paid in the mining and quarrying industries in Australia during each year 1956 to 1960 are shown in the following table. Information regarding rates of wages paid in the mining industry is shown in Chapter XII.—Labour, Wages and Prices (p. 402) and also in the *Labour Report*.

**MINING AND QUARRYING: SALARIES AND WAGES PAID(a), AUSTRALIA.**

(£'000.)

Industry.	1956.	1957.	1958.	1959.	1960.
<i>Metal Mining—</i>					
Gold Mining .. .. .	6,551	6,422	6,492	6,504	6,655
Lead-Silver-Zinc Mining .. .. .	17,299	16,241	13,462	13,944	13,555
Copper-Gold Mining .. .. .	2,114	2,289	2,362	2,710	2,938
Tin Mining .. .. .	733	753	737	814	905
Mineral Sands Mining .. .. .	1,644	2,177	1,327	1,188	1,336
Other Metal Mining .. .. .	1,504	1,402	1,108	1,058	1,338
<i>Total, Metal Mining</i> .. .. .	<i>29,845</i>	<i>29,284</i>	<i>25,488</i>	<i>26,218</i>	<i>26,727</i>
<i>Fuel Mining—</i>					
Black Coal Mining .. .. .	25,862	25,105	24,501	23,437	25,918
Brown Coal Mining .. .. .	1,649	1,640	1,694	1,710	1,785
<i>Total, Fuel Mining</i> .. .. .	<i>27,511</i>	<i>26,745</i>	<i>26,195</i>	<i>25,147</i>	<i>27,703</i>
<i>Non-metal (excluding Fuel) Mining(b)</i> .. .. .	<i>2,300</i>	<i>2,400</i>	<i>2,384</i>	<i>2,631</i>	<i>2,664</i>
<i>Total, All Mining</i> .. .. .	<i>59,656</i>	<i>58,429</i>	<i>54,067</i>	<i>53,996</i>	<i>57,094</i>
<i>Construction Material Quarrying(b)</i> .. .. .	<i>2,738</i>	<i>3,219</i>	<i>3,241</i>	<i>3,490</i>	<i>3,628</i>
<b>Total, All Mining and Quarrying</b> .. .. .	<b>62,394</b>	<b>61,648</b>	<b>57,308</b>	<b>57,486</b>	<b>60,722</b>

(a) Excludes mines and quarries employing less than four persons, and drawings by working proprietors; the amounts are net after deducting value of explosives sold to employees.

(b) Incomplete.

(v) *Accidents in Mining.* Particulars of numbers of persons killed and injured in accidents in mines and associated treatment plants are recorded by State Mines Departments. Numbers injured are not reported on a uniform basis in all States, as varying criteria are used in determining what constitutes injury for the purpose of these records. In 1960, 36 persons were recorded as having been killed and 1,537 as having been injured in mining (excluding quarrying) accidents. Recorded deaths and injuries in that year were highest in black coal mines (16 and 463, respectively), gold mines (8 and 409) and lead-silver-zinc mines (3 and 319).

(vi) *Local and Net Values of Mining and Quarrying Production, 1960.* The following two tables show particulars of the local and net value of production for individual mining industry groups and quarrying for the year 1960. It should be noted that these statistics are on an industry basis and not by product. For particulars of the method of compiling these industry statistics, see para. 2 (i), page 1045.

**MINING AND QUARRYING: LOCAL VALUE OF PRODUCTION(a), 1960.**  
(£'000.)

Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Metal Mining—</i>									
Gold Mining ..	19	471	225	1	14,347	..	889	..	15,952
Lead-Silver-Zinc Mining	21,929	..	(b)	3	112	(b)	..	..	45,552
Copper-Gold Mining ..	15	..	(b)	1	337	(b)	2,072	..	8,411
Tin Mining ..	192	..	773	..	166	973	15	..	2,119
Mineral Sands Mining ..	2,577	..	2,002	..	405	..	..	..	4,984
Other Metal Mining ..	89	21	(b)	4,425	1,492	(b)	53	..	6,900
<i>Total, Metal Mining</i>	<i>24,821</i>	<i>492</i>	<i>27,704</i>	<i>4,430</i>	<i>16,859</i>	<i>6,583</i>	<i>3,029</i>	<i>..</i>	<i>83,918</i>
<i>Fuel Mining—</i>									
Black Coal Mining ..	42,240	418	7,829	1,154	2,436	687	..	..	54,764
Brown Coal Mining ..	..	6,845	..	..	..	..	..	..	6,845
<i>Total, Fuel Mining ..</i>	<i>42,240</i>	<i>7,263</i>	<i>7,829</i>	<i>1,154</i>	<i>2,436</i>	<i>687</i>	<i>..</i>	<i>..</i>	<i>61,609</i>
<i>Non-metal (excluding Fuel) Mining—</i>									
Clays(c) ..	1,142	1,104	108	352	137	80	..	..	2,923
Gypsum ..	201	71	..	405	33	..	..	..	710
Limestone ..	1,042	695	(b)	747	(b)	(b)	7	..	3,356
Salt ..	..	114	(b)	718	(b)	..	20	..	959
Other Non-metal (excluding Fuel) Mining	625	2	(b)	866	1,367	(b)	17	..	2,918
<i>Total, Non-metal (excluding Fuel) Mining ..</i>	<i>3,010</i>	<i>1,986</i>	<i>731</i>	<i>3,088</i>	<i>1,667</i>	<i>340</i>	<i>44</i>	<i>..</i>	<i>10,866</i>
<i>Total, All Mining ..</i>	<i>70,071</i>	<i>9,741</i>	<i>36,264</i>	<i>8,672</i>	<i>20,962</i>	<i>7,610</i>	<i>3,073</i>	<i>..</i>	<i>156,393</i>
<i>Construction Material Quarrying(c) ..</i>	<i>9,133</i>	<i>6,526</i>	<i>1,344</i>	<i>5,280</i>	<i>1,204</i>	<i>552</i>	<i>(d) 466</i>	<i>(e)</i>	<i>24,505</i>
<i>Total, All Mining and Quarrying ..</i>	<i>79,204</i>	<i>16,267</i>	<i>37,608</i>	<i>13,952</i>	<i>22,166</i>	<i>8,162</i>	<i>d 3,539</i>	<i>(e)</i>	<i>180,898</i>

(a) Value of output or selling value of products at the mine or quarry. (b) Not available for publication. (c) Incomplete. (d) Includes Australian Capital Territory. (e) Not available for publication; included with Northern Territory.

**MINING AND QUARRYING: NET VALUE OF PRODUCTION(a), 1960.**  
(£'000.)

Industry.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Metal Mining—</i>									
Gold Mining .. .. .	18	(b)	178	(b)	9,715	..	795	..	11,043
Lead-Silver-Zinc Mining ..	16,239	..	(b)	(b)	75	(b)	..	..	33,446
Copper-Gold Mining .. .	(c)-75	..	(b)	(b)	201	(b)	1,668	..	5,123
Tin Mining .. .. .	166	..	541	..	102	768	12	..	1,589
Mineral Sands Mining .. .	1,743	..	1,397	..	282	..	..	..	3,422
Other Metal Mining .. .	76	20	41	(b)	1,142	(b)	53	..	5,791
<i>Total, Metal Mining</i>	<i>18,167</i>	<i>(b)</i>	<i>19,597</i>	<i>(b)</i>	<i>11,517</i>	<i>4,348</i>	<i>2,528</i>	<i>..</i>	<i>60,414</i>
<i>Fuel Mining—</i>									
Black Coal Mining .. .	33,179	286	6,534	972	1,921	553	..	..	43,445
Brown Coal Mining .. .	..	6,222	..	..	..	..	..	..	6,222
<i>Total, Fuel Mining .. .</i>	<i>33,179</i>	<i>6,508</i>	<i>6,534</i>	<i>972</i>	<i>1,921</i>	<i>553</i>	<i>..</i>	<i>..</i>	<i>49,667</i>
<i>Non-metal (excluding Fuel)</i>									
<i>Mining—</i>									
Clays(d) .. .. .	921	1,032	(e) 108	317	97	74	..	..	(f)2,549
Gypsum .. .. .	161	64	..	320	24	..	..	..	569
Limestone .. .. .	718	(b)	(b)	(b)	(b)	(b)	(e) 7	..	(f)2,294
Salt(d) .. .. .	..	(e) 114	(b)	613	(b)	..	(e) 20	..	(f) 818
Other Non-metal (ex- cluding Fuel) Mining	498	(e) 2	29	816	(b)	(b)	(e) 17	..	(f)2,296
<i>Total, Non-metal</i> <i>(excluding Fuel)</i>	<i>2,298</i>	<i>(b)</i>	<i>496</i>	<i>(b)</i>	<i>1,151</i>	<i>233</i>	<i>44</i>	<i>..</i>	<i>8,526</i>
<i>Total, All Mining .. .</i>	<i>53,644</i>	<i>8,472</i>	<i>26,627</i>	<i>7,569</i>	<i>14,589</i>	<i>5,134</i>	<i>2,572</i>	<i>..</i>	<i>118,607</i>
<i>Construction Material</i>									
Quarrying(d) .. .. .	(e)9,133	4,686	833	3,835	855	437	(g) 299	(h)	f 20,078
<i>Total, All Mining</i> <i>and Quarrying .. .</i>	<i>62,777</i>	<i>13,158</i>	<i>27,460</i>	<i>11,404</i>	<i>15,444</i>	<i>5,571</i>	<i>(g)2,871</i>	<i>(h)</i>	<i>138,685</i>

(a) Local value (i.e., value of output at mine) less cost of power, fuel, light and other materials and stores used; depreciation and maintenance costs have not been deducted. (b) Not available for publication. (c) Cost of materials used, etc., exceeds value of output. (d) Incomplete. (e) No allowance has been made for costs of power, fuel, light and other materials and stores used, particulars of which are not available. (f) Refer to footnote (e). (g) Includes Australian Capital Territory. (h) Not available for publication; included with Northern Territory.

### § 3. Mineral Production.

1. Quantity of Principal Minerals Produced in 1960.—In the following table, particulars of the quantity of the principal minerals produced during 1960 are shown for each State and the Northern Territory.

#### QUANTITY OF PRINCIPAL MINERALS PRODUCED, 1960.

Mineral.	Unit.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	Aust.
<b>METALLIC MINERALS.</b>									
Antimony Ore and Con- centrate .. .. .	ton	253	3	..	..	..	..	..	256
Bauxite .. .. .	..	3,647	4,231	32,093	..	29,464	..	..	69,435
Beryllium Ore .. .. .	..	9	..	..	..	181	..	..	190
Chromite .. .. .	..	..	..	529	..	..	..	..	529
Copper Ore(a) .. .. .	..	80	..	59,706	30	7,727	758	20	68,321
Copper Concentrate .. .	..	4,228	..	342,759	..	3,552	46,760	35,427	432,726
Copper Precipitate .. .	..	85	..	10	..	..	..	26	1,180
Gold Concentrate .. .	..	2	41	..	..	..	32	..	75
Gold—Other Forms(b) ..	oz.	1,164	(c)	(c)	(c)	(c)	(c)	(c)	(c)
Ilmenite Concentrate ..	ton	1,192	..	22	..	105,372	..	..	106,586
Iron Ore(d) .. .. .	'000 tons	..	..	..	3,427	928	..	..	4,355
Lead Ore(e) .. .. .	ton	253	..	13,463	..	..	..	..	13,716
Lead Concentrate .. .	..	310,408	..	122,128	..	2,264	14,790	..	449,590
Lead-Copper Concentrate	..	..	..	..	..	..	6,797	..	6,797
Manganese Ore .. .. .	..	1,573	27	3,710	69	53,842	..	1,425	60,646
Pyrite Concentrate .. .	..	32,770	..	18,720	66,077	53,299	67,764	..	238,630
Rutile Concentrate .. .	..	54,002	..	34,120	..	515	..	..	88,637
Tantalite-Columbite Con- centrate .. .. .	lb.	..	..	..	..	23,677	..	..	23,677
Tin Concentrate .. .. .	ton	307	..	1,236	..	281	1,233	42	3,099
Tungsten Concentrates— Scheelite Concentrate ..	..	(f)	..	..	..	..	420	..	420
Wolfram Concentrate ..	..	..	..	..	..	..	1,106	25	1,131
Zinc Concentrate .. .. .	..	444,652	..	46,976	..	..	57,372	..	549,000
Zircon Concentrate .. .	..	66,328	..	32,016	..	4,018	..	..	102,362

NOTE.—See next page for footnotes.

## QUANTITY OF PRINCIPAL MINERALS PRODUCED, 1960—continued.

Mineral.	Unit.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	Aust.
<b>FUEL MINERALS.</b>									
<i>Coal, Black—</i>									
Semi-anthracite ..	'000 tons	..	..	48	..	..	2	..	50
Bituminous ..	"	17,737	77	2,531	..	..	296	..	20,641
Sub-bituminous ..	"	..	..	71	885	922	..	..	1,878
<i>Total</i> ..	"	17,737	77	2,650	885	922	298	..	22,569
<i>Coal, Brown (Lignite)</i> ..	"	..	14,967	..	..	..	..	..	14,967

## NON-METALLIC (EXCLUDING FUEL) MINERALS.

Asbestos .. ..	short ton	1,072	..	..	..	14,541	..	..	15,613
Barite .. ..	ton	60	..	..	11,357	..	..	..	11,417
Clays—									
Brick Clay and Shale..	'000 tons	2,078	(g) 1,258	335	408	(g) 310	157	..	4,546
Other(h) .. ..	"	507	212	13	96	34	18	..	880
Diatomite .. ..	ton	3,941	718	..	..	..	..	..	4,659
Dolomite(f) .. ..	"	3,357	..	2,139	182,290	404	2,678	..	190,868
Felspar .. ..	"	5,325	..	..	1,147	1,942	..	..	8,414
Gypsum .. ..	"	95,514	100,386	..	340,762	44,216	..	..	580,878
Limestone(f) .. ..	'000 tons	2,400	1,157	(j)	1,064	(j)	215	(f)	5,669
Magnesite .. ..	ton	61,668	..	..	498	..	..	..	62,166
Mica—Muscovite, trimmed	lb.	..	..	..	..	..	..	9,500	9,500
Phosphate Rock .. ..	ton	..	..	..	2,234	87	..	..	2,321
Salt, Crude .. ..	"	..	71,176	(j)	359,027	(j)	..	930	463,296
Silica (Glass, Chemical, etc.)(h) .. ..	"	165,447	..	15,882	14,615	8,925	5,231	..	210,100
Talc .. ..	"	1,136	..	..	9,064	5,470	..	..	15,670

## CONSTRUCTION MATERIALS.(k)

Sand .. ..	'000 tons	2,975	1,113	(l)	1,814	(l)	21	11	5,934
River Gravel and Gravel	"	1,770	156	(l)	655	(l)	343	8	2,932
Boulders .. ..	"	157	4	5	39	112	(f)	1	318
Dimension Stone .. ..	"	3,098	8,059	2,181	7,859	908	512	(m) 226	22,843
Crushed and Broken Stone	"	..	..	..	..	..	..	..	..
Other (Decomposed Rock, etc.) .. ..	"	15,055	(j)	(l)	(l)	(j)	(f)	..	15,264

(a) Includes cupreous ore for fertilizer. (b) Bullion, alluvial, retorted gold, etc. (c) Gross weight not available. (d) Iron oxide for metal extraction. (e) Includes lead-silver ore. (f) Less than half the unit of quantity shown. (g) Estimated. (h) Incomplete; figures relate only to production reported by Mines Departments. (i) Excludes quantities used directly as a building or road material. (j) Not available for publication. (k) Incomplete owing to difficulties of coverage. (l) Not available. (m) Includes Australian Capital Territory which is not available for separate publication.

NOTE.—Particulars of uranium concentrate produced are not available for publication and have been excluded from the table above.

2. Quantities of Principal Minerals Produced, Australia.—The following table shows the quantities of the principal minerals produced in Australia during the years 1956 to 1960.

QUANTITIES OF PRINCIPAL MINERALS PRODUCED: AUSTRALIA.

Mineral.	Unit.	1956.	1957.	1958.	1959.	1960.
METALLIC MINERALS.						
Antimony Ore and Concentrate	ton	547	852	1,116	1,022	256
Bauxite .. .. .	"	10,329	7,707	6,909	14,985	69,435
Beryllium Ore .. .. .	"	318	395	247	317	190
Chromite .. .. .	"	6,096	3,049	776	120	529
Copper Ore(a) .. .. .	"	47,209	56,447	58,109	77,738	68,321
Copper Concentrate .. .. .	"	205,304	222,168	279,976	358,774	432,726
Copper Precipitate .. .. .	"	134	557	1,536	1,379	1,301
Gold Concentrate .. .. .	"	107	(b)959	1,855	1,487	75
Gold—Other Forms(c) .. .. .	oz.	(d)	(d)	(d)	(d)	(d)
Ilmenite Concentrate .. .. .	ton	4,274	71,155	69,948	83,577	106,586
Iron Ore(e) .. .. .	'000 tons	3,914	3,801	3,917	4,141	4,355
Lead Ore(f) .. .. .	ton	20,121	20,758	g 21,854	12,693	13,716
Lead Concentrate .. .. .	"	475,731	497,404	492,908	461,055	449,590
Lead-Copper Concentrate .. .. .	"	6,315	7,366	7,630	6,010	6,797
Manganese Ore .. .. .	"	59,384	77,010	59,683	89,971	60,646
Pyrite Concentrate .. .. .	"	171,859	229,125	226,744	223,004	238,630
Rutile Concentrate .. .. .	"	96,816	128,903	83,328	81,905	88,637
Tantalite-Columbite Concentrate	lb.	159,655	50,038	13,507	18,950	23,677
Tin Concentrate .. .. .	ton	2,926	2,867	3,128	3,304	3,099
Tungsten Concentrates—						
Scheelite Concentrate .. .. .	"	1,495	1,449	733	1	420
Wolfram Concentrate .. .. .	"	877	656	517	903	1,131
Zinc Concentrate .. .. .	"	530,777	556,763	503,752	473,276	549,000
Zircon Concentrate .. .. .	"	72,458	88,561	59,269	113,356	102,362
FUEL MINERALS.						
Coal, Black—						
Semi-anthracite .. .. .	'000 tons	81	71	57	54	50
Bituminous .. .. .	"	17,681	18,229	18,616	18,576	20,641
Sub-bituminous .. .. .	"	1,512	1,619	1,769	1,668	1,878
<i>Total</i> .. .. .	"	<u>19,274</u>	<u>19,919</u>	<u>20,442</u>	<u>20,298</u>	<u>22,569</u>
Coal, Brown (Lignite) .. .. .	"	10,560	10,741	11,644	13,035	14,967
NON-METALLIC (EXCLUDING FUEL) MINERALS.						
Asbestos .. .. .	short ton	9,709	14,670	15,568	17,875	15,613
Barite .. .. .	ton	6,009	9,778	6,802	6,214	11,417
Clays—						
Brick Clay and Shale .. .. .	'000 tons	3,426	3,531	3,829	4,299	4,546
Other(h) .. .. .	"	717	748	775	823	880
Diatomite .. .. .	ton	5,789	6,221	4,240	5,089	4,659
Dolomite(i) .. .. .	"	115,564	192,103	138,832	160,084	190,868
Felspar .. .. .	"	18,629	8,819	7,016	6,750	8,414
Gypsum .. .. .	"	463,355	478,436	504,938	516,791	580,878
Limestone(j) .. .. .	'000 tons	4,264	4,572	5,324	5,305	5,669
Magnesite .. .. .	ton	64,685	83,473	69,391	60,586	62,166
Mica—Muscovite, trimmed .. .. .	lb.	28,837	36,713	42,479	44,665	9,500
Phosphate Rock .. .. .	ton	6,788	11,430	7,421	4,775	2,321
Salt, Crude .. .. .	"	408,689	427,600	429,534	467,532	463,296
Silica (Glass, Chemical, etc.)(h) .. .. .	"	142,485	149,339	145,483	154,778	210,100
Talc .. .. .	"	13,160	14,441	15,393	16,376	15,670

NOTE.—See next page for footnotes.

## QUANTITIES OF PRINCIPAL MINERALS PRODUCED: AUSTRALIA(a)—continued.

Mineral.	Unit.	1956.	1957.	1958.	1959.	1960.
CONSTRUCTION MATERIALS. (j)						
Sand .. .. .	'000 tons	4,314	4,125	4,118	4,623	5,934
River Gravel and Gravel Boulders	"	2,116	1,759	2,265	2,524	2,932
Dimension Stone .. .. .	"	231	230	272	283	318
Crushed and Broken Stone .. .. .	"	14,817	15,587	15,543	19,822	22,843
Other (Decomposed Rock, etc.)	"	11,113	12,546	12,722	13,699	15,264

(a) Includes cupreous ore for fertilizer. (b) Includes a small quantity of gold ore.  
(c) Bullion, alluvial, retorted gold, etc. (d) Gross weight not available. (e) Iron oxide for metal extraction. (f) Includes lead-silver ore. (g) Includes a small quantity of lead-zinc ore.  
(h) Incomplete; figures relate only to production reported by Mines Departments. (i) Excludes quantities used directly as a building or road material. (j) Incomplete owing to difficulties of coverage.

NOTE.—Particulars of uranium concentrate produced are not available for publication and have been excluded from the table above.

3. Contents of Metallic Minerals Produced in 1960.—The following table shows the contents of metallic minerals produced in 1960 which were "pay metals" or which were recovered as "refiners' prizes". Further particulars for earlier years are shown in the following paragraph and in the sections later in this chapter covering principal contents.

## CONTENTS OF METALLIC MINERALS PRODUCED, 1960.

Content of Metallic Minerals Produced.	Unit.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Aust.
Alumina (Al <sub>2</sub> O <sub>3</sub> )	ton	1,386	2,306	(a) 14,442	..	(a) 13,259	..	..	(b) 31,393
Antimony .. .. .	"	784	2	..	..	..	..	..	786
Beryllium Oxide (BeO)	unit (c)	120	..	..	..	2,101	..	..	2,221
Cadmium .. .. .	ton	893	..	..	..	..	56	..	949
Chromic Oxide (Cr <sub>2</sub> O <sub>3</sub> )	"	..	..	(a) 265	..	..	..	..	(a) 265
Cobalt .. .. .	"	65	..	..	..	..	(d)	..	65
Copper .. .. .	"	3,572	..	82,753	5	1,661	11,680	9,764	109,435
Gold .. .. .	fine oz.	13,628	28,566	78,267	36	869,966	23,994	72,252	1,086,709
Iron(e) .. .. .	'000 tons	..	..	..	(a) 2,228	586	..	..	(b) 2,814
Lead .. .. .	ton	235,868	..	57,518	..	1,739	13,038	..	308,163
Lithium Oxide .. .. .	"	1	..	..	..	..	..	..	1
Manganese(f) .. .. .	"	342	12	(a) 1,670	..	26,561	..	..	28,585
Manganese Dioxide (MnO <sub>2</sub> )g	"	623	..	..	45	9	..	940	1,617
Monazite .. .. .	"	38	..	76	..	(a) 230	..	..	(b) 344
Platinum .. .. .	oz.	4	..	..	..	..	..	..	4
Silver .. .. .	'000	..	..	..	..	..	..	..	..
Sulphur(h) .. .. .	fine oz.	8,398	1	5,122	..	196	1,398	85	15,200
Tantalite-Columbite (Ta <sub>2</sub> O <sub>5</sub> + Nb <sub>2</sub> O <sub>5</sub> )	ton	204,358	..	24,612	(a) 31,717	24,556	54,757	..	b 340,000
Tin .. .. .	lb.	..	..	..	..	11,500	..	..	11,500
Titanium Dioxide (TiO <sub>2</sub> )	ton	223	..	(a) 885	..	190	884	20	(b) 2,202
Tungstic Oxide (WO <sub>3</sub> )	"	52,799	..	33,281	..	58,664	..	..	144,744
Zinc .. .. .	"	(d)	..	..	..	..	1,095	16	1,111
Zircon .. .. .	"	234,170	..	24,394	35	..	31,625	..	290,224
	"	65,764	..	31,752	..	(a) 3,978	..	..	b 101,494

(a) Estimated. (b) Partly estimated. (c) 1 unit = 22.4 lb. (d) Less than half the unit of quantity shown. (e) Excludes iron content of iron oxide not intended for metal extraction. (f) Content of metallurgical grade manganese ore. (g) Content of manganese ore of other than metallurgical grade. (h) Sulphur content of pyrite and other minerals from which sulphur is extracted.

NOTE.—Particulars of production of uranium oxide (U<sub>3</sub>O<sub>8</sub>) are not available for publication and have been excluded from the table above.

4. Contents of Metallic Minerals Produced in Australia, 1956 to 1960.—Particulars of the contents of metallic minerals produced in Australia in the years 1956 to 1960 are shown in the following table. Graphs showing details of the mine production of principal metals and coal from 1930 to 1961 may be found on pages 1077-78.

CONTENTS OF METALLIC MINERALS PRODUCED: AUSTRALIA.

Content of Metallic Minerals Produced.	Unit.	1956.	1957.	1958.	1959.	1960.
Alumina ( $Al_2O_3$ ) ..	ton	4,618	3,758	3,533	6,914	(a) 31,393
Antimony ..	"	903	1,209	1,356	1,280	786
Beryllium Oxide (BeO) ..	unit(b)	3,768	4,570	2,900	3,587	2,221
Bismuth ..	lb.	5,120	1,344	2,328	..	..
Cadmium ..	ton	922	979	872	860	949
Chromic Oxide ( $Cr_2O_3$ ) ..	"	2,624	(a) 1,420	(a) 386	(c) 60	(c) 265
Cobalt ..	"	59	68	71	60	65
Copper ..	"	54,547	59,255	75,715	94,950	109,435
Gold ..	fine oz.	1,029,821	1,083,941	1,103,980	1,085,104	1,086,709
Iron(d) ..	'000 tons	2,536	2,463	2,539	2,700	2,814
Lead ..	ton	299,485	333,753	328,347	316,293	308,163
Lithium Oxide ..	"	..	..	..	..	1
Manganese(e) ..	"	25,856	34,904	25,623	40,966	28,585
Manganese Dioxide ( $MnO_2$ )(f) ..	"	1,464	1,239	2,819	2,475	1,617
Molybdenum Disulphide( $MoS_2$ )(c)	lb.	190	5,236	8,568	..	..
Monazite ..	ton	93	132	423	331	(a) 344
Osmiridium ..	oz.	27	69	43	3	..
Platinum ..	"	18	17	22	..	4
Silver ..	'000 fine oz.	14,617	15,811	16,340	15,161	15,200
Sulphur(g) ..	ton	306,072	342,474	(a)322,619	(a)310,545	(a)340,000
Tantalite-Columbite ( $Ta_2O_5 + Nb_2O_5$ ) ..	lb.	85,690	23,499	6,736	8,499	11,500
Tin ..	ton	(a)2,078	1,952	2,237	(a)2,351	(a)2,202
Titanium Dioxide ( $TiO_2$ ) ..	"	95,502	163,751	119,233	125,301	144,744
Tungstic Oxide ( $WO_3$ ) ..	"	1,582	1,409	850	653	1,111
Zinc ..	"	278,082	291,582	263,044	249,133	290,224
Zircon ..	"	71,769	87,703	58,745	112,352	(a)101,494

(a) Partly estimated. (b) 1 unit = 22.4 lb. (c) Estimated. (d) Excludes iron content of iron oxide not intended for metal extraction. Partly estimated. (e) Content of metallurgical grade manganese ore. (f) Content of manganese ore of other than metallurgical grade. (g) Sulphur content of pyrite and other minerals from which sulphur is extracted.

NOTE.—Particulars of production of uranium oxide ( $U_3O_8$ ) are not available for publication and have been excluded from the table above.

5. Local Value of Minerals Produced, 1956 to 1960.—Particulars of the estimated values of minerals (mine and quarry products) produced during the years 1956 to 1960 are shown in the following table. The values represent the estimated selling value at the mine or quarry of minerals produced during the years concerned.

**LOCAL VALUE OF MINERALS PRODUCED: AUSTRALIA.**  
(£'000.)

Mineral.	1956.	1957.	1958.	1959.	1960.
<b>METALLIC MINERALS.</b>					
Copper Ore, Concentrate, etc.(a) ..	18,287	12,345	14,770	21,165	25,436
Gold Ore, Concentrate, Other Forms, etc. ..	15,509	16,090	16,251	15,853	15,873
Iron Ore(b) ..	4,449	4,295	4,393	4,633	4,844
Lead and Lead-Silver Ore and Concentrate, Lead-Copper Concentrate, etc.(a) ..	34,552	28,810	22,493	21,477	20,491
Manganese Ore ..	337	589	460	626	329
Pyritic Ore and Concentrate ..	1,023	1,166	1,112	1,068	1,136
Rutile Concentrate ..	6,430	8,577	4,524	3,838	3,639
Tin Concentrate ..	1,599	1,612	1,739	2,043	1,940
Tungsten Concentrates ..	3,332	2,167	871	410	940
Zinc Ore and Concentrate ..	8,215	3,655	2,565	4,888	7,730
Zircon Concentrate ..	604	854	487	1,008	972
Other Metallic Minerals ..	415	602	525	512	575
<i>Total, Metallic Minerals</i> ..	<i>94,752</i>	<i>80,762</i>	<i>70,190</i>	<i>77,521</i>	<i>83,905</i>
<b>FUEL MINERALS.</b>					
Coal, Black ..	52,439	52,279	51,658	49,211	54,764
Coal, Brown ..	4,644	5,228	5,418	6,123	6,845
<i>Total, Fuel Minerals</i> ..	<i>57,083</i>	<i>57,507</i>	<i>57,076</i>	<i>55,334</i>	<i>61,609</i>
<b>NON-METALLIC (EXCLUDING FUEL) MINERALS.</b>					
<i>Total, Non-metallic (excluding Fuel) Minerals</i>	<i>(c) 8,041</i>	<i>(c) 9,002</i>	<i>(c) 10,192</i>	<i>(c) 10,533</i>	<i>10,843</i>
<b>CONSTRUCTION MATERIALS.(d)</b>					
<i>Total, Construction Materials</i> ..	<i>16,444</i>	<i>17,840</i>	<i>18,497</i>	<i>21,597</i>	<i>24,541</i>
<b>TOTAL.</b>					
<i>Total, All Minerals and Construction Materials (d)</i> ..	<i>176,320</i>	<i>165,111</i>	<i>155,955</i>	<i>164,985</i>	<i>180,898</i>

(a) Prior to 1958, the value of lead-copper concentrate was included with copper ore, concentrate, etc. (b) Includes the value of iron oxide for fluxing for years prior to 1959. (c) Excludes Australian Capital Territory, details of which are included with construction materials. (d) Incomplete owing to difficulties of coverage.

NOTE.—Particulars of the value of uranium concentrate produced are not available for publication and have been excluded from the table above.

Particulars of the local value (or value of output) and net value (or value of production) of production of the principal Mining and Quarrying industries for the year 1960 are shown in para. 4 (vi.), page 1053. Owing to the necessity of classifying individual mines according to the principal mineral produced, the values in the tables on pages 1050 and 1053 for mining industry groups differ slightly in some cases from totals of the corresponding groups of mine products shown in the table above.

#### § 4. Gold.

1. Historical.—The earliest definite record of the discovery of gold in Australia was made on 15th February, 1823, by James McBrien, a surveyor, while surveying the Fish River between Rydal and Bathurst, New South Wales, and there are records of gold having been identified in several places during the next 27 years. It is believed that the first authentic



discovery of gold from which actual mining operations resulted was made in January, 1846, about 10 miles east of Adelaide, South Australia. However, credit for the first discovery of payable gold is generally given to E. H. Hargraves, who, on 3rd April, 1851, notified the Government of New South Wales of his find, located at the junction of the Summerhill and Lewis Pond Creeks in the Bathurst (N.S.W.) district. This caused a gold rush, and prospecting started in many localities.

The Colony of Victoria was separated from New South Wales on 1st July, 1851, and within a few days of its inception, the new government was notified of the discovery of gold in several places. It would appear that the Hon. W. Campbell discovered gold near Clunes (Victoria) in March, 1850, but temporarily concealed the fact, and his discovery was not disclosed until 8th July, 1851. The discovery of gold at Ballarat and Bendigo followed soon afterwards.

The early discoveries were of alluvial gold, and only crude equipment was required to work them. As a consequence, cities and towns were depleted of their population as large numbers rushed to the diggings. The Australian population growth from 438,000 at the end of 1851 to 1,168,000 at the end of 1861 can be said to be due largely to the discoveries of gold.

Discoveries continued to be made, including such important fields as Canoona (Queensland) in 1858, Forbes (New South Wales) in 1862, Gympie (Queensland) in 1868, and Charters Towers and Mount Morgan (both in Queensland) in 1882. With the discovery at Mount Lyell (Tasmania) in 1886, the major discoveries in the eastern States ceased.

Western Australia did not enter the field for a considerable time after gold mining had become well established in most of the other States. Although some specimens had been found between 1850 and 1870, it was not until 1886 that the Kimberley field was discovered, followed by Yilgarn in 1887. In 1892, Bayley and Ford discovered Coolgardie, and in May of the following year Hannan and Flannigan found Kalgoorlie. In the years since, there have been no further discoveries of major goldfields although many profitable deposits in other localities have been found and worked.

The amount of gold won in Australia in any one year attained its maximum in 1903, the year in which Western Australian production reached its highest level. For the other States, the years in which the greatest yields were obtained were as follows:—New South Wales, 1852; Victoria, 1856; Queensland, 1900; South Australia, 1904; and Tasmania, 1899. In recent years, output from the Northern Territory has expanded considerably and the highest annual production was recorded as recently as 1956.

Owing to the exhaustion of the more easily worked deposits and increased costs due to deep mining, the production of gold in Australia declined from 3,837,979 fine oz. in 1903 to 427,160 fine oz. in 1929, the lowest output since its discovery. Increased activity in prospecting due to prevailing economic conditions resulted in some improvement in 1930, but the marked development between that year and 1939 was caused by the heavy depreciation of Australian currency in terms of gold. Following the outbreak of the 1939–45 War, there was a sharp fall in gold production to 656,867 fine oz. in 1944 and 657,213 fine oz. in 1945, but with the release of man-power after the war, there has been an upward trend in mine production of gold, which in 1953 exceeded 1,000,000 fine oz. for the first time since 1942. The devaluation of Australian currency in September, 1949, gave an impetus to gold production, but this was offset in the following years by increasing costs which forced several large producers to cease operations. The payment of gold subsidy since 1954 has been an important factor in maintaining production slightly in excess of 1,000,000 fine oz. annually in subsequent years.

**2. Present Methods of Mining and Treatment.**—Gold ores can be divided into two types, namely, free-milling and refractory. Free-milling ores are those that, when finely ground, will yield their gold content to amalgamation and/or cyanidation, and these are found in most of the gold deposits of Australia.

Some refractory ores, which are not amenable to amalgamation, allow their gold to be dissolved by cyanidation, from which solution the gold is then precipitated. However, on the Coolgardie field, where gold-bearing sulphide and telluride minerals occur, it is necessary first to recover these from gangue by flotation. This concentrate is then roasted and the resulting calcine, an impure oxide containing free gold, is cyanided to yield gold. This is usually smelted as bullion, in which form it leaves the vicinity of the mine.

3. **Mine Production.**—The table hereunder shows the mine production of gold (gold content of minerals produced) during 1960 according to the mineral in which it was contained and the State or Territory of origin. It should be noted that the minerals shown below contain certain other metals in addition to gold.

## GOLD : MINE PRODUCTION, 1960.

(Fine oz.)

Mineral in which contained.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	Aust.
Copper Ore, Concentrate, etc. ..	3,066	..	64,222	..	1,313	7,188	12,545	88,334
Gold Ore, Concentrate, etc. ..	1,167	28,566	14,045	36	868,653	307	59,707	972,481
Lead Concentrate ..	7,679	..	..	..	..	3,397	..	11,076
Lead-Copper Concentrate ..	..	..	..	..	..	10,978	..	10,978
Pyrite Concentrate ..	..	..	..	..	(a)	..	..	(a)
Zinc Concentrate ..	1,716	..	..	..	..	2,124	..	3,840
<b>Total Gold ..</b>	<b>13,628</b>	<b>28,566</b>	<b>78,267</b>	<b>36</b>	<b>869,966</b>	<b>23,994</b>	<b>72,252</b>	<b>1,086,709</b>

(a) A small quantity of gold recovered from pyrite concentrate dispatched from Kalgoorlie for sulphuric acid manufacture is included with gold ore, concentrate, etc.

The principal sources of production during 1960 were as follows.

(i) *New South Wales.* There are now no mines employing four or more hands engaged solely in gold mining in New South Wales. Most of the gold produced during 1960 was contained in lead and zinc concentrates produced at Broken Hill and copper, lead, zinc and gold concentrates milled at Captain's Flat.

(ii) *Victoria.* At Chewton, near Castlemaine, one mine produced more than half of the State's production. In addition, four gold mines located in the north-east of the State each produced more than 1,000 fine oz.

(iii) *Queensland.* The copper concentrate produced at Mount Morgan contained more than three-quarters of the State's output of gold, nearly all the remaining production coming from a mine at Cracow.

(iv) *South Australia.* The only gold produced was won by prospectors.

(v) *Western Australia.* More than half of the total production came from the Coolgardie goldfields, while most of the remaining production came from the Dundas, Murchison and Yilgarn goldfields. A single mine at Fimiston maintained its position as the largest gold producer in Australia, mining 174,219 fine oz. during 1960, and three other mines each produced over 100,000 fine oz. in the same period.

(vi) *Tasmania.* Lead-copper, lead and zinc concentrates milled at Rosebery contained more than two-thirds of the gold produced in Tasmania during 1960, nearly all of the remaining production being contained in copper concentrate produced at Mount Lyell.

(vii) *Northern Territory.* Gold production in the Northern Territory is centred around Tennant Creek.

The following table shows the recorded mine production of gold (i.e., gold content of minerals produced) in the several States and in Australia as a whole during each of the ten decennial periods from 1851 to 1950, and in single years from 1951 to 1960. Owing to defective information in the earlier years, it is likely that the recorded production falls considerably short of the actual totals.

## GOLD : MINE PRODUCTION.(a)

('000 fine oz.)

Period.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Aust.
1851-60 .. ..	2,714	21,973	3	..	..	1	..	24,691
1861-70 .. ..	3,220	15,327	489	..	..	3	..	19,039
1871-80 .. ..	2,019	9,564	2,527	136	..	165	19	14,430
1881-90 .. ..	1,014	6,689	3,259	58	42	357	168	11,587
1891-1900 .. ..	2,432	7,040	5,648	52	5,252	550	214	21,188
1901-10 .. ..	2,253	7,095	5,512	73	17,784	604	111	33,432
1911-20 .. ..	1,145	3,067	2,263	55	10,671	202	23	17,426
1921-30 .. ..	204	593	434	10	4,557	43	2	5,843
1931-40 .. ..	569	1,052	1,021	53	8,474	130	84	11,383
1941-50 .. ..	572	800	750	13	6,683	157	148	9,123
1951 .. ..	49	66	79	(b)	648	15	39	896
1952 .. ..	39	68	85	(b)	727	16	45	980
1953 .. ..	26	64	92	(b)	823	17	53	1,075
1954 .. ..	32	53	98	(b)	862	19	54	1,118
1955 .. ..	30	38	64	(b)	835	17	65	1,049
1956 .. ..	29	39	56	(b)	814	17	75	1,030
1957 .. ..	31	46	63	(b)	850	20	74	1,084
1958 .. ..	19	41	75	(b)	875	22	72	1,104
1959 .. ..	13	35	92	(b)	861	21	63	1,085
1960 .. ..	14	29	78	(b)	870	24	72	1,087
<b>Total, 1851-1960 ..</b>	<b>16,424</b>	<b>73,679</b>	<b>22,688</b>	<b>450</b>	<b>61,628</b>	<b>2,400</b>	<b>1,381</b>	<b>178,650</b>

(a) Gold content of minerals produced.

(b) Less than 500 fine oz.

4. Refinery Production.—Amalgam and gold slimes from cyanide extraction are treated at the mines to produce gold bullion, which at some mines may be partly refined before dispatch to the Royal Mints, located in Melbourne and Perth. By-product gold from lead smelting is refined at Port Pirie in South Australia, while the gold contained in copper refinery sludges, resulting from electrolytic copper refining at Mount Lyell and Port Kembla, is recovered at Port Kembla. Gold bullion and other gold-bearing materials are also refined in Sydney.

Details of the refinery production of gold in Australia and the value of refined newly-won gold of Australian origin are shown in the following table for each of the years 1957 to 1961. The value of the refined newly-won gold is based on the price fixed by the Reserve Bank, but allowance is made for premiums on sales of gold overseas and for industrial purposes in Australia.

## PRODUCTION OF REFINED GOLD IN AUSTRALIA.

Particulars.	1957.	1958.	1959.	1960.	1961.
QUANTITY (FINE OZ.).					
Australian Origin—					
Newly-won Gold.. ..	1,078,419	1,069,774	1,067,129	1,045,139	1,036,947
From Scrap .. ..	21,480	17,350	20,617	22,699	22,593
Oversea Origin—					
Newly-won Gold.. ..	171,970	136,998	141,624	142,526	155,598
From Scrap .. ..	1,248	888	1,075	1,164	1,277
<b>Total .. ..</b>	<b>1,273,117</b>	<b>1,225,010</b>	<b>1,230,445</b>	<b>1,211,528</b>	<b>1,216,415</b>
VALUE (£'000).					
Newly-won Gold of Australian Origin .. ..	16,872	16,720	16,677	16,396	16,241

5. Changes in Stocks of Gold held in Australia.—The following table shows particulars of production, imports and exports of gold and changes in stocks of gold held in Australia for each of the years 1956 to 1960.

### CHANGES IN STOCKS OF GOLD HELD IN AUSTRALIA.

(Fine oz.)

Particulars.	1956.	1957.	1958.	1959.	1960.
Mine Production of Gold(a) ..	1,029,821	1,083,941	1,103,980	1,085,104	1,086,709
Imports of Gold(b)(c) ..	201,883	159,998	160,232	136,674	144,033
<i>Total</i> .. ..	<i>1,231,704</i>	<i>1,243,939</i>	<i>1,264,212</i>	<i>1,221,778</i>	<i>1,230,742</i>
Exports of Gold(b) .. ..	531,010	783,814	128,550	128,052	2,513,906
Gold Content of Ores and Concentrates Exported ..	18,177	19,561	22,453	17,941	25,803
Net Industrial Consumption of Gold .. ..	33,778	33,028	29,135	33,938	40,972
<i>Total</i> .. ..	<i>582,965</i>	<i>836,403</i>	<i>180,138</i>	<i>179,931</i>	<i>2,580,681</i>
Changes in Stocks of Gold held in Australia(d) .. ..	+ 648,739	+ 407,536	+ 1,084,074	+ 1,041,847	- 1,349,939

(a) Gold content of minerals produced in Australia. (b) Includes gold contained in matte. Excludes specie, leaf and foil and gold in unrefined forms other than the gold content of unrefined gold and silver bullion. (c) Excludes gold imported in some minor minerals. (d) Includes gold content of change in stocks of mineral products awaiting refining. The sign near the figure indicates increase (+) or decrease (-) in stocks during the period shown.

6. Production in Principal Countries.—The quantities of gold produced in the principal producing countries and the estimated world total production in each of the years 1956 to 1960, according to data published by the Mineral Resources Division of the United Kingdom Overseas Geological Surveys, are shown in the table hereunder.

### GOLD: PRODUCTION IN PRINCIPAL COUNTRIES.

('000 fine oz.)

Country.	1956.	1957.	1958.	1959.	1960.
South Africa .. ..	15,897	17,031	17,656	20,066	21,383
Canada .. ..	4,384	4,434	4,571	4,483	4,603
United States of America ..	1,827	1,794	1,739	1,603	1,667
Australia .. ..	1,030	1,084	1,104	1,085	1,087
Ghana .. ..	638	790	853	913	879
Rhodesia and Nyasaland ..	540	540	559	572	568
Colombia .. ..	438	325	372	398	434
Philippines .. ..	406	380	423	403	411
Mexico .. ..	350	346	332	314	300
Japan .. ..	241	253	261	262	260
Congo .. ..	381	381	362	354	252
<i>Estimated World Total(a)</i> ..	<i>27,800</i>	<i>29,000</i>	<i>29,900</i>	<i>32,000</i>	<i>33,400</i>

(a) Excludes U.S.S.R. The United States Bureau of Mines has estimated U.S.S.R. production at 9-10 million fine oz. per annum in recent years.

7. **Prices of Gold.**—Under existing legislation, all gold produced in Australia is sold to the Reserve Bank. The official price of gold is fixed by the Reserve Bank. On 1st May, 1954, it was raised from £15 9s. 10d. to £15 12s. 6d. per fine oz. and has remained unchanged since that date. The current price reflects the "parity" value of Australian currency established by the International Monetary Agreement Act 1947. Prior to 1947, the price of gold was based on the price for which it could be sold abroad in official markets, less cost of movement.

Average prices of gold per fine oz. at mints in Australia and on the London gold market, for the years 1957 to 1961, are shown in the following table.

**PRICES OF GOLD: AUSTRALIA AND LONDON.**  
(per fine oz.)

Place of Sale.	1957.	1958.	1959.	1960.	1961.
At Mints in Australia £A. s. d.	15 12 6	15 12 6	15 12 6	15 12 6	15 12 6
London .. Estg. s. d.	12 10 3	12 9 9	12 9 10	12 11 2	12 11 0

8. **Sales of Gold on Oversea Premium Markets.**—In November, 1951, the Commonwealth Government decided to allow Australian gold producers to benefit from the higher prices then being paid for gold on some overseas markets. To implement this decision, the Gold Producers' Association Limited was incorporated in December, 1951, and the first sales were made in that month. By arrangement with the Reserve Bank of Australia, the total quantity of newly-won gold delivered to the Bank by members of the Association in any calendar month, less the quantity required for industrial purposes in Australia, is available to the Association for sale on overseas premium markets during the ensuing two calendar months. The net proceeds from premium sales are distributed to members in proportion to their production of gold. The actual volume of sales on overseas premium markets has been dependent largely on the premium over the Australian fixed price.

The following table shows the quantity and value of gold sold on overseas premium markets and the average price realized for these sales during the years 1957 to 1961. It should be noted that this series is in no way indicative of the average return to gold producers for all gold produced.

**GOLD SOLD ON OVERSEA PREMIUM MARKETS.**

Particulars.	Unit.	1957.	1958.	1959.	1960.	1961.
Quantity ..	fine oz.	687,114	1,077,577	37,346	383,970	701,392
Value ..	£A. f.o.b.	10,760,214	2,964,600	584,129	6,056,003	11,008,009
Average Price ..	£A. s. d.	15 13 2	15 12 10	15 12 10	15 15 5	15 13 11

9. **Assistance to the Gold-Mining Industry.**—(i) *Gold Subsidy.* Towards the end of 1953, the price of gold on overseas premium markets fell sharply and conditions in the gold-mining industry became acute. Many producers were faced with the likelihood of closing down. To meet this situation, the Gold-Mining Industry Assistance Act was assented to on 18th November, 1954. The purpose of this Act was to assist the gold-mining industry in Australia and the Territories of Papua and New Guinea by the payment of a subsidy, subject to certain conditions, on the production and sales of gold. To be eligible for the subsidy, the value of a producer's output of gold must exceed 50 per cent. of the total value of his mine output. The subsidies paid under the original Act were increased under amendments enacted on 22nd October, 1957, and 22nd May, 1959. Under the Act as it now stands, the subsidy payable to small producers whose annual output does not exceed 500 fine oz. is £2 8s. 0d. per fine oz., irrespective of cost of production. For large producers, subject to certain provisions, subsidy is paid at the rate of three quarters of the excess of the average cost of production over £13 10s. 0d. per fine oz. with a maximum amount of subsidy of £3 5s. 0d. per fine oz. A producer whose output during the year exceeds 500 fine oz. may elect to be treated as a small producer. In this case the amount of subsidy allowable is reduced by one penny for each fine oz. in excess of 500 fine oz. produced. Where a producer receives an amount in excess of the official price of £15 12s. 6d. per fine oz. as a result of sales on overseas premium markets or otherwise, the subsidy payable is reduced

by the amount of the excess. The subsidy is also limited to the extent that the annual net profit of a producer shall not, with the addition of the subsidy, exceed 10 per cent. of the capital investment in the company. The maximum expenditure on development allowable in determining costs is £5 5s. Od. per fine oz. A further condition of the Act is that the recovery rate of the mine shall not fall below nine-tenths of that for the year previous to the commencement of the Act. Payments under the Act are to continue until 30th June, 1965.

Payments under the Act commenced in March, 1955, and the amounts paid to gold producers in the various States and Territories of Australia in each of the years 1957 to 1961 are shown in the following table.

NET SUBSIDY PAYMENTS TO GOLD PRODUCERS.  
(£.)

Year.	New South Wales.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Nor. Terr.	Papua and New Guinea.	Total.
1957 .. ..	34	56,044	620	..	512,708	..	8,345	10,761	588,512
1958 .. ..	26,951	38,380	3,958	..	623,394	..	16,360	44,485	753,528
1959 .. ..	107	41,500	2,937	55	652,266	..	39,181	52,449	788,495
1960 .. ..	14	45,881	881	35	698,242	..	4,253	65,292	814,598
1961 .. ..	145	63,036	1,325	..	385,306	..	4,930	44,758	699,500

(ii) *Income Taxation Exemption.* Income from gold mining is exempt from taxation in the hands of the producer. If the producer is a company, such income is exempt from taxation in the hands of the shareholders when paid as dividends.

10. *Employment in Gold Mining.*—Particulars of the numbers of persons employed in gold mining are shown in paras. 4 (ii) and (iii), pages 1051–2.

## § 5. Lead, Silver and Zinc.

1. *Historical.*—Prior to the discovery of the great Broken Hill lead-silver-zinc lode in 1883 by Charles Rasp, a boundary rider, the mining of lead-silver-zinc ores at other localities in New South Wales had been intermittent and only small quantities were produced. The Broken Hill lode has proved to be one of the biggest in the world and to date over 80 million tons of ore have been raised. The Broken Hill Proprietary Co. Ltd., now engaged in steel manufacture, was the company first formed to operate at Broken Hill and continued operations there until 1939 when the ore in its leases became exhausted. The first ores mined at Broken Hill were oxidized and required only simple smelting to produce a lead-silver bullion. No initial attempt was made to recover zinc and it was not until 1897 that the first commercial zinc concentrate was produced. The exhaustion of the oxidized ore early this century led to the mining of the deeper sulphide ores. The need to produce separate lead and zinc concentrates for smelting purposes, with economic metal recoveries, resulted in the perfection at Broken Hill of the differential ore flotation process. The preparation of sulphide concentrates by flotation methods is now used throughout the world. Mining operations at Broken Hill are now mainly carried on to the north and south of the original leases. In 1939, Lake George Mines Ltd. at Captain's Flat, near Canberra, commenced large-scale mining of a lead-zinc-copper ore body which had been first worked in 1882. The Captain's Flat mine ceased operations during 1962 because of the exhaustion of ore reserves.

Lead-silver-zinc ores have been mined in Queensland since 1870, but it was not until 1923 that the largest ore-body, at Mount Isa, was discovered by John Miles. Mount Isa Mines Ltd. commenced mining operations at this centre in 1931. Mount Isa is now the second largest centre in Australia producing lead-silver-zinc ores and the largest producer of copper. During the 1939–45 War, mining of lead-silver-zinc ores at Mount Isa was suspended in favour of copper production.

Lead-silver ores were first discovered in Western Australia in the Northampton District in 1848 and most of the subsequent production in that State has been from that District.

The first recorded production of lead in Tasmania was in 1888, and of zinc, in 1919. Production has been restricted to the West Coast.

2. *Present Methods of Mining and Treatment.*—Nearly all ores now mined are composed of deep-lying sulphide minerals and it is therefore necessary to mine these ores by underground methods. At all large mines, it is the practice to produce separate lead and zinc concentrates

with the lead concentrate containing most of the silver. These concentrates are prepared by differential flotation except in cases where a satisfactory concentrate can be obtained by gravity methods. In flotation plants, the ore is finely ground and by differential flotation a lead concentrate is first produced, with the zinc concentrate subsequently separated from the tailings. At Captain's Flat, differential flotation methods were used to produce successive concentrates of copper, lead, zinc and pyrite.

Particulars of representative Broken Hill lead and zinc concentrates are shown in para. 4 page 1047.

3. Mine Production.—The following table shows for 1960 the mine production (metal content of ores and concentrates produced) of lead, silver and zinc in Australia, and the respective minerals in which these metals were contained.

**LEAD, SILVER AND ZINC: CONTENT OF ORES AND CONCENTRATES  
PRODUCED, 1960.**

Mineral in which contained.	N.S.W.	Vic.	Q'land.	S.A.	W.Aust.	Tas.	N.T.	Aust.
<b>LEAD (tons).</b>								
Lead Ore(a) ..	44	..	1,256	..	..	..	..	1,300
Lead Concentrate ..	231,658	..	55,411	..	1,739	9,060	..	297,868
Lead-Copper Con- centrate ..	..	..	..	..	..	2,204	..	2,204
Zinc Concentrate ..	4,166	..	851	..	..	1,774	..	6,791
<b>Total Lead ..</b>	<b>235,868</b>	<b>..</b>	<b>57,518</b>	<b>..</b>	<b>1,739</b>	<b>13,038</b>	<b>..</b>	<b>308,163</b>
<b>SILVER (fine oz.).</b>								
Copper Ore ..	7	..	11	..	..	..	..	18
Copper Concentrate ..	58,760	..	501,512	..	4,983	47,092	84,785	697,132
Gold Concentrate, etc. ..	271	576	15,904	..	190,386	..	18	207,155
Lead Ore(a) ..	6,527	..	46,337	..	..	..	..	52,864
Lead Concentrate ..	8,002,023	..	4,409,933	..	1,387	447,959	..	12,861,302
Lead-Copper Con- centrate ..	..	..	..	..	..	716,940	..	716,940
Silver Ore ..	..	..	16,919	..	..	..	..	16,919
Zinc Concentrate ..	330,301	..	131,084	..	..	186,433	..	647,818
<b>Total Silver ..</b>	<b>8,397,889</b>	<b>576</b>	<b>5,121,700</b>	<b>..</b>	<b>196,756</b>	<b>1,398,424</b>	<b>84,803</b>	<b>15,200,148</b>
<b>ZINC (tons).</b>								
Zinc Ore ..	..	..	..	(b) 35	..	..	..	(b) 35
Zinc Concentrate ..	234,170	..	24,394	..	..	31,625	..	290,189
<b>Total Zinc ..</b>	<b>234,170</b>	<b>..</b>	<b>24,394</b>	<b>(b) 35</b>	<b>..</b>	<b>31,625</b>	<b>..</b>	<b>290,224</b>

(a) Includes lead-silver ore.

(b) Estimated.

The principal sources of production of lead, silver and zinc during 1960 were as follows.

(i) *New South Wales.* Lead and zinc concentrates, produced only at Broken Hill and Captain's Flat, contained nearly all the New South Wales production of lead and silver and all the zinc. The five Broken Hill mines now operating, are:—Zinc Corporation Ltd., New Broken Hill Consolidated Ltd., North Broken Hill Ltd., Broken Hill South Ltd., and Barrier Central Pty. Ltd. These mines, during 1960, produced (in terms of the contents of all ores and concentrates produced) more than three-quarters of Australia's lead and zinc and more than one half of the silver.

(ii) *Victoria.* All the silver produced was obtained from gold mining operations. No zinc-bearing minerals are mined in Victoria and lead was last mined in 1957.

(iii) *Queensland.* Mount Isa produced all the zinc concentrate and nearly all the lead concentrate in Queensland during 1960. These contained most of the State's production

of lead and silver and all the zinc. Nearly all the remaining silver was contained in copper concentrate produced at Mount Morgan.

(iv) *South Australia.* A small quantity of zinc ore for fertilizer was mined during 1960; there was no mine production of lead or silver during the year.

(v) *Western Australia.* Most of the silver produced in Western Australia was obtained from gold bullion produced by the gold-mining industry. All the lead produced was contained in lead concentrate. No zinc was produced during 1960.

(vi) *Tasmania.* All the lead, silver and zinc was produced from mines on the West Coast. All the zinc and most of the lead and silver were produced from mines at Rosebery and Mount Read and milled at Rosebery to produce separate lead, zinc, and lead-copper concentrates.

(vii) *Northern Territory.* All the silver was contained in copper concentrates produced from Tennant Creek and Rum Jungle. No ores containing lead or zinc were mined.

The table hereunder shows the quantities of lead, silver and zinc contained in minerals won in the several States and the Northern Territory during the years 1956 to 1960.

**LEAD, SILVER AND ZINC: CONTENT OF ORES AND CONCENTRATES PRODUCED.**

State or Territory.	1956.	1957.	1958.	1959.	1960.
<b>LEAD (tons).</b>					
New South Wales .. ..	238,319	266,928	246,896	246,449	235,868
Victoria .. ..	..	4	..	..	..
Queensland .. ..	43,104	51,269	65,799	54,415	57,518
South Australia .. ..	17	20	13	8	..
Western Australia .. ..	5,828	3,087	1,854	1,382	1,739
Tasmania .. ..	12,217	12,445	13,785	14,039	13,038
<b>Australia .. ..</b>	<b>299,485</b>	<b>333,753</b>	<b>328,347</b>	<b>316,293</b>	<b>308,163</b>

<b>SILVER (fine oz.).</b>					
New South Wales .. ..	9,289,583	9,969,102	8,992,293	8,555,203	8,397,889
Victoria .. ..	2,255	3,157	3,018	2,016	576
Queensland .. ..	3,731,477	4,305,886	5,710,031	4,953,209	5,121,700
South Australia .. ..	653	975	613	394	..
Western Australia .. ..	192,589	187,530	189,375	179,601	196,756
Tasmania .. ..	1,372,881	1,299,062	1,394,818	1,369,070	1,398,424
Northern Territory .. ..	27,365	45,417	49,664	101,138	84,803
<b>Australia .. ..</b>	<b>14,616,803</b>	<b>15,811,129</b>	<b>16,339,812</b>	<b>15,160,631</b>	<b>15,200,148</b>

<b>ZINC (tons).</b>					
New South Wales .. ..	229,126	241,509	211,667	202,675	234,170
Queensland .. ..	16,231	19,536	17,484	13,983	24,394
South Australia(a) .. ..	7	97	113	..	35
Western Australia .. ..	..	..	20	..	..
Tasmania .. ..	32,718	30,440	33,760	32,475	31,625
<b>Australia .. ..</b>	<b>278,082</b>	<b>291,582</b>	<b>263,044</b>	<b>249,133</b>	<b>290,224</b>

(a) Estimated.



4. **Smelter and Refinery Production.**—(i) *Lead Concentrate.* Lead concentrate produced at Broken Hill is railed to Port Pirie, in South Australia, for smelting and refining. Lead-silver bullion is produced from initial smelting, and lead, silver and gold are then refined. Cadmium is obtained from smelter fumes and refined to produce rods of metal. The sulphur dioxide gas formed during pre-smelter sintering operations is used to manufacture sulphuric acid. The antimony contained in the concentrate is alloyed with lead to form marketable antimonial lead while the copper is processed to the matte and speiss stage and sent to copper refineries for copper extraction. Because of the continued low price of lead, production in 1960 of refined metal at Port Pirie was below capacity. Some of the Broken Hill concentrate not treated at Port Pirie was exported.

Lead ore and concentrate produced at Mount Isa is smelted at the mine to derive a lead bullion which is rich in silver. All this bullion is exported to the United Kingdom for refining. A lead-copper dross is produced as a by-product of lead smelting and this is also exported.

Lead and lead-copper concentrates produced in Tasmania, and lead concentrates produced in Western Australia and at Captain's Flat in New South Wales, are exported.

(ii) *Zinc Concentrate.* More than half of the zinc concentrate produced at Broken Hill is exported, and the remainder is shipped from Port Pirie to Risdon, near Hobart, for refining. At Risdon, the Broken Hill concentrate, together with all zinc concentrate produced in Tasmania, is roasted to form zinc oxide, or calcine. Sulphur dioxide formed during this roasting process is used for the manufacture of sulphuric acid. The calcine is leached with a weak solution of sulphuric acid to form a zinc sulphate solution which, after purification, is electrolysed. Zinc of high purity is deposited on the cathodes and this zinc is melted and cast into ingots. Cadmium metal and cobalt oxide are also recovered. Lead-silver residues are recovered and forwarded to Port Pirie for smelting with lead concentrates. Copper residues are sent to Port Kembla for treatment.

Prior to 1960, zinc concentrates produced at Mount Isa and Captain's Flat were exported. Part of the 1960 production by Mount Isa and all the 1961 production at Captain's Flat were shipped to Risdon, Tasmania, for refining.

In the following table, details are given of the production and sales of refined primary lead, silver and zinc as recorded from data received from the Bureau of Mineral Resources and the Australian Mines and Metals Association. The figures shown for refined silver production include small quantities recovered from imported materials.

#### REFINED LEAD, SILVER AND ZINC : PRODUCTION AND SALES, AUSTRALIA.

Particulars.	1956.	1957.	1958.	1959.	1960.
<b>LEAD (tons).</b>					
Refined Lead— Production(a) .. .. .	194,506	192,161	191,474	185,805	189,823
Sold to Australian consumers(b) .. .. .	38,616	37,291	39,928	33,563	32,985
Sold for export(b) .. .. .	151,628	152,432	158,075	133,340	132,957
Silver-Lead Bullion— Produced for export (lead content)(a) .. .. .	41,658	46,891	57,171	50,310	52,723
<b>SILVER ('000 fine oz.).</b>					
Production(a) .. .. .	8,232	8,011	9,101	7,805	8,085
Sold to Australian consumers(b) .. .. .	1,893	4,410	4,184	4,775	5,284
Sold for export(b) .. .. .	6,214	3,397	5,074	2,722	2,740
<b>ZINC (tons).</b>					
Production(a) .. .. .	104,993	110,348	114,773	116,461	120,230
Sold to Australian consumers(b) .. .. .	69,760	78,874	72,844	78,753	90,240
Sold for export(b) .. .. .	32,718	37,316	37,989	40,950	29,335

(a) Source: Bureau of Mineral Resources.

(b) Source: Australian Mines and Metals Association.

5. Production in Principal Countries.—The following table shows, for the years 1956 to 1960, particulars of lead, silver and zinc production (mine basis) in principal producing countries, together with the estimated world total, according to data published by the Mineral Resources Division of the United Kingdom Overseas Geological Surveys.

## LEAD, SILVER AND ZINC: MINE PRODUCTION IN PRINCIPAL COUNTRIES.

Country.	1956.	1957.	1958.	1959.	1960.
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## LEAD ('000 tons).

U.S.S.R.(a)(b) .. .. .	260	280	300	320	340
Australia .. .. .	299	334	328	316	308
United States of America .. .. .	315	302	239	228	220
Mexico .. .. .	196	211	199	188	188
Canada .. .. .	169	162	167	167	169
Peru .. .. .	127	135	132	113	127
<i>Estimated World Total</i> .. .. .	<i>2,200</i>	<i>2,300</i>	<i>2,300</i>	<i>2,300</i>	<i>2,400</i>

## SILVER ('000 fine oz.).

Mexico .. .. .	43,078	47,150	47,592	44,075	44,526
Canada .. .. .	28,432	28,823	31,163	31,924	32,328
United States of America .. .. .	38,948	38,165	34,111	31,194	30,766
Peru .. .. .	22,973	24,845	25,918	27,225	30,309
U.S.S.R.(a) .. .. .	25,000	25,000	25,000	25,000	25,000
Australia .. .. .	14,617	15,811	16,340	15,161	15,200
Japan .. .. .	6,167	6,544	6,552	6,651	6,910
Bolivia .. .. .	7,543	5,375	6,051	4,504	4,887
Germany, Eastern(a) .. .. .	4,500	4,500	4,500	4,500	4,500
Congo .. .. .	3,794	3,045	3,794	4,758	3,990
<i>Estimated World Total</i> .. .. .	<i>201,000</i>	<i>205,000</i>	<i>210,000</i>	<i>204,000</i>	<i>207,000</i>

## ZINC ('000 tons).

United States of America .. .. .	484	475	368	380	389
Canada .. .. .	377	369	380	354	362
U.S.S.R.(a)(b) .. .. .	270	300	325	330	340
Australia .. .. .	278	292	263	249	290
Mexico .. .. .	245	237	221	260	267
Japan .. .. .	121	134	141	140	154
Poland .. .. .	149	129	121	127	142
Peru .. .. .	172	152	133	141	133
<i>Estimated World Total</i> .. .. .	<i>3,100</i>	<i>3,100</i>	<i>3,000</i>	<i>3,000</i>	<i>3,100</i>

(a) Estimated. (b) Smelter production.

6. Prices of Lead, Silver and Zinc.—The following table shows average prices of lead, silver and zinc in Australia and on the London Metal Exchange during the years 1957 to 1961.

## PRICES OF LEAD, SILVER AND ZINC.

Particulars.	1957.	1958.	1959.	1960.	1961.
<i>Australian Prices, in Australian currency—</i>					
Lead, per ton(a) .. £	117	87	100	100	99
Silver, per fine oz.(b) s. d.	8 3	8 0	8 2	8 3	8 4
Zinc, per ton(c) .. £	104	91	105	113	102
<i>London Metal Exchange Prices, in sterling—</i>					
Lead, per ton .. £	97	73	72	72	65
Silver, per fine oz. s. d.	6 7	6 4	6 7	6 7	6 8
Zinc, per ton .. £	82	65	80	88	78

(a) Average market price was used prior to 23rd December, 1958. On that date, the minimum price was fixed at £100 per ton. This was reduced to £95 per ton on 14th November, 1961. (b) Silver prices shown represent export parity calculated from London Metal Exchange prices. (c) Average market price was used prior to 1st January, 1958, and subsequent to 30th June, 1959. On 1st January, 1958, a minimum price was fixed at £90 and this minimum was raised to £100 on 22nd December, 1958. The minimum price was abolished on 1st July, 1959.

7. **Employment in Lead, Silver and Zinc Mining.**—Particulars of the number of persons employed in mining for these metals are shown in paras. 4 (ii) and (iii), pages 1051–2.

## § 6. Copper.

1. **Historical.**—Copper was first discovered in Australia in 1842, at Kapunda in South Australia and in the Northampton district of Western Australia. The subsequent large-scale mining of the South Australian deposits contributed significantly to that State's development, but now only very small quantities are mined in South Australia.

The mining of copper commenced in New South Wales in 1847, near Rockley. Copper was first recognized in the Cobar district in 1869, and large-scale mining continued at Cobar until 1952. Other fields were opened at Mount Hope in 1878, Nymagee in 1880 and Captain's Flat in 1882, but none of these is now producing, the last centre to close down being Captain's Flat which ceased operations in 1962.

The first important discovery of copper in Queensland was made in 1862, when a rich lode was found near Clermont. Copper was discovered in the Herberton mineral field in 1879 and at Mount Morgan in 1882. The copper ore body at Mount Isa was not recognized as an outcrop when the lead-zinc ore body was discovered in 1923, and was discovered as a result of underground development.

Copper mining was first undertaken at Mount Isa during the 1939–45 War, but it was not until the erection of a copper smelter at that centre that large-scale production commenced. The Mount Isa mine is today Australia's largest producer of copper.

In Tasmania, the Mount Lyell deposit was discovered in 1886.

2. **Present Methods of Mining and Treatment.**—Most of the large copper ore bodies contain the mineral chalcopyrite, an iron-copper sulphide. Copper ore is mined by open-cut methods at Mount Morgan and Mount Lyell and by underground methods at Mount Isa and Ravensthorpe (Western Australia). Oxidized copper ore is mined at Mount Isa and at numerous other localities, mainly in Western Australia.

It is the practice for the sulphide ore to be finely ground and for the chalcopyrite contained in it to be recovered by flotation. At Mount Lyell and Mount Morgan, the tailings from the copper flotation are subjected to a further flotation and a pyrite concentrate is produced. The oxidized ore mined at Mount Isa is not concentrated and is fed direct to the smelters.

3. **Mine Production.**—The following table shows for 1960 the copper content of all minerals produced in the several States and the Northern Territory.

**COPPER: CONTENT OF ORES AND CONCENTRATES PRODUCED, 1960.**  
(Tons.)

Mineral in which Contained.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	Aust.
Copper Ore, Concentrate, etc. . . . .	898	..	82,163	5	1,656	10,798	9,764	105,284
Gold Concentrate . . . . .	..	..	..	..	5	..	..	5
Lead Concentrate . . . . .	2,134	..	590	..	..	86	..	2,810
Lead-Copper Concentrate . . . . .	..	..	..	..	..	598	..	598
Zinc Concentrate . . . . .	540	..	..	..	..	198	..	738
<b>Total . . . . .</b>	<b>3,572</b>	<b>..</b>	<b>82,753</b>	<b>5</b>	<b>1,661</b>	<b>11,680</b>	<b>9,764</b>	<b>109,435</b>

The following were the principal sources of copper during 1960.

- (i) *New South Wales.* Most of the copper produced in this State was contained in lead concentrate milled at Broken Hill. At Captain's Flat, nearly all the copper was contained in copper concentrate. During 1960, the search for ore along the Cobar line of lode and in the surrounding districts was actively continued. The prospecting methods employed included geological mapping, geophysical work, geochemistry and diamond drilling. Deep diamond drilling was carried out and the de-watering of underground workings commenced. Prospecting work consisted largely of "follow-up" work on magnetic anomalies by geological investigations and by ground geophysical methods.
- (ii) *Victoria.* There was no copper ore mined in Victoria during 1960.
- (iii) *Queensland.* Mount Isa was the most important copper producing centre in Australia, its 1960 output being 66 per cent. of the Australian total. The copper produced at Mount Isa is contained in copper sulphide concentrate, oxidized copper ore and lead concentrate. Copper concentrate produced at Mount Morgan contained most of the remainder.
- (iv) *South Australia.* Only a small quantity of copper ore for fertilizer was produced during 1960.
- (v) *Western Australia.* More than one half of the copper mined was contained in copper concentrate produced at Ravensthorpe. The remainder was contained in copper ore won at various localities in the State for fertilizer manufacture.
- (vi) *Tasmania.* Most of the State's production was at Mount Lyell, where copper was contained in copper concentrate, ore and precipitate. Lead-copper concentrate, lead concentrate and zinc concentrate milled at Rosebery made up the remainder of Tasmania's production.
- (vii) *Northern Territory.* Copper concentrate from Tennant Creek contained most of the Territory's output of copper. The remainder was contained in copper concentrate and precipitate produced at Rum Jungle.

The table hereunder shows the quantities of copper contained in minerals produced in the several States and the Northern Territory during the years 1956 to 1960.

**COPPER: CONTENT OF ORES AND CONCENTRATES PRODUCED.**  
(Tons.)

State or Territory.	1956.	1957.	1958.	1959.	1960.
New South Wales . . . . .	4,289	4,382	4,023	3,728	3,572
Victoria . . . . .	..	..	..	14	..
Queensland . . . . .	35,708	35,786	50,511	66,798	82,753
South Australia . . . . .	1	2	1	16	5
Western Australia . . . . .	740	788	1,107	2,197	1,661
Tasmania . . . . .	8,807	10,984	11,413	12,244	11,680
Northern Territory . . . . .	5,002	7,313	8,660	9,953	9,764
<b>Australia . . . . .</b>	<b>54,547</b>	<b>59,255</b>	<b>75,715</b>	<b>94,950</b>	<b>109,435</b>

4. **Smelter and Refinery Production of Copper.**—Most of the copper concentrate milled in Australia is smelted locally, blister copper being produced at Mount Isa, Mount Morgan, Mount Lyell and Port Kembla.

Blister copper smelted at Mount Isa is railed to Townsville for electrolytic refining at the refinery which commenced production there in 1959. Mount Lyell blister copper is electrolytically refined at Mount Lyell and the bulk is re-melted and cast into primary shapes at Port Kembla. Mount Morgan blister copper is shipped to Port Kembla, where together with blister produced at Port Kembla, it is refined. Most Port Kembla copper is electrolytically refined, although fire refining, which is a cheaper process and undertaken when there are no other metals to be recovered, is used to a lesser extent. Copper from some copper drosses and speisses, by-products of lead refining operations at Port Pirie, is also extracted at Port Kembla.

At Port Kembla, gold and silver contained in electrolytic refining tank house slimes from Mount Lyell, Townsville, and Port Kembla are recovered.

In the following table, details are given of the production of blister copper, and the production and sales of refined copper for the years 1956 to 1960.

#### METALLIC COPPER: PRODUCTION AND SALES, AUSTRALIA.

(Tons.)

Particulars.	1956.	1957.	1958.	1959.	1960.
Blister Copper—					
Production(a)(b) ..	49,030	50,403	64,608	68,494	71,037
Refined Copper(c)—					
Production(a) ..	29,307	32,880	43,276	51,593	70,652
Sold to Australian Consumers(d) ..	29,038	34,114	43,035	43,072	70,481
Sold for Export(d) ..	650	..	..	..	..

(a) Source: Bureau of Mineral Resources.  
(c) Refined from domestic primary copper.

(b) Production for refining in Australia or overseas.  
(d) Source: Australian Mines and Metals Association.

5. **Production in Principal Countries.**—The following table shows the mine production of copper for the years 1956 to 1960 in the principal producing countries, as published by the Minerals Resources Division of the United Kingdom Overseas Geological Surveys, and their estimate of total world production in those years.

#### COPPER: MINE PRODUCTION IN PRINCIPAL COUNTRIES.

('000 tons.)

Country.	1956.	1957.	1958.	1959.	1960.
United States of America ..	986	970	874	736	964
Rhodesia and Nyasaland ..	399	432	401	545	581
Chile ..	482	478	460	538	524
U.S.S.R.(a) ..	400	400	430	430	450
Canada ..	317	321	308	353	391
Congo(b) ..	246	238	234	278	296
Peru ..	46	56	53	47	180
Australia ..	55	59	76	95	109
Japan ..	77	80	80	84	88
Mexico ..	54	60	64	56	59
South Africa ..	46	46	49	50	45
Philippines ..	27	40	46	49	43
<i>Estimated World Total</i> ..	<i>3,400</i>	<i>3,500</i>	<i>3,400</i>	<i>3,600</i>	<i>4,100</i>

(a) Estimated.

(b) Smelter production.

6. Prices.—Details of the average market price for the years 1957 to 1961 are given in terms of Australian currency and sterling in the following table.

**AVERAGE PRICE OF ELECTROLYTIC COPPER IN AUSTRALIA AND THE UNITED KINGDOM.**

(£ per ton.)

Country.	1957.	1958.	1959.	1960.	1961.
Australia — in Australian currency(a) .. ..	341	284	312	324	307
United Kingdom—in sterling	220	193	235	239	228

(a) Ex works Port Kembla.

7. Employment in Copper Mining.—Particulars of the numbers of persons engaged in the mining of copper and copper-gold ores are shown in paras. 4 (ii) and (iii), pages 1051–2.

8. Assistance to the Copper-mining Industry.—(i) *Copper Bounty*. The Copper Bounty Act was enacted in 1958, following a Tariff Board inquiry and recommendation, to provide assistance to the industry partly by duty and partly by bounty. The provisions of the Act were reviewed in 1960, and it will continue in its present form until 31st December, 1963. The bounty is payable on copper sold on the Australian market, and provides in effect payment at the rate of £1 for each £1 by which the Australian price falls short of £340, with a maximum of £35 a ton, or, in the case of producers of 50 tons per annum or more, such lesser bounty as will give a return of 10 per cent. on assessed capital employed in the production of copper. The bounty reduced the net effective price of copper to Australian consumers from £340 to £305. A duty is imposed on imported copper when the Australian equivalent of the London Metal Exchange price falls below £290 (£Stg.232), increasing by £1 for each £1 that the Australian equivalent falls below £290. Including freight and other charges, the landed cost is thus expected to be maintained at about £305 so long as the Australian equivalent of the London Metal Exchange price is not in excess of £290.

(ii) *Income Taxation Concession*. One-fifth of the net income from copper mining is exempt from taxation in the hands of the producer. If the producer is a company, this concession also applies to such income when paid to the shareholders as dividends.

## § 7. Tin.

1. *Historical*.—Although specimens of tin had been found in New South Wales as early as 1851, it was not until tin stone was discovered near Inverell in 1872 that mining operations commenced. The New England area is still the most important producing area in New South Wales.

The first notable discovery of tin in Queensland occurred in 1872, when rich deposits of stream tin were found in the country to the south of Warwick, but these alluvial deposits soon became exhausted. In 1879, important discoveries were made in the Herbert River district and rich fields, including that at Herberton, were opened up.

Tin was first discovered in Western Australia in 1888, and since then has been found in several widely separated localities in the State. More than half of the production to date has come from the Greenbushes Mineral Field, and most of the remainder from the Pilbara goldfield.

Tin mining in Tasmania dates from the year 1871, when the Mount Bischoff mine was discovered. Soon afterwards, rich deposits were located in the north-east of the State and near St. Helens. In 1875, tin was discovered at Mount Heemskirk.

2. *Present Methods of Mining and Treatment*.—All tin produced in Australia is contained in tin concentrate, which is usually of the mineral cassiterite (tin oxide). The greater proportion of the production is obtained from alluvial workings as a gravity concentrate. In the lode deposits, tin is usually not associated with other recoverable minerals. However,

at two mines in Tasmania tin is associated with wolfram and sulphide minerals. At these mines, a gravity concentrate of tin, wolfram and sulphide minerals is obtained and from this the wolfram is separated by electromagnetic means. The tin and sulphide minerals are separated by flotation, the sulphides being floated off and the tin remaining as tailings.

3. **Mine Production.**—The following table sets out the tin content of tin concentrate produced in Australia during the years 1956 to 1960. No tin is recorded from minerals other than tin concentrate.

**TIN: CONTENT OF TIN CONCENTRATES PRODUCED.**

(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	269	211	239	174	223
Victoria .. ..	..	(a)	..	..	..
Queensland .. ..	(b) 630	772	1,019	(b) 1,104	(b) 885
Western Australia .. ..	240	182	94	174	190
Tasmania .. ..	938	777	883	890	884
Northern Territory .. ..	1	10	2	9	20
<b>Australia .. ..</b>	<b>2,078</b>	<b>1,952</b>	<b>2,237</b>	<b>2,351</b>	<b>2,202</b>

(a) Less than half a ton.

(b) Estimated.

The following were the principal sources of production in 1960.

- (i) *New South Wales.* Virtually the whole of the State's production was from alluvial deposits. The New England region, mainly around Tingha, produced over 55 per cent. of the total production.
- (ii) *Victoria.* No tin was produced in Victoria.
- (iii) *Queensland.* Most of the tin concentrate produced in Queensland was from the Herberton field, principally alluvial tin concentrate being produced. Tin concentrate was also produced in the Chillagoe, Kangaroo Hills and Cooktown districts.
- (iv) *South Australia.* No tin was produced in South Australia.
- (v) *Western Australia.* Nearly all the tin concentrate produced in Western Australia was lode tin won from the Pilbara field.
- (vi) *Tasmania.* Most of the tin concentrate produced in Tasmania is won in the north-east part of the State, from both lode and alluvial deposits. The largest amount of tin concentrate produced in Australia during 1960 came from a lode deposit in north-east Tasmania, and wolfram concentrate, as well as tin concentrate, was produced.
- (vii) *Northern Territory.* Almost the whole of the Territory's output of tin came from a single mine at Mount Harris.

4. **Smelter and Refinery Production.**—Except for occasional small parcels of concentrate shipped to overseas smelters, all local production is treated by the two tin smelters located in Sydney. The combined capacity of the two smelters is well in excess of the domestic supply of concentrates and there seems little prospect of this capacity being fully utilized in the foreseeable future unless concentrates could be economically imported and smelted.

The production of refined tin in Australia from locally produced tin concentrate during recent years, as recorded by the Bureau of Mineral Resources, was as follows:—1957, 1,806 tons; 1958, 2,121 tons; 1959, 2,226 tons; 1960, 2,254 tons; and 1961, 2,599 tons.

5. **Production in Principal Countries.**—World production of tin reached its maximum in 1941 when 241,400 tons were recorded. Australia's contribution to the world's tin production is about 1 per cent.

The production of tin ore (metal content) as published by the Mineral Resources Division of the United Kingdom Overseas Geological Surveys, for the principal producing countries in 1959 and 1960, was as follows.

#### TIN : PRODUCTION IN PRINCIPAL COUNTRIES.

(Tons.)

Country.	Production.		Country.	Production.	
	1959.	1960.		1959.	1960.
Malaya, Federation of	37,521	51,979	Australia .. ..	2,351	2,202
China(a)(b) .. ..	21,000	24,000	Burma(c) .. ..	1,400	1,440
Indonesia .. ..	21,613	22,594	South Africa .. ..	1,272	1,276
Bolivia .. ..	23,811	19,404	United Kingdom .. ..	1,189	1,172
Thailand .. ..	9,684	12,080	Japan .. ..	998	842
Congo(b) .. ..	10,332	10,118	<i>Estimated World</i>		
Nigeria .. ..	5,491	7,677	<i>Total(d)</i> .. ..	141,000	160,000

(a) Estimated smelter production.

(b) Estimated by the International Tin Council.

(c) Estimated.

(d) Excludes U.S.S.R., Czechoslovakia and Vietnam.

6. **Prices.**—Details of the movement in average market prices of tin for the years 1957 to 1961 are given in terms of Australian currency and sterling in the following table.

#### AVERAGE PRICE OF TIN IN AUSTRALIA AND THE UNITED KINGDOM.

(£ per ton.)

Country.	1957.	1958.	1959.	1960.	1961.
Australia — in Australian currency .. ..	992	995	1,058	1,042	1,170
United Kingdom—in sterling	755	735	786	794	895

7. **Employment in Tin Mining.**—The number of persons employed in tin mining is shown in paras. 4 (ii) and (iii), pages 1051–2.

### § 8. Iron.

1. **Historical.**—Iron ore was first mined in New South Wales to supply raw material for the ironworks that were established near Mittagong in 1852. Iron ore for the ironworks established later at Lithgow was drawn from Carcoar, near Bathurst.

In South Australia, the iron ore deposits of the Middleback Ranges, near Whyalla, were first mined by the Broken Hill Proprietary Co. Ltd. in 1900 to provide a flux for lead smelting operations at Port Pirie. When that company opened its Newcastle steelworks in 1915, it greatly expanded ore production from the Middleback Ranges and most of the Australian steel industry's requirements of iron ore still come from this source.



Regular shipments of iron ore from Yampi Sound, north of Derby in Western Australia, to the steelworks at Port Kembla commenced in 1951. Iron ore for the iron smelter at Wundowie, which commenced operations in 1948, has in recent years been provided entirely from the deposits at Koolyanobbing, near Southern Cross. The Koolyanobbing deposits will be worked on a very much larger scale eventually and will supply the ore for an iron and steel industry to be established at Kwinana, south of Perth. A blast furnace is expected to be in operation in 1968.

In December, 1960, the Commonwealth Government announced a partial relaxation of the embargo on the export of iron ore which had been in force since 1938. Exports are now permitted from some deposits on a controlled basis.

Following this decision, tenders were called for the mining and export of iron ore from two known deposits in Western Australia, Talling Creek and Mount Goldsworthy. The modification of the export embargo has greatly increased exploration for iron ore. Of particular importance was the announcement late in 1961 of the discovery of extensive deposits in the Pilbara district, in the north-west of Western Australia. An extensive testing programme is envisaged to determine the size and grade of these deposits.

Other deposits under examination include Constance Range (Queensland), Scott River (Western Australia) and Savage River (Tasmania).

Besides the large quantities of iron ore that are mined for metal extraction purposes, smaller quantities of iron oxide are mined for other purposes, such as gas purification, cement manufacture, coal washing and fluxing.

**2. Methods of Mining and Treatment.**—All iron ore and iron oxide is won by opencut mining. The ore is selectively mined, crushed and screened to provide a standard assay and size for blast furnace use. No concentration is carried out. The iron ore from Yampi Sound, however, is powdery and friable and has to be sintered, or agglomerated, before making up the furnace charge.

**3. Mine Production of Iron Ore.**—Iron oxide deposits exist in all States and in the Northern Territory, but at present iron oxide for metal extraction purposes, termed iron ore in this chapter, is produced in two States only. The following table shows the estimated iron content of iron ore produced during the years 1956 to 1960.

#### IRON : ESTIMATED IRON CONTENT OF IRON ORE PRODUCED.

(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
South Australia .. ..	2,324,825	2,199,981	2,173,922	2,218,846	2,227,551
Western Australia .. ..	211,215	262,519	365,275	480,769	586,404
<b>Australia .. ..</b>	<b>2,536,040</b>	<b>2,462,500</b>	<b>2,539,197</b>	<b>2,699,615</b>	<b>2,813,955</b>

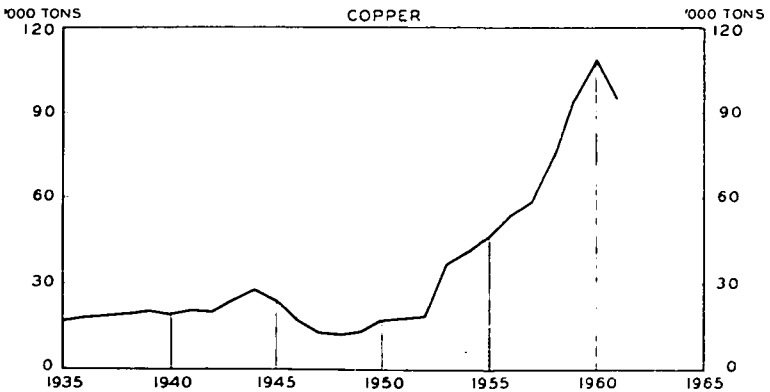
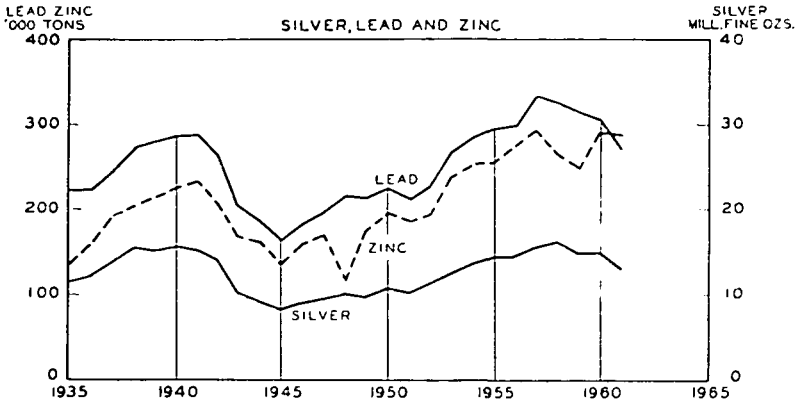
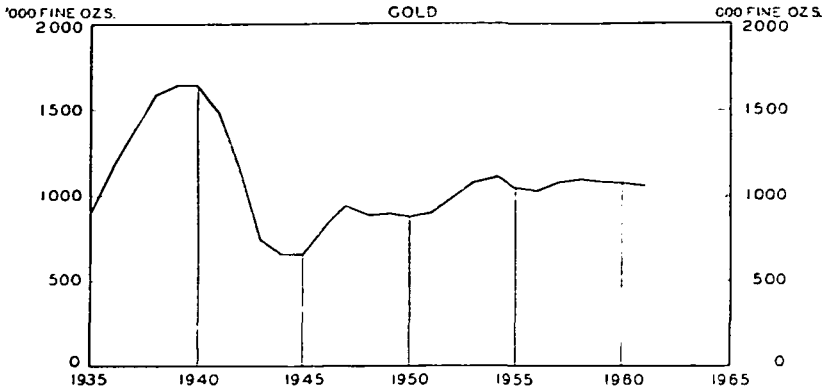
The producing centres during 1960 were as follows.

- (i) *South Australia.* During 1960, 3,427,001 tons of iron ore were drawn from the Iron Monarch and Iron Baron deposits in the Middleback Ranges. Selected foundry grade ore was diverted as required to the Whyalla blast furnace, but the greater part was shipped to Newcastle and Port Kembla for smelting.
- (ii) *Western Australia.* During the year, 837,147 tons of ore were shipped from Yampi Sound, north of Derby, to New South Wales for sintering and smelting. A quantity of 91,316 tons was mined at Koolyanobbing, near Southern Cross, for pig iron production at Wundowie.

**4. Mine Production of Iron Oxide.**—Production of iron oxide, excluding that used for metal extraction (iron ore) and mineral pigments, in the several States during 1960, according to end use, is shown in the following table.

MINE PRODUCTION OF PRINCIPAL METALS  
(METALLIC CONTENT OF MINERALS)

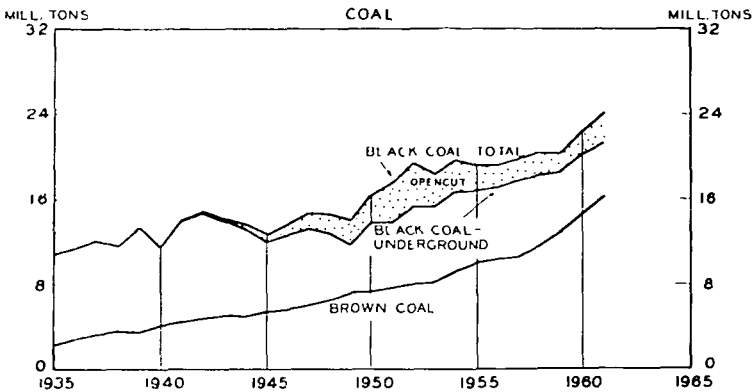
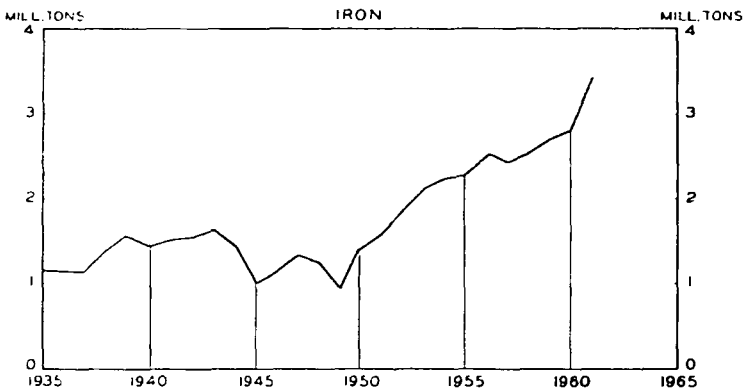
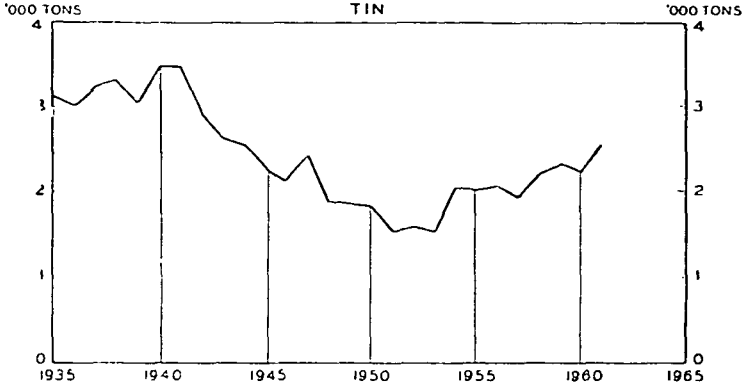
AUSTRALIA, 1935 TO 1961



MINE PRODUCTION OF PRINCIPAL METALS  
AND PRODUCTION OF COAL

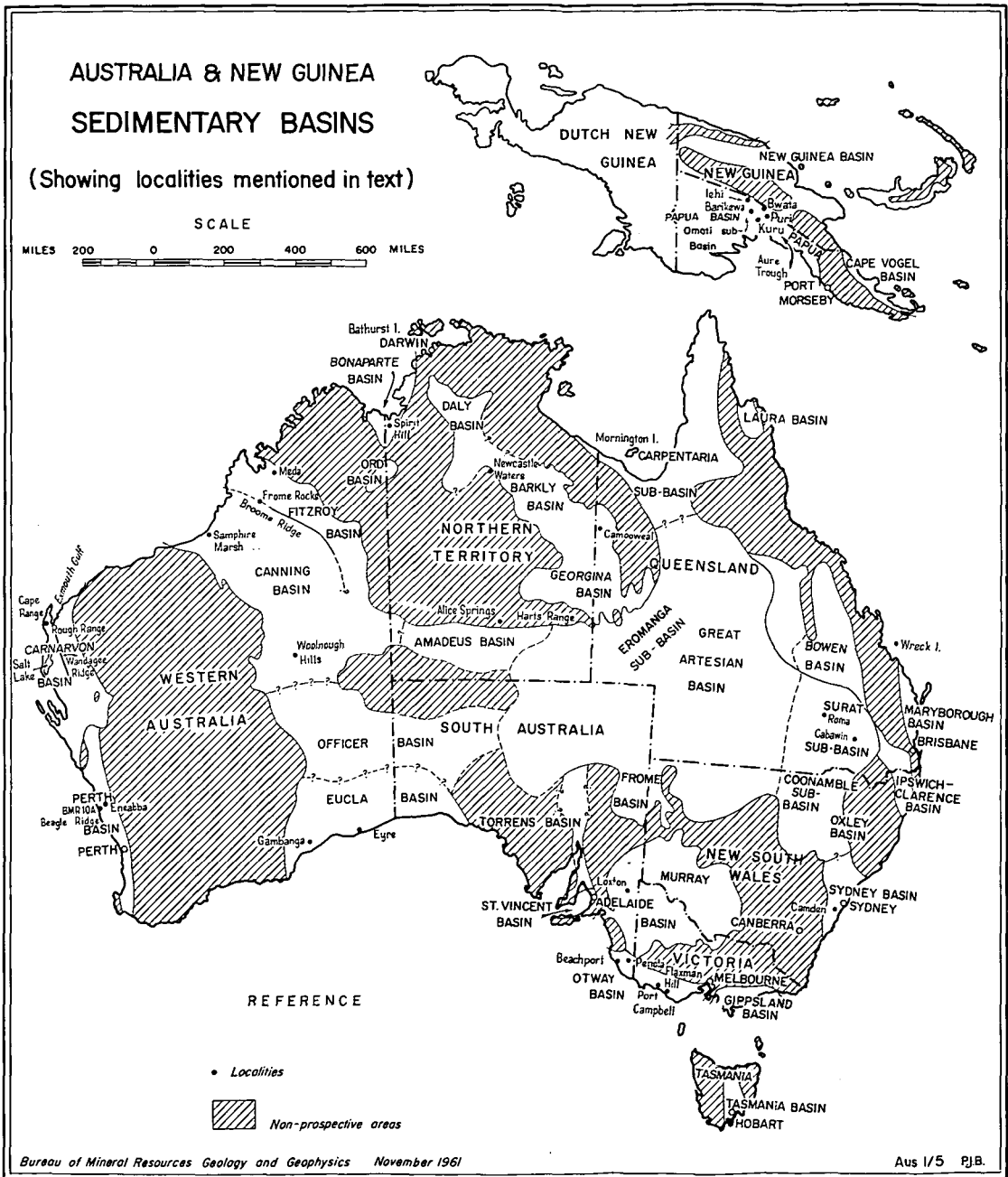
(METALLIC CONTENT OF MINERALS)

AUSTRALIA, 1935 TO 1961



# AUSTRALIA & NEW GUINEA SEDIMENTARY BASINS

(Showing localities mentioned in text)





**IRON OXIDE PRODUCTION, 1960.**  
(Tons.)

Use.	New South Wales.	Victoria.	Queensland.	South Australia.	Tasmania.	Australia.
For gas purification ..	1,589	1,153	..	..	228	2,970
For cement manufacture ..	10,748	..	1,759	..	3,269	15,776
For coal washing ..	386	..	..	..	..	386
For fluxing ..	..	..	..	9,600	..	9,600
<b>Total ..</b>	<b>12,723</b>	<b>1,153</b>	<b>1,759</b>	<b>9,600</b>	<b>3,497</b>	<b>28,732</b>

The principal sources of iron oxide production during 1960 were as follows.

- (i) *New South Wales.* Quantities of iron oxide for gas purification were obtained from deposits near Port Macquarie, while that used for cement manufacture was mined from the Lithgow, Mudgee and Rylstone mining divisions. Magnetite, used in coal washing, was produced in the Copmanhurst mining division and also from beach sand deposits near Murwillumbah.
- (ii) *Victoria.* Limonite ore used for gas purification was mined at Buchan.
- (iii) *Queensland.* Iron oxide produced for cement manufacture was mined near Townsville.
- (iv) *South Australia.* A quantity of 9,600 tons drawn from the Middleback Ranges was dispatched to Port Pirie for use as a flux in lead smelting operations.
- (v) *Tasmania.* Iron oxide for gas purification and cement manufacture was mined in the vicinity of Penguin.

Particulars of Australian production of iron oxide for the years 1956 to 1960, according to end use, are shown in the following table.

**IRON OXIDE PRODUCTION: AUSTRALIA.**  
(Tons.)

Use.	1956.	1957.	1958.	1959.	1960.
For gas purification ..	6,479	5,338	2,864	4,355	2,970
For cement manufacture ..	9,126	9,759	6,093	9,485	15,776
For coal washing ..	..	4	25	30	386
For fluxing ..	10,440	4,650	8,100	9,600	9,600
<b>Total ..</b>	<b>26,045</b>	<b>19,751</b>	<b>17,082</b>	<b>23,470</b>	<b>28,732</b>

5. *Iron and Steel Production.*—The production of pig-iron and steel ingots in Australia, of which New South Wales is the main producing State, is shown in the following table for each of the years ended 31st May, 1952 to 1961.

**PIG-IRON AND INGOT STEEL: PRODUCTION, AUSTRALIA.**  
(Tons.)

Year ended 31st May.	Pig-iron. (a)	Steel Ingots. (b)	Year ended 31st May.	Pig-iron. (a)	Steel Ingots. (b)
1952 ..	1,430,027	1,521,386	1957 ..	2,098,352	2,773,995
1953 ..	1,691,693	1,801,028	1958 ..	2,283,925	3,037,705
1954 ..	1,826,711	2,116,813	1959 ..	2,293,709	3,203,584
1955 ..	1,868,841	2,208,708	1960 ..	2,655,237	3,519,719
1956 ..	1,910,521	2,320,289	1961 ..	3,001,800	3,748,037

(a) Includes pig-iron for castings; excludes ferro-alloys. (b) Includes recovery from scrap.

In 1961, ten blast furnaces were operating in Australia; four at Port Kembla and three at Newcastle in New South Wales, two at Wundowie, Western Australia, and one at Whyalla, South Australia. During 1961, ingot steel was produced from 28 open-hearth furnaces (17 at Newcastle and 11 at Port Kembla) and from 11 electric furnaces (5 at Newcastle, 2 at Melbourne, 1 at Whyalla, 2 at Port Kembla and 1 at Bell Bay).

6. **Production of Iron and Steel in Principal Countries.**—Particulars of the production in the principal countries and the estimated world total production during the calendar years 1959 and 1960, according to figures published by the Mineral Resources Division of the United Kingdom Overseas Geological Surveys, are shown in the next table.

#### IRON AND STEEL: PRODUCTION IN PRINCIPAL COUNTRIES.

(<sup>0</sup>000 Tons.)

Country.	Pig-iron and Ferro-alloys.		Steel Ingots and Castings.	
	1959.	1960.	1959.	1960.
United States of America ..	55,516	61,220	83,434	88,644
U.S.S.R. .. .. .	42,293	46,019	59,003	64,261
Germany, Federal Republic ..	18,103	25,332	25,414	33,562
United Kingdom .. .. .	12,583	15,763	20,186	24,305
Japan .. .. .	9,791	12,197	16,366	21,789
China .. .. .	20,200	27,100	13,140	18,160
France .. .. .	12,275	13,922	14,978	17,008
Italy .. .. .	2,157	2,780	6,655	8,099
Belgium .. .. .	5,871	6,449	6,330	7,070
Czechoslovakia .. .. .	4,177	4,621	6,039	6,661
Poland .. .. .	4,305	4,491	6,062	6,575
Canada .. .. .	3,856	3,943	5,269	5,169
Luxembourg .. .. .	3,357	3,726	3,605	4,019
Saar .. .. .	3,169	(a)	3,536	(a)
Australia .. .. .	2,507	2,876	3,395	3,694
Germany, Eastern .. .. .	1,868	1,963	3,156	3,283
India .. .. .	3,144	4,197	2,429	3,234
Sweden .. .. .	1,481	1,606	2,795	3,165
Austria .. .. .	1,808	2,196	2,472	3,113
<i>Estimated World Total ..</i>	<i>220,000</i>	<i>255,000</i>	<i>299,400</i>	<i>340,100</i>

(a) Included with Germany (Federal Republic).

### § 9. Mineral Sands.

1. **Historical.**—In recent years, the growing world demand for rutile as a coating for electric welding rods and as a source of titanium metal, and for ilmenite in the production of titanium pigments, has brought about a rapid expansion of Australian mineral sands mining. Australia is the largest producer of rutile and zircon in the world, and nearly all this production comes from the mineral sands deposits along the beaches of the east coast. The ilmenite produced on the east coast has proved unsuitable for titanium oxide pigment manufacture, and most of the production is discarded. However, ilmenite produced from mineral sands mined in Western Australia since 1956 has a much lower chromic oxide content than east coast ilmenite, and is therefore suitable for pigment production.

The first commercial development of the mineral sands deposits commenced at Byron Bay in New South Wales in 1934, when a mixed zircon-rutile-ilmenite concentrate was prepared. Large scale production of zircon-rutile concentrate commenced in Queensland in 1941 when electromagnetic separators were installed to separate the ilmenite. In 1943, after the installation of electrostatic separators, a rutile concentrate was produced. The Commonwealth Government banned the export of mixed concentrates in 1944, and all east coast operators now produce separate concentrates of rutile, zircon and ilmenite. In addition, a few companies produce a high-grade monazite concentrate.

Following the record post-war output of rutile in 1957, production was on a reduced scale during the period 1958-60, mainly because of greatly reduced prices offering on world markets. However, during the second half of 1961 the price of rutile improved and production increased. Strengthening of the rutile market was due in part to the rationalization of the Australian industry and also to increased demand for rutile.

2. **Present Methods of Mining and Treatment.**—Mineral bearing sands are usually recovered from sand dunes, but deposits occurring below sea level are recovered by suction dredges. The mineral sands and beach sand (quartz) are gravity concentrated, either by shaking tables or by spiral concentrators, resulting in the complete elimination of quartz and leaving a mixed concentrate of heavy minerals. Magnetic ilmenite and monazite are separated by electromagnetic methods and are then separately recovered, using increasing magnetic intensities. The remaining zircon and rutile are separated mainly by the use of electrostatic separators.

3. **Mine Production.**—(i) *Titanium Dioxide.* The following table shows the quantities of titanium dioxide contained in rutile and ilmenite concentrates produced during the years 1956 to 1960.

**TITANIUM DIOXIDE: CONTENT OF CONCENTRATES PRODUCED.**  
(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
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CONTAINED IN RUTILE CONCENTRATE.

New South Wales .. ..	62,470	83,363	44,915	44,792	52,262
Queensland .. ..	30,772	41,500	35,755	34,736	33,260
Western Australia .. ..	..	..	285	96	493
<b>Australia .. ..</b>	<b>93,242</b>	<b>124,863</b>	<b>80,955</b>	<b>79,624</b>	<b>86,015</b>

CONTAINED IN ILMENITE CONCENTRATE.

New South Wales .. ..	481	485	59	111	537
Queensland .. ..	..	78	..	..	21
Western Australia .. ..	1,779	38,325	38,219	45,566	58,171
<b>Australia .. ..</b>	<b>2,260</b>	<b>38,888</b>	<b>38,278</b>	<b>45,677</b>	<b>58,729</b>

(ii) *Zircon.* The quantities of zircon mineral contained in zircon concentrate produced during the years 1956 to 1960 are shown in the table below.

**ZIRCON: CONTENT OF ZIRCON CONCENTRATE PRODUCED.**  
(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	50,135	58,747	32,230	71,156	65,764
Queensland .. ..	21,634	28,956	26,412	34,504	31,752
Western Australia .. ..	..	..	103	6,692	(a) 3,978
<b>Australia .. ..</b>	<b>71,769</b>	<b>87,703</b>	<b>58,745</b>	<b>112,352</b>	<b>101,494</b>

(a) Estimated.

(iii) *Other Products.* During 1960, small quantities of monazite concentrate, magnetite and garnet concentrate were also recovered from mineral sands.



(iv) *Sources of Production.* The principal sources of mineral sands treated during 1961 were as follows.

- (a) *New South Wales and Queensland.* The main deposits of mineral sands occur along the eastern Australian coast from Wyong in New South Wales to Curtis Island, Queensland. At present, the principal mining operations are located between Lake Munmorah and Newcastle in the south and between Evans Head and North Stradbroke Island in the north.
- (b) *Western Australia.* The chief deposits of mineral sands occur on the south-west coast between Bunbury and Wonerup. During 1961, the bulk of production was from the Copel-Yoganup area.

4. *Employment in Mineral Sands Mining.*—Particulars of the number of persons employed in mineral sands mining are shown in paras. 4 (ii) and (iii), pages 1051-2.

### § 10. Aluminium.

1. *Mine Production.*—The source of aluminium is bauxite. Until recent years, the only bauxite production in Australia was from small deposits in Queensland, New South Wales and Victoria. Production from these deposits has been used mainly by the chemical and steel industries.

Large deposits of bauxite exist at Weipa (North Queensland), Gove (Northern Territory) and Darling Range (Western Australia). The deposits at Weipa and the Darling Range are now being developed and trial shipments from both deposits have been sent to Japan for aluminium smelting. The deposit at Gove is being developed for the production of alumina (plant capacity 360,000 tons annually) at that centre and also for the export of bauxite. The Weipa alumina plant will supply the requirements of an aluminium smelter (plant capacity 120,000 tons annually) to be installed at Invercargill (New Zealand). At Kwinana (Western Australia), an alumina plant (capacity 200,000 tons annually) is to be constructed to use Darling Range bauxite. The alumina will be shipped to Geelong (Victoria) for the production of metal. In addition, some alumina is likely to be exported from Kwinana. The alumina content of bauxite produced in Australia during the years 1956 to 1960 is shown in the following table.

ALUMINA : CONTENT OF BAUXITE PRODUCED.  
(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	1,578	1,354	633	1,648	1,386
Victoria .. ..	2,600	1,910	2,304	1,991	2,306
Queensland (a) .. ..	440	494	596	..	14,442
Western Australia (a) .. ..	..	..	..	3,275	13,259
<b>Australia .. ..</b>	<b>4,618</b>	<b>3,758</b>	<b>3,533</b>	<b>6,914</b>	<b>(b) 31,393</b>

(a) Estimated.

(b) Partly estimated.

2. *Refinery Production.*—There is a refinery for the production of alumina and refined aluminium at Bell Bay on the River Tamar in Northern Tasmania. The location of this refinery was determined by the availability of large supplies of hydro-electric power. Production of alumina commenced in February, 1955, and of refined aluminium in September, 1955. Work is in hand to expand the Bell Bay plant to a capacity of 28,000 tons in 1962 and ultimately to 48,000 tons in 1964. A new smelter with an ultimate capacity of 40,000 tons is to be constructed at Geelong (Victoria). The plant is expected to come into production in 1963. The following table shows the production of alumina and refined aluminium in Australia during the years 1957 to 1961.

ALUMINA AND REFINED ALUMINIUM : PRODUCTION, AUSTRALIA.  
(Tons.)

Refinery Product.	1957.	1958.	1959.	1960.	1961.
Alumina .. ..	20,116	22,490	26,900	29,801	29,468
Refined Aluminium .. ..	10,624	10,869	11,370	11,655	13,204

Source: Bureau of Mineral Resources.

## § 11. Uranium.

Uranium concentrate has been produced in Australia since 1954, but particulars of the quantity of  $U_3O_8$  concentrate produced and its value are not available for publication. All  $U_3O_8$  concentrate is exported overseas. During 1961, the principal producing centres were as follows.

- (i) *Queensland.* Uranium ore was mined by opencut methods at Mary Kathleen, 33 miles east of Mount Isa.
- (ii) *South Australia.* Uranium ore was mined by underground methods at Radium Hill, 289 miles north-east of Adelaide. A concentrate of heavy minerals was produced at the mine and this was railed to a treatment plant at Port Pirie for the chemical extraction of  $U_3O_8$  concentrate. The Radium Hill mine closed down in December, 1961, and the Port Pirie plant ceased production of uranium oxide late in February, 1962.
- (iii) *Northern Territory.* At Rum Jungle, uranium-copper and copper ores were treated to produce  $U_3O_8$  concentrate, copper concentrate and copper precipitate. Mining operations ceased at Rum Jungle in November, 1958, but sufficient ore was stockpiled to permit the continuation of full-scale production of uranium concentrate for some years. At the recently discovered Rum Jungle Creek South deposit, removal of overburden is well advanced and full-scale extraction of ore is due to commence in 1962.

During 1961, ore was mined in the South Alligator River area. Two companies opened treatment plants at Moline and Rockhole Creek during the year. Operations at the latter plant ceased at the end of 1961.

Income from uranium mining is exempt from taxation in the hands of Australian producers. If the producer is an Australian company, such income is exempt from taxation in the hands of the shareholders when paid as dividends.

## § 12. Other Metallic Minerals.

1. *Tungsten.*—In recent years, Tasmania has been the principal State producing tungsten ores, scheelite being mined on King Island in Bass Strait and wolfram being mined in association with tin ores in the north-east part of the State. Because of low world prices, scheelite production on King Island ceased in August, 1958, but production was recommenced on a limited scale in 1960.

Particulars of the production of tungstic oxide contained in scheelite and wolfram concentrates produced during the years 1956 to 1960 are shown in the following table.

TUNGSTIC OXIDE ( $WO_3$ ): CONTENT OF CONCENTRATES PRODUCED.  
(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
CONTAINED IN SCHEELITE CONCENTRATE.					
New South Wales .. ..	2	1	1	(a)	(a)
Queensland .. ..	3	1	..	..	..
Tasmania .. ..	985	948	477	..	291
<b>Australia .. ..</b>	<b>990</b>	<b>950</b>	<b>478</b>	<b>(a)</b>	<b>291</b>
CONTAINED IN WOLFRAM CONCENTRATE.					
New South Wales .. ..	2	(a)	..	..	..
Queensland .. ..	46	19	5	..	..
Tasmania .. ..	443	391	360	645	804
Northern Territory .. ..	101	49	7	8	16
<b>Australia .. ..</b>	<b>592</b>	<b>459</b>	<b>372</b>	<b>653</b>	<b>820</b>

(a) Less than half a ton.

2. **Manganese.**—In recent years, Western Australia has been the principal State producing manganese ore, mined mainly from the Pilbara goldfield.

The following table shows the manganese content of metallurgical grade and the manganese dioxide content of battery and other grades of manganese ore produced during the years 1956 to 1960.

**MANGANESE : CONTENT OF MANGANESE ORE PRODUCED.**

(Tons.)

Year.	Metallurgical Grade.				Battery and Other Grades.			
	In terms of Manganese (Mn) Content.				In terms of Manganese Dioxide (MnO <sub>2</sub> ) Content.			
	N.S.W.	Q'land. (a)	W. Aust.	Australia.	N.S.W.	W. Aust.	N. Terr.	Australia.
1956 ..	436	140	25,280	25,856	371	179	914	1,464
1957 ..	391	557	33,956	34,904	385	186	668	1,239
1958 ..	516	3,181	21,926	25,623	511	195	2,113	2,819
1959 ..	620	4,350	35,996	40,966	907	162	1,406	2,475
1960 ..	342	1,670	26,561	b 28,585	623	9	940	(c) 1,617

(a) Estimated.

(b) Includes Victoria (12 tons).

(c) Includes South Australia (45 tons).

The quantity of manganese dioxide recovered, in 1960, from zinc concentrates produced at Broken Hill and Rosebery amounted to 3,847 tons, of which 452 tons were sold.

3. **Other.**—Production in 1960 (1959 shown in parentheses) of other metallic minerals was as follows.

**Antimony.** The antimony content of antimony-bearing minerals produced was 786 tons (1,280 tons). Of this amount, 632 tons (652 tons) were in lead concentrate and 154 tons (628 tons) in 256 tons (1,022 tons) of antimony ore and concentrate.

**Beryllium.** Production of beryllium ore was 190 tons (317 tons), which came mainly from Western Australia where the Pilbara and Gascoyne goldfields were the main producing areas. The beryllium oxide content of the ore was 2,221 units of 22.4 lb. (3,587 units).

**Chromite.** Production of chromite was 529 tons (120 tons) with an estimated chromic oxide content of 265 tons (60 tons). This production came from Rockhampton, in Queensland.

**Tantalite-Columbite.** The production of tantalite-columbite concentrate was 23,677 lb. (18,950 lb.) and the whole of this output came from Western Australia. The tantalum pentoxide and columbium pentoxide content of the concentrates was 11,500 lb. (8,499 lb.).

**Other.** Fifteen tons of lithium ore containing 1 ton of lithium oxide were produced in New South Wales during 1960. This was the first recorded post-war production of lithium. In addition, 7 oz. of platinum concentrate containing 4 oz. of platinum were obtained in New South Wales as a by-product of gold refining.

### § 13. Coal.

1. **Historical.**—Coal was probably the first of Australia's mineral products to be discovered, being reported from the neighbourhood of Newcastle in 1796. In the following year, outcrop coal was discovered at Coalcliff, 40 miles south of Sydney, and at the entrance to the Hunter River in the Newcastle district. By 1799, outcrop coal was being exported overseas from the latter field. All production was from the Newcastle district until 1857, when the first coal was produced from the southern field. The estimated production in 1830 was 4,000 tons and this increased to 30,000 tons in 1840, 70,000 tons in 1850, and 370,000 tons in 1860. In 1864, the first coal was discovered in the Greta-Cessnock-Maitland field which has since become the principal Australian source of gas coal.

The discovery of coal in Victoria dates from the year 1825, when the mineral was reported to have been found at Cape Paterson, but only a small quantity of coal was mined in Victoria prior to the opening of the State-owned mine at Wonthaggi in 1909. Present

day Victorian production of black coal is obtained almost exclusively from this mine. Brown coal was discovered in Victoria at Lal Lal in 1857 and in the Latrobe Valley in 1874. Mining operations were first undertaken in 1889, but it was not until after the 1914-18 War that large-scale mining began.

In Queensland, coal was first discovered near Ipswich in 1827 and the first colliery was established there in 1846. At Blair Athol, 240 miles west of Rockhampton, coal was discovered in 1864. This field is unique in that the field's total reserves of 200 million tons are available for opencut mining in a seam attaining a thickness of over 90 feet, the greatest thickness of black coal yet found in Australia.

The deposits of black coal at Leigh Creek, 377 miles north of Adelaide, were discovered in 1888 during dam-sinking operations. Small quantities of coal were mined in 1907 and 1917, but it was not until 1944 that extensive opencut mining operations began.

In Western Australia, coal was first discovered on the Irwin River in 1846, but the discovery of the Collie field in 1883 proved to be of far greater importance. This field is located 120 miles south of Perth and commercial mining began there in 1898.

There appear to be no reliable records of the earliest discoveries of coal in Tasmania. Coal was mined on the Tasman Peninsula to provide fuel for penal settlements in the vicinity and for Hobart, and mining continued there until about 1877. In 1824, coal was discovered at South Cape Bay near the most southerly part of the island. The most important deposit is the Mount Nicholas-Fingal-Dalmayne (St. Marys) field in the north-east part of the State.

The mining of black coal on a large scale by opencut methods first began in Australia at Blair Athol in Queensland, where in 1937, the first year of production, 18,494 tons (0.2 per cent. of total Australian black coal production for that year) were produced. Opencut mining of black coal was introduced in New South Wales in 1940, in Western Australia in 1943, in South Australia in 1944, and in Tasmania in 1950. The output from opencuts reached a maximum of 21.1 per cent. of total production in 1952, but in recent years this has been at a lower level (9.6 per cent. in 1960).

Plans have been announced recently for the construction of coal-loading facilities costing £2.5 million at the inner harbour at Port Kembla. The work is the first stage of a plan to expand coal loading facilities at Port Kembla, Newcastle and Balmain in anticipation of greatly increased coal export trade.

A joint company has recently been formed to develop the Kianga-Moura coalfield in central Queensland. Fifteen million pounds will be spent on developing the field and lifting production to 2 million tons of coal a year. Firm orders have already been received from the Japanese steel industry for 3.4 million tons of coal to be delivered during the next seven years.

2. Mine Production of Black Coal.—Production of black coal according to rank in the several States during the years 1956 to 1960 is set out in the following table. The tonnages produced by underground mining and opencut mining are also shown.

**BLACK COAL : PRODUCTION.**  
(Tons.)

Particulars.	1956.	1957.	1958.	1959.	1960.
NEW SOUTH WALES.					
Bituminous .. ..	14,792,853	15,376,240	15,840,550	15,712,440	17,736,994
Sub-bituminous .. ..	17,312	13,996	10,398	..	..
<b>Total .. ..</b>	<b>14,810,165</b>	<b>15,390,236</b>	<b>15,850,948</b>	<b>15,712,440</b>	<b>17,736,994</b>
Underground mines .. ..	13,999,615	14,662,155	15,130,633	15,278,162	16,981,561
Opencut mines .. ..	810,550	728,081	720,315	434,278	755,433
VICTORIA.					
<b>Total(a) .. ..</b>	<b>118,827</b>	<b>111,569</b>	<b>108,359</b>	<b>90,438</b>	<b>76,972</b>

NOTE.—See next page for footnotes.

**BLACK COAL: PRODUCTION—continued.**  
(Tons.)

Particulars.	1956.	1957.	1958.	1959.	1960.
<b>QUEENSLAND.</b>					
Semi-anthracite ..	79,316	68,873	55,190	51,849	47,762
Bituminous ..	2,472,692	2,475,079	2,392,435	2,476,479	2,531,581
Sub-bituminous ..	182,651	157,625	132,748	66,059	70,769
<b>Total ..</b>	<b>2,734,659</b>	<b>2,701,577</b>	<b>2,580,373</b>	<b>2,594,387</b>	<b>2,650,112</b>
Underground mines ..	2,103,641	2,170,979	2,098,030	2,142,302	2,269,564
Opencut mines ..	631,018	530,598	482,343	452,085	380,548
<b>SOUTH AUSTRALIA.</b>					
<b>Total(b) ..</b>	<b>481,463</b>	<b>608,913</b>	<b>755,022</b>	<b>690,374</b>	<b>884,819</b>
<b>WESTERN AUSTRALIA.</b>					
<b>Total(c) ..</b>	<b>830,007</b>	<b>838,661</b>	<b>870,882</b>	<b>911,435</b>	<b>922,393</b>
Underground mines ..	621,467	689,882	779,394	800,856	798,185
Opencut mines ..	208,540	148,779	91,488	110,579	124,208
<b>TASMANIA.</b>					
Semi-anthracite ..	1,827	1,847	2,006	2,217	2,333
Bituminous ..	296,886	266,293	274,262	297,151	295,337
<b>Total ..</b>	<b>298,713</b>	<b>268,140</b>	<b>276,268</b>	<b>299,368</b>	<b>297,670</b>
Underground mines ..	280,332	253,108	260,100	281,310	281,662
Opencut mines ..	18,381	15,032	16,168	18,058	16,008
<b>AUSTRALIA.</b>					
Semi-anthracite ..	81,143	70,720	57,196	54,066	50,095
Bituminous ..	17,681,258	18,229,181	18,615,606	18,576,508	20,640,884
Sub-bituminous ..	1,511,433	1,619,195	1,769,050	1,667,868	1,877,981
<b>Total ..</b>	<b>19,273,834</b>	<b>19,919,096</b>	<b>20,441,852</b>	<b>20,298,442</b>	<b>22,568,960</b>
Underground mines ..	17,123,882	17,887,693	18,376,516	18,593,068	20,407,944
Opencut mines ..	2,149,952	2,031,403	2,065,336	1,705,374	2,161,016

(a) Bituminous coal from underground mines.

(b) Sub-bituminous coal from an opencut mine.

(c) Sub-bituminous coal.

The principal producing centres during 1960 were as follows.

- (i) *New South Wales.* The principal deposits worked were in the vicinity of Newcastle, Cessnock and Singleton (northern field), Lithgow (western field) and Wollongong (southern field). Tonnages mined in 1960 were: northern field, 10,234,000 tons; southern field, 5,735,000 tons and western field, 1,578,000 tons. All opencut coal was from the northern field.
- The coal fields of New South Wales, predominantly bituminous, are the most important in Australia, in respect of the magnitude, quality and accessibility of reserves and the extent to which the deposits are being worked. Coal from the various seams differs in properties, coal from the Greta seam worked in the vicinity of Cessnock being particularly suitable for gas making, while coal from the Victoria tunnel, Dudley, Young Wallsend and Borehole seams, all of which are mined near Newcastle, have coking properties and are used in the steelworks. Coking coal is also obtained from the Bulli seam which is mined near Wollongong and in the Burragorang Valley. A multi-purpose coal is available in the Singleton area and steaming coals are mined around Newcastle, Lithgow, Cessnock and Wollongong.
- (ii) *Victoria.* Production of black coal in Victoria was restricted to the Gippsland district. The State Coal Mine at Wonthaggi was the main producer, and the remaining production came from small privately-owned mines.
- (iii) *Queensland.* The principal producing centres were Ipswich, 1,628,633 tons; Bowen, 411,821 tons; Clermont, 170,606 tons; and Mount Morgan, 126,736 tons. Opencut coal was mined on the Bowen, Clermont and Mount Morgan fields and the total coal won by this means was 14 per cent. of total production.
- (iv) *South Australia.* Coal was mined only at Leigh Creek, 377 miles north of Adelaide.
- (v) *Western Australia.* The only coal deposits which have been developed on a commercial scale are at Collie in the south-west of the State and all production during 1960 was from this source.
- (vi) *Tasmania.* Most of the coal produced was won in the north-east of the State, the principal producing centres being St. Mary's, 130,172 tons; Fingal, 96,131 tons; and Avoca, 57,748 tons.

3. *Mine Production of Brown Coal.*—Brown coal is mined only in Victoria and production in recent years has been as follows:—1956, 10,559,801 tons; 1957, 10,740,989 tons; 1958, 11,643,629 tons; 1959, 13,034,605 tons; and 1960, 14,967,202 tons. In the past ten years, the output of brown coal has nearly doubled.

4. *Australia's Coal Reserves.*—The latest available estimate of the measured and indicated coal reserves of Australia is that prepared by the Coal and Lignites Panel of the Power Survey Sectional Committee of the Standards Association of Australia, and is shown in the following table. It should be noted that reserves can only be included in the "measured and indicated" categories when sufficient exploratory and testing work has been completed.

ESTIMATED COAL RESERVES OF AUSTRALIA.  
(Million Tons.)

State.	Bituminous Coal.(a)	Sub-bituminous Coal.	Brown Coal. (Lignite),
New South Wales .. .. .	8,650	800	..
Victoria .. .. .	12	..	56,100
Queensland .. .. .	749	..	..
South Australia .. .. .	..	144	230
Western Australia .. .. .	..	274	..
Tasmania .. .. .	240	..	..
<b>Australia .. .. .</b>	<b>9,651</b>	<b>1,218</b>	<b>56,330</b>

(a) Includes reserves of a small quantity of semi-anthracitic coal.

5. *Production in Principal Countries.*—The following table shows the production of the principal countries in 1959 and 1960 as published by the Mineral Resources Division of the United Kingdom Overseas Geological Surveys.

**COAL : PRODUCTION IN PRINCIPAL COUNTRIES.**  
(<sup>'000</sup> Tons.)

Country.	Black Coal.		Brown Coal and Lignite.	
	1959.	1960.	1959.	1960.
China .. .. .	342,300	413,000	..	..
United States of America .. .. .	383,834	385,340	2,482	2,452
U.S.S.R. .. .. .	359,600	367,000	138,900	140,000
United Kingdom .. .. .	206,111	193,609	..	..
Germany, Federal Republic of .. .. .	125,407	141,843	92,193	94,634
Poland .. .. .	97,500	102,000	9,200	9,200
France .. .. .	56,696	55,076	2,143	2,240
India .. .. .	(a) 47,000	(a) 51,810	(b)	(b)
Japan .. .. .	44,977	48,792	1,446	1,466
South Africa .. .. .	35,876	37,571	..	..
Czechoslovakia .. .. .	24,727	25,800	52,855	57,481
Australia .. .. .	20,298	22,569	13,035	14,967
Belgium .. .. .	22,397	22,111	..	..
Saar .. .. .	15,972	(c)	..	..
Spain .. .. .	13,327	13,566	2,069	1,734
Netherlands .. .. .	11,789	12,301	196	4
Korea (North) .. .. .	8,714	10,452	..	..
Canada .. .. .	7,749	7,893	1,739	1,938
Turkey .. .. .	6,421	6,207	3,605	3,357
Korea (South) .. .. .	4,071	5,266	..	..
Formosa .. .. .	3,507	3,899	..	..
New Zealand .. .. .	2,639	2,852	170	160
Hungary .. .. .	2,691	2,802	22,256	23,302
Colombia .. .. .	2,500	2,700	..	..
Germany, Eastern .. .. .	2,796	2,678	211,391	221,904
<i>Estimated World Total</i> .. .. .	<i>1,860,000</i>	<i>1,727,000</i>	<i>620,000</i>	<i>863,000</i>

(a) Includes lignite.

(b) Included with black coal.

(c) Included with Germany (Federal Republic).

6. Consumption of Coal in Australia.—(i) *Black Coal.* Details of the production of black coal in Australia and its disposal are shown in the following table for the years 1956–57 to 1960–61.

**BLACK COAL : PRODUCTION AND CONSUMPTION.**  
(<sup>'000</sup> Tons.)

Particulars.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Production(a) .. .. .	19,711	20,362	20,459	21,223	22,979
Imports .. .. .	6	9	8	8	7
<b>Total</b> .. .. .	<b>19,717</b>	<b>20,371</b>	<b>20,467</b>	<b>21,231</b>	<b>22,986</b>
<i>Consumption as Fuel—</i>					
Electricity Generation .. .. .	6,363	6,941	7,131	7,398	7,420
Factories .. .. .	2,977	2,991	3,122	3,167	3,102
Railway Locomotives(b) .. .. .	2,690	2,217	2,051	2,002	1,847
Bunker Coal(c) .. .. .	233	229	203	169	136
<b>Total</b> .. .. .	<b>12,263</b>	<b>12,378</b>	<b>12,507</b>	<b>12,736</b>	<b>12,505</b>
<i>Consumption as Raw Material—</i>					
Gas works .. .. .	1,946	1,779	1,761	1,744	1,726
Coke works .. .. .	3,665	3,841	3,846	4,216	4,910
<b>Total</b> .. .. .	<b>5,611</b>	<b>5,620</b>	<b>5,607</b>	<b>5,960</b>	<b>6,636</b>
Exports (Oversea) .. .. .	545	836	645	1,088	1,888
Mine Washery Refuse and Dump Losses(d) .. .. .	274	495	660	982	1,054
Balance—Unrecorded consumption, other purposes(e)	1,024	1,042	1,048	465	903
<b>Grand Total</b> .. .. .	<b>19,717</b>	<b>20,371</b>	<b>20,467</b>	<b>21,231</b>	<b>22,986</b>

(a) Includes miners' and colliery coal. (b) Government railways only. (c) Figures refer only to New South Wales consumption by oversea, interstate and intrastate vessels. (d) Prior to 1959–60, figures refer to New South Wales only. Figures for 1959–60 and 1960–61 include Tasmania. (e) Includes net change in stocks.

After the 1939-45 War, it was found necessary to augment local supplies of black coal in Australia by increasing imports. The quantity imported reached a post-war peak of 597,866 tons in 1950-51, but has since declined as production has expanded considerably. Since 1952-53, exports have exceeded imports by a wide margin; in 1960-61, exports of black coal were 1,888,415 tons and imports were 6,629 tons. These imports were of black coal for special purposes only.

(ii) *Brown Coal.* The table following shows the production and consumption of brown coal and the production of briquettes in Victoria for the years 1956-57 to 1960-61.

**BROWN COAL: PRODUCTION AND CONSUMPTION, VICTORIA.**  
(<sup>'000</sup> Tons.)

Year.	Production.	Consumption as Fuel.			Consumption as Raw Material in Briquette Manufacture.	Briquettes Manufactured.
		Electricity Generation.	Briquette Factory.	Other Factories. (a)		
1956-57 .. ..	10,772	6,943	806	1,309	1,613	618
1957-58 .. ..	10,866	7,020	810	1,297	1,619	626
1958-59 .. ..	12,243	8,470	819	1,293	1,639	643
1959-60 .. ..	14,101	9,300	1,198	1,248	2,396	975
1960-61(b) .. ..	15,723	8,759	1,991	957	3,984	1,807

(a) Recorded consumption.

(b) Subject to revision.

The State Electricity Commission of Victoria started commercial production of brown coal briquettes at Yallourn in February, 1925. Output for the financial year 1924-25 was 36,500 tons. This had increased to 141,044 tons in 1928-29 and to 642,590 tons in 1958-59. With the commencement of production in the Commission's new works at Morwell, output of briquettes (Yallourn and Morwell combined) rose to 974,670 tons in 1959-60 and to 1,806,619 tons in 1960-61, which was the first complete year of full output at Morwell.

In December, 1956, the Lurgi high pressure brown coal gasification plant at Morwell was opened by the Gas and Fuel Corporation of Victoria. This plant operates on briquettes supplied by belt conveyor from the State Electricity Commission's Morwell works, and produces town gas which is sent to Melbourne through 103 miles of pipeline.

7. Exports.—The quantities and values of the oversea exports of Australian coal and of bunker coal for oversea vessels for the five years 1956-57 to 1960-61 are shown in the following table. These shipments were made mainly from New South Wales.

**COAL: OVERSEA EXPORTS AND BUNKER, AUSTRALIA.**

Year.	Oversea Exports.(a)		Bunker Coal for Oversea Vessels.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£
1956-57 .. ..	545,101	2,196,044	9,065	44,116
1957-58 .. ..	836,336	3,390,628	11,608	50,656
1958-59 .. ..	645,249	2,676,042	8,187	37,808
1959-60 .. ..	1,087,844	4,326,810	8,117	25,380
1960-61 .. ..	1,888,415	7,682,223	179	1,716

(a) Excludes bunker coal.

New South Wales, in addition to meeting requirements within the State, supplies considerable quantities of coal to other States and for export overseas. Of the total of 18,243,000 tons produced in 1960-61, 1,624,000 tons (8.9 per cent.) were exported interstate and 1,888,000 tons (10.3 per cent.) were exported overseas. The demand for bunker coal continues to decline and in 1960-61 a total of 136,000 tons (0.7 per cent.) of New South Wales production was supplied for interstate, intrastate and oversea vessels.



8. Value at the Mine in New South Wales.—Particulars of the average values at the mine (or at screens or mine washeries where these are at a distance from the mine) of saleable coal for each district and for New South Wales as a whole are shown in the following table for the years 1956 to 1960. Saleable coal excludes miners' coal, coal consumed at the mines, and refuse, etc., removed by the use of hand picking belts or at mine washeries. In calculating these values, most coal won by producer consumers is also excluded, and in respect of stocks of coal held at grass by the Commonwealth Government only actual sales have been taken into account. No deduction has been made in respect of excise duty operative from 1st November, 1949.

**AVERAGE SELLING VALUE AT THE MINE PER TON OF SALEABLE COAL:  
NEW SOUTH WALES.**

(s. d.)

Year.	Northern District.	Southern District.	Western District.	Average for State.
1956.. .. .	59 3	58 1	55 1	58 6
1957.. .. .	58 3	55 7	50 7	56 9
1958.. .. .	56 1	55 0	47 5	54 10
1959.. .. .	52 5	54 4	47 6	52 7
1960.. .. .	51 11	55 11	48 1	52 8

9. Values in New South Wales, United Kingdom and the United States of America.—The following table shows, for the years 1956 to 1960, average values of coal produced in New South Wales, Great Britain and the United States of America. The figures give an indication of changes in average value or price within each country but they do not necessarily show the relative levels as between the countries concerned.

**PRODUCTION VALUES OF COAL PER TON: NEW SOUTH WALES, UNITED KINGDOM AND UNITED STATES OF AMERICA.**

Country.	1956.	1957.	1958.	1959.	1960.
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
New South Wales—Bituminous(a) .. .. .	58 6	56 9	54 10	52 7	52 8
United Kingdom—Deep mined(b) .. .. .	77 0	82 1	85 7	83 5½	86 1½
United States of America—Bituminous and lignite(c) ..	\$ 4.82	\$ 5.08	\$ 4.86	\$ 4.77	\$ 4.69

(a) Average selling value at the mine per ton of 2,240 lb.; the figures relate to saleable coal and include excise duty. (b) Average value in sterling at the mine per ton of 2,240 lb. (c) Average value in United States currency at the mine per ton of 2,000 lb.

10. Employment in Coal-mines.—The number of persons employed, both above and below ground, in coal-mines in each State for each of the years 1956 to 1960 is shown in the following table.

**COAL-MINES: PERSONS EMPLOYED.(a)**

Year.	New South Wales.	Victoria.		Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
		Black.	Brown.					
1956 .. .. .	17,918	610	1,566	3,568	260	1,190	349	25,461
1957 .. .. .	16,622	561	1,579	3,493	223	1,145	301	23,924
1958 .. .. .	15,463	516	1,540	3,295	230	999	292	22,335
1959 .. .. .	13,445	401	1,519	3,172	251	1,095	314	20,197
1960 .. .. .	13,163	407	1,399	3,231	257	1,042	313	19,812

(a) Average number of persons employed (including working proprietors) during whole year.

The year of maximum employment was 1926 when 31,774 persons were engaged in the coal-mines of Australia. Shortly after that year, the industrial depression and a prolonged stoppage of work on one of the principal fields of New South Wales during 1929 and 1930 seriously affected the figures of employment. After 1933, there was a gradual increase up to a level of about 23,000 which was maintained during the war years. There was a further increase after the war to 28,303 in 1952, but since then the number in employment has fallen again. In 1960, it was 19,812.

In New South Wales, during 1960, 15,687,000 tons of coal or 92.4 per cent. of the total output of underground coal, were loaded by machinery as compared with 1,101,000 tons (9.8 per cent.) in 1939, 3,089,000 tons (32.9 per cent.) in 1949, and 13,483,000 tons (88.2 per cent.) in 1959. Similar details for other States are not available, but machinery is used to a considerable extent in Western Australian mines and to a lesser extent in Queensland.

11. Production of Black Coal per Man-shift.—(i) *Underground Mines.* The following table shows particulars of estimated black coal output per man-shift worked, (a) at the coal face, and (b) by all employees, in respect of underground mines for each State concerned and for Australia for the years 1956 to 1960. These estimates have been calculated by the Joint Coal Board from data collected fortnightly in respect of coal production and the number of man-shifts actually worked. In South Australia, black coal is won only by opencut mining.

**PRODUCTION OF BLACK COAL PER MAN-SHIFT: UNDERGROUND MINES.**  
(Tons.)

Year.	N.S.W.	Vic.	Q'land.	W. Aust.	Tas.	Australia.
PRODUCTION PER MAN-SHIFT WORKED AT COAL FACE.						
1956 .. ..	11.43	2.05	6.79	5.14	7.04	9.77
1957 .. ..	13.19	2.01	7.13	5.88	7.60	11.02
1958 .. ..	14.48	2.04	7.28	6.67	8.01	11.96
1959 .. ..	18.07	2.10	7.53	7.60	7.34	14.13
1960 .. ..	20.64	2.16	8.37	8.12	7.64	16.08
PRODUCTION PER MAN-SHIFT WORKED BY ALL EMPLOYEES.						
1956 .. ..	3.55	0.83	2.65	2.35	3.41	3.28
1957 .. ..	3.99	0.85	2.82	2.77	3.76	3.65
1958 .. ..	4.35	0.89	2.90	3.02	3.91	3.95
1959 .. ..	4.90	0.93	2.95	3.35	3.72	4.37
1960 .. ..	5.39	0.94	3.19	3.62	3.87	4.81

(ii) *Opencut Mines.* In the next table, the Joint Coal Board's estimates of production of black coal per man-shift worked by all employees in opencut mines are shown for the years 1956 to 1960. There are no opencuts producing black coal in Victoria.

**PRODUCTION OF BLACK COAL PER MAN-SHIFT: OPENCUT MINES.**  
(Tons.)

Year.	N.S.W.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
1956 .. ..	10.36	13.06	6.72	6.37	8.56	9.19
1957 .. ..	11.11	12.17	9.89	6.04	7.68	10.25
1958 .. ..	11.31	13.63	11.46	6.78	10.42	11.47
1959 .. ..	12.47	12.50	10.36	7.64	10.47	11.08
1960 .. ..	22.15	10.96	12.46	8.01	9.38	13.79

12. **Joint Coal Board.**—For details of the powers and functions of this Board, which has functioned since 1947, see page 887 of Official Year Book No. 39.

### § 14. Coke and Other By-products from Coal.

1. **Coke.**—The production of metallurgical coke in Australia was limited to about 250,000 tons per annum prior to the 1914–18 War. This was below local requirements and necessitated an annual import of about 27,000 tons. By 1920, production had risen to more than 500,000 tons, by 1938–39 to 1,164,873 tons, and in 1960–61 it reached the record level of 2,738,505 tons. Imports exceeded exports prior to 1952–53, but in 1952–53 and later years there has been a net export surplus. In 1960–61, exports amounted to 81,075 tons while imports were 9,768 tons. Most of the tonnage imported is petroleum coke for use in the production of aluminium.

In addition to metallurgical coke referred to above (which is produced by specialized coke works), considerable quantities of coke are produced in gas works as a by-product of the manufacture of gas. Production in gas works in 1960–61 was 764,626 tons. To date, there has been no production of petroleum coke at Australian oil refineries.

In order to avoid duplication with coal values, the figures for coke have not been included in the general tables of mineral production in the early part of this chapter.

In the following table, particulars of the production of coke in coke works and gas works in Australia are shown for the years 1956–57 to 1960–61. The figures exclude output of coke breeze, which amounted to 316,549 tons in 1959–60 and 376,123 tons in 1960–61.

#### COKE PRODUCTION: AUSTRALIA.

(Tons.)

Industry.	1956–57.	1957–58.	1958–59.	1959–60.	1960–61.
Coke Works .. ..	2,234,458	2,295,737	2,210,621	2,376,097	2,738,505
Gas Works .. ..	954,756	831,615	815,464	758,668	764,626
<b>Total .. ..</b>	<b>3,189,214</b>	<b>3,127,352</b>	<b>3,026,085</b>	<b>3,134,765</b>	<b>3,503,131</b>

2. **Other By-products from Coal.**—In addition to coke, other products are obtained from the treatment of coal by coke and gas works. Some of the main items produced, principally in coke and gas works, during 1960–61 (1959–60 in parentheses) were: crude tar, 57,132,117 gallons (51,962,066 gallons); refined tar, 29,672,825 gallons (29,647,990 gallons); and ammonium sulphate, 98,988 tons (104,861 tons).

### § 15. Oil Exploration in Australia.

1. **Introduction.**—The discovery of oil in commercial quantities in Australia has been the objective of oil exploration companies for many years. Recent discoveries in Queensland could indicate that this country is on the verge of proving commercial oilfields.

A comprehensive survey of current developments was presented in a special article prepared by the Bureau of Mineral Resources, Geology and Geophysics, Department of National Development and published in the December, 1961, issue of *The Australian Mineral Industry*. With minor modifications it is reproduced below.

2. **General.**—Within the land areas of Australia and Papua-New Guinea, the twenty-seven sedimentary basins cover 1,480,000 square miles of the total area of 3,519,000 square miles. The individual basins range in area from 4,000 to 510,000 square miles (see map on page 1079), and contain marine and continental sedimentary rocks ranging in maximum thickness from 1,000 to about 50,000 feet and including rocks of all ages from Proterozoic to Pliocene.

At present, seventy-two tenement holders have an aggregate tenement area of 2,200,000 square miles, including off-shore areas. Tenement areas range from four acres to 292,646 square miles. One joint-venture group holds a total of 381,250 square miles. Many of these large areas were granted when there was very little interest in Australian oil exploration and an absence of any general belief in the probability of finding commercial oil. Since then, a number of impressive shows of oil have established the presence of hydrocarbons in many parts of Australia and have given rise to a steady increase in the number of companies engaged in oil exploration.

Basic regional exploration is still only partly complete, and very little detailed investigation has been undertaken. The regional outcrop geology has been established in the New Guinea, Papua, Maryborough, Ipswich-Clarence, Sydney, St. Vincent, Carnarvon, Canning (including Fitzroy), Bonaparte, and Georgina Basins. Reconnaissance aeromagnetic surveys (flight lines at two-mile spacing) cover one-eighth of the Carpentaria Basin, half of the Bowen Basin, two-fifths of the Surat Basin, one-third of the Ipswich-Clarence Basin, the whole of the Perth and Carnarvon Basins, one-third of the Canning Basin, the whole of the Bonaparte Basin and about one-quarter of the Papua Basin. Reconnaissance gravity surveys (one station per 100 square miles) cover about one-third of the Papua Basin, one-fifth of the Carpentaria Basin, one-sixth of the Maryborough Basin, two-fifths of the Bowen Basin, one-third of the Surat Basin, one-fifteenth of the rest of the Great Artesian Basin, one-fifth of the Sydney Basin, the whole of the Gippsland Basin, half of the Murray Basin, half of the St. Vincent Basin, the whole of the Perth Basin, four-fifths of the Carnarvon Basin, two-thirds of the Fitzroy Basin and one-quarter of the rest of the Canning Basin, half of the Bonaparte Basin, and two-fifths of the Georgina Basin. Detailed gravity surveys (one station per ten square miles) have been completed only in the north-western part of the Canning Basin, the north-western part of the Carnarvon Basin and the northern part of the Perth Basin.

Regional seismic surveys and some detailed surveys have been started in the Papua, Surat, Maryborough, Great Artesian, Sydney, Gippsland, Otway, St. Vincent, Perth, Carnarvon, Canning and Bonaparte Basins. A few reconnaissance seismic traverses have been run in the Carpentaria, Bowen, Murray, Amadeus and Georgina Basins.

Stratigraphic drilling has begun in the Papua, Carpentaria, Bowen, Surat, Great Artesian, Maryborough, Ipswich-Clarence, Sydney, Gippsland, Otway, Murray, Eucla, Perth, Carnarvon, Canning and Bonaparte Basins, but only about 1,300,000 feet has been drilled in all (about one foot per square mile of the area of the sedimentary basins).

Expenditure on exploration is a useful guide to the level of activity. Since 1900 about £80 million has been spent in the whole of Australia and Papua-New Guinea—£37 million in Papua-New Guinea; £14 million in Queensland; £1.6 million in New South Wales; £4 million in Victoria; £2.7 million in South Australia; and £20 million in Western Australia. About £10 million only was spent before the 1939-45 War, mainly in Papua and Queensland. Since the War, expenditure has been concentrated in Papua (£28 million), Western Australia (£16 million) and Queensland (£13 million).

**3. Government Assistance.**—The role of Government in oil exploration has been to provide technical and financial assistance. On the technical side, the Bureau of Mineral Resources, Geology and Geophysics carries out geological and geophysical surveys and drilling to obtain regional data on the sedimentary basins, and undertakes laboratory investigations. The State Mines Departments control tenements and also carry out field surveys and laboratory investigations. The Division of National Mapping provides aerial photographs, photo-maps and base maps to form the basis for geological and geophysical surveys.

In addition to taxation concessions to oil exploration companies and their shareholders, since 1957, the Commonwealth Government has been subsidizing exploration for oil; £2,486,092 had been paid in subsidies for stratigraphic drilling, geophysical surveys and bore-hole logging\* to June, 1961. In October, 1961, the Petroleum Search Subsidy Act 1959 was amended to include structure drilling and test drilling under subsidy, to provide for payment of subsidy for drilling on a footage basis and to extend the period of operation of the Act to June, 1964. An amount of £2,700,000 was appropriated for subsidy payments in the year 1961-62.

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\* The surveying of the physical characteristics of the strata in a bore.

The Subsidy Acts have been designed to increase the total amount of exploration, to encourage companies to enter the field, and to ensure that subsidized exploration is adequately planned, carried out and reported upon, and that the results are generally made available within a short time. Although discoveries of oil would be the most significant immediate results of this policy, the very great improvement in the quality of the exploration work being carried out and its permanent documentation might in the long term prove more important in the success of the exploration effort on a national scale. In order to make the results of subsidized operations available, agreements have specified that the data be made available (and/or published) twelve months after the completion of field work; agreements made under the amended Act will reduce this period to six months.

The Bureau of Mineral Resources, which supervises the technical aspects of the Subsidy Act, insists on a certain minimum standard in operations; in most cases this is higher than previous Australian standards and consistent with oversea exploration practice. For example, before 1958, very few bores were adequately logged and tested; the Bureau's insistence on logging and testing has led to the introduction of several logging units that formerly were not available in Australia. It is expected that the current improvement will continue until Australian exploration is up to the best oversea standards.

A Sedimentary Basins Study Group is being established within the Bureau of Mineral Resources to collect all available data on the sedimentary basins, to collate and compile these data and to publish review maps and reports. The data obtained in subsidized operations will provide a basis on which work can begin, but it is hoped to enlist the co-operation of State Mines Departments and of exploration companies to ensure that all data that have been obtained may be used. Much data that normally are not included in reports, such as detailed outcrop sections, basic gravity data, details of experimental seismic work and copies of seismic records, will be sought.

A Core and Cuttings Laboratory has been established in Canberra, where representative cores and cuttings from all subsidized bores and as many others as can be obtained will be available for examination. Facilities will be provided for visiting geologists to examine the material.

**4. Status of Exploration.**—Several promising oil discoveries have been made—at Rough Range and Meda (Western Australia), Port Campbell (Victoria), Cabawin (Queensland) and Puri (Papua)—but none of these proved commercial. Oil was discovered at Moonie (Queensland) in December, 1961. Production testing in February, 1962, produced flows at rates ranging from 184 to 1,920 barrels a day. Wells are being drilled to assess the size and productive capacity of the Moonie field. Because of the capitalization required to bring the oil to the sea-board it cannot yet be stated that this discovery will be commercial in the sense of covering costs and making profits, and this will not be known until enough wells have been drilled to establish reserves and the optimum total production rate. Gas has been found in many places; the most important shows are at Kura, Bwata, Barikewa and Iehi in Papua (all or any of which may be commercial if a suitable market can be developed); at Roma (Queensland), where the gas is being used in the local electricity generating powerhouse; at Cabawin and Glendullock (Queensland); in the Camden area near Sydney (New South Wales); and at Port Campbell and Flaxman's Hill (Victoria). These discoveries lend additional support to the opinion that oil should be present in Australia's sedimentary basins in commercial quantities.

Domestic risk capital is more readily available than previously for well-organized exploration companies, and many experienced oversea companies are for the first time taking part in, or examining the possibility of taking part in, exploration for oil in Australia. These oversea groups have brought not only funds but also equipment and experienced personnel to assist in exploration.

The main problem is still the establishment of the regional geology of the basins in precise and reliable terms, so that regional structure, formation thicknesses and rock types can be determined and the geological history established. From this the history of movement of hydrocarbons may be indicated and the more prospective areas of the basin selected for detailed exploration.

The information obtained from drilling could be improved to provide more data of potential significance, for example sonic logs\* to help in interpretation of seismic records (or velocity surveys where sonic logging is not available); pressure-temperature information from all tests regardless of the nature of the formation fluid (from this the hydrodynamic characters of each sand can be determined and these may indicate areas where prospects of petroleum accumulation are good); water analyses from formation tests; more porosity and permeability determinations on cores; more cores from permeable formations; more stratigraphic control; logging of organic content and of carbonate content of cuttings.

5. Basins.—The Papua Basin which for years was the area of most intensive exploration in the Australian region is at present being less actively explored. The prospects of the basin have been enhanced by the discovery of wet gas in the Miocene and of dry and wet gas in the Cretaceous. The unconformity between the Mesozoic and the Tertiary and the thrust fault established at Puri introduce problems in exploration, but neither the Cretaceous nor the Miocene has been explored completely. The Omati Basin has sedimentary peculiarities that have not been explained and much more exploration is justified in this area.

Following the entry of several experienced American companies into the State, Queensland has been the locale of greatest exploration activity for several years. Marine Permian sediments containing oil and gas have been found in the Surat Basin, but so far the sub-surface extensions of the Lower Palaeozoic of the Georgina Basin have not been determined. The Mornington Island bores have further restricted the prospective area of the Carpentaria Basin, but examination of the Gulf is required.

The discovery of oil and gas at Cabawin and oil at Moonie in the southward sub-surface extension of the Bowen Basin has increased the prospects of this basin considerably; the search is now for areas of adequate sand development in or in contact with the Permian marine source rocks. It is evident that the Bowen Basin is a structural basin including only the western part of the original basin of sedimentation.

The emphasis within the Great Artesian Basin has been on the exploration of the pre-Mesozoic rocks; very little attention has been given to the salt-water sands within the marine Cretaceous, although these must be rated as definitely promising. The discovery of Lower Palaeozoic marine sediments at Mootwingee on the margin of the Great Artesian Basin increases the probability that the Lower Palaeozoic sequence will be found in the sub-surface of the Basin. Data on the structure of the basin and of pre-Mesozoic basins underlying it are gradually being obtained. The discovery in bores of red-bed sequences below the Mesozoic has reduced the prospects of the pre-Mesozoic basins in the east-central area of the basin. The age of these sequences is not well established.

The Wreck Island bore on the western margin of the northern off-shore extension of the Maryborough Basin revealed marine Tertiary sediments overlying basement. This discovery has not yet been followed up. In the Sydney Basin, marine fossils have been found in the Narrabeen; structural drilling targets, to help in the search for extensions of the Camden gas sands, have been found. A shallow stratigraphic bore at Wentworth (New South Wales) has revealed Permian sediments underlying the Tertiary in the Murray Basin. In the Gippsland Basin, marine Cretaceous sediments were found by re-examination by the Geological Survey of Victoria of material from the Hollands Landing bore. Little new work has been done lately on the St. Vincent and Torrens Basins, but a bore is planned for the Adelaide area.

Significant shows of wet gas and condensate have been found in the Otway Basin. The latest bore to test this area, Flaxmans Hill No. 1, struck wet gas, but on test it produced insufficient quantities for development. The problem is now to locate areas of adequate sand development in contact with the source beds. Submarine seepages of heavy crude petroleum have been located off the coast of south-eastern South Australia. Apart from their adding to the positive indications of petroleum in the basin, these seepages are also important in that they suggest that, whatever its origin, this petroleum is migrating through the Tertiary formations and may, in favourable locations, form pools in the permeable Tertiary sands.

The stratigraphic bores at Eyre and Gambanga in the Eucla Basin revealed shallow basement; although this confirms the thinness of the prospective sediments in these areas, it does not effectively change the prospects of this basin, which have always been regarded as low and related to the possibility of a thicker prospective sequence seawards.

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\* Sonic logs record the sound velocity characteristics of the strata.

The occurrence of marine Triassic sediments and traces of oil in the Permian in stratigraphic bores drilled at Beagle Ridge and the confirmation of the presence of basement rocks in the Beagle Ridge have provided additional prospective sediments to those already known in the Perth Basin, and have afforded evidence of large structural relief in the basement. The Beagle Ridge and its flank would appear to be one of the more important prospective areas in the Basin. The first deep stratigraphic bore in the central area of the Perth Basin has been drilled at Eneabba, 150 miles north of Perth.

In the Carnarvon Basin, additional seismic work in the Rough Range area apparently has not produced a structural drilling target. Seismic surveys are proposed over the Wandagee basement ridge and in the Salt Lake area, where there are numerous anticlines in Tertiary and Cretaceous sediments, and may presage the exploration of the prospective Palaeozoic sediments. Stratigraphic bores have shown traces of petroleum in both the Sakmarian Lyons Group and the Artinskian Byro Group and of marine sediments and permeable sands in both.

The Canning Basin is now known to include the deep Fitzroy Basin and at least two shallower basins in the south. The deep basin may be repeated at the east margin of the Canning Basin beyond a structurally high saddle at the south-eastern end of the Fitzroy Basin. This deep basin may continue southward to join with the north-western extension of the Officer Basin. The hinge areas on either side of these deep basins and the basement ridges between the shallower basins offer attractive areas for exploration, since Lower Palaeozoic sediments of good permeability have been proved on the Broome Ridge and marine shales in the Samphire Marsh bore. The occurrence of salt intrusions at Frome Rocks No. 1 bore and at Woolnough Hills suggest that salt-dome structure may be found in the Palaeozoic with or without expression in the Mesozoic. Although the pre-Permian has been the main exploration target, oil shows have been obtained in the Permian, and it remains a prospect in areas where contemporaneous structures are intact.

The Spirit Hill bore revealed good source rocks in the Carboniferous of the Bonaparte Basin, but the distribution of the various sequences has yet to be established. Recent marine seismic work in the Gulf may help to establish this and to give useful information on the regional structure.

A regional gravity traverse has suggested a moderately deep Palaeozoic basin in the area east of Newcastle Waters in the Barkly Basin, and geological surveys near Camooweal suggest the possibility of the contemporaneity of the Camooweal Dolomite and the petroliferous Middle Cambrian. Geological, seismic and drilling exploration now programmed by the Bureau of Mineral Resources may change the prospects of this basin very markedly.

Regional surveys of the Georgina Basin have indicated a marine sequence, dominantly carbonate, of moderate thickness and some structural relief. Sediments appear mainly to be of shelf type, but the palaeogeography of the basin of deposition has not been established.

It has also been established that the Amadeus Basin is a structural basin with sediments mainly of shelf type, dominantly of sand and shale. It is suggested that the Georgina and Amadeus Basins are the structural remnants of a single large basin of deposition in which the Amadeus Basin represents the proximal shelf, the Georgina Basin the distal shelf or rim, and the Precambrian gneiss of the Harts Range area the location of the deep basin. The Precambrian gneiss shows strong evidence of deep burial and north-south compression at a stage much later than the high-grade metamorphism. The main problem in these two basins is to determine their structural and sedimentational histories so that possible migration directions of oil in relation to the development of structures may be assessed.

6. **Results.**—The net result to date is that there have been some encouraging discoveries, which are partially disappointing because they have not been commercial. But there has also been, over the past few years, a very significant improvement in the quality as well as the amount of exploration work done, and this has resulted in a very large increase in the understanding of the geology of the sedimentary basins. This in turn has enhanced the prospect of finding oil in commercial quantities.

7. **Footage Drilled in the Search for Oil.**—The following table, while not connected with the article above, shows details of footage drilled in the search for oil in the Commonwealth of Australia and the Territories of Papua and New Guinea during the years 1957 to 1961.

## FOOTAGE DRILLED IN THE SEARCH FOR OIL.

Source: Bureau of Mineral Resources.(a)

(Feet.)

State or Territory.	1957.	1958.	1959.	1960.	1961.
New South Wales .. ..	8,729	16,357	17,422	6,169	7,779
Victoria .. ..	12,244	2,439	8,395	14,682	22,439
Queensland .. ..	15,343	5,081	30,328	54,841	74,931
South Australia .. ..	13,995	6,239	12,637	..	8,945
Western Australia .. ..	26,961	30,383	36,020	17,193	13,712
Northern Territory .. ..	..	..	2,458	1,373	1,024
<b>Australia .. ..</b>	<b>77,272</b>	<b>60,499</b>	<b>107,260</b>	<b>94,258</b>	<b>128,830</b>
Territories of Papua and New Guinea .. ..	25,636	29,350	13,389	10,042	..

(a) Based on figures obtained from State Departments of Mines and the Northern Territory Mines Branch.

## § 16. Sulphur.

1. **Mine Production of Sulphur.**—There is no production of elemental sulphur (brimstone) in Australia. However, while sulphur is itself non-metallic, considerable quantities are contained in certain metallic minerals produced.

It should be noted that large quantities of the lead and zinc concentrates produced are exported and the sulphur they contain is not available for utilization in Australia.

The following table shows the sulphur content of the metallic minerals produced during 1960 from which sulphur was subsequently recovered.

## SULPHUR: CONTENT OF METALLIC MINERALS PRODUCED, 1960.

(Tons.)

Mineral in which contained.	N.S.W.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Lead Concentrate	46,715	..	..	(a) 316	(a) 2,071	49,102
Lead-copper Concentrate ..	..	..	..	..	(a) 952	(a) 952
Pyrite Concentrate ..	15,637	9,580	(a) 31,717	24,240	33,375	114,549
Zinc Concentrate ..	142,006	(a) 15,032	..	..	18,359	175,397
<b>Total ..</b>	<b>204,358</b>	<b>(b) 24,612</b>	<b>(a) 31,717</b>	<b>24,556</b>	<b>54,757</b>	<b>340,000</b>

(a) Estimated.

(b) Partly estimated.

The principal producing centres during 1960 were as follows.

(i) *New South Wales.* All the sulphur produced in New South Wales was contained in lead and zinc concentrates produced at Broken Hill and in lead, zinc and pyrite concentrates produced at Captain's Flat.

(ii) *Queensland.* In Queensland, sulphur was contained in zinc concentrate milled at Mount Isa and in pyrite concentrate produced at Mount Morgan. No sulphur was recovered in Australia from the zinc concentrate.



(iii) *South Australia.* A pyrite concentrate containing sulphur was produced from ore mined at Nairne, 22 miles east of Adelaide.

(iv) *Western Australia.* Sulphur was recovered from pyrite concentrates produced at Norseman and at Kalgoorlie. Although both these concentrates are auriferous, gold was recovered only from that produced at Kalgoorlie.

(v) *Tasmania.* A pyrite concentrate was recovered at Mount Lyell after the prior separation of the copper sulphide mineral. Recoverable sulphur was also contained in lead, lead-copper and zinc concentrates milled at Rosebery, but only that contained in zinc concentrate was recovered in Australia.

The following table shows for the years 1956 to 1960 the sulphur content of minerals from which sulphur was subsequently recovered.

**SULPHUR: CONTENT OF METALLIC MINERALS PRODUCED.**

(Tons.)

State.	1956.	1957.	1958.	1959.	1960.
New South Wales .. ..	187,087	207,604	197,736	188,892	204,358
Queensland(a) .. ..	15,103	24,544	14,647	17,464	24,612
South Australia (b) .. ..	31,248	32,721	32,129	27,616	31,717
Western Australia .. ..	25,295	25,420	22,635	24,473	24,556
Tasmania .. ..	47,339	52,185	55,472	52,100	54,757
<b>Australia .. ..</b>	<b>306,072</b>	<b>342,474</b>	<b>322,619</b>	<b>310,545</b>	<b>340,000</b>

(a) Partly estimated.

(b) Estimated.

2. **Production of Sulphuric Acid.**—The principal use of sulphur is in the manufacture of sulphuric acid, which is produced in all States and in the Northern Territory. Most of this is used for fertilizer manufacture, although small quantities are used in the rubber and chemical industries and in the preparation of uranium concentrates. Sulphur contained in lead concentrate is used for acid manufacture at Port Pirie and sulphur in zinc concentrates is used at Risdon. Pyrite concentrate is used as a source of sulphur for acid manufacture at Cockle Creek, near Newcastle, and at Port Kembla in New South Wales, and at Melbourne, Brisbane, Adelaide, Perth and Fremantle. However, about half the sulphuric acid produced in Australia is made from imported elemental sulphur. The next table shows, for the years 1957 to 1961, the Australian production of sulphuric acid and the quantity of sulphur in the acid produced from various sources.

**SULPHUR USED IN SULPHURIC ACID PRODUCTION: AUSTRALIA.**

(Tons.)

Item.	1957.	1958.	1959.	1960.	1961.
<i>Production of Sulphuric Acid (Mono) .. ..</i>	<i>971,976</i>	<i>1,009,064</i>	<i>1,000,458</i>	<i>1,109,751</i>	<i>1,137,501</i>
<i>Sulphur in Sulphuric Acid (Mono) produced from—</i>					
Sulphur (Elemental)(a) ..	156,413	162,881	153,195	179,752	182,554
Zinc Concentrate ..	35,025	38,524	39,933	42,946	52,423
Lead Concentrate ..	18,272	21,339	19,619	21,573	22,440
Pyrite ..	100,111	99,216	103,596	104,406	100,520
Spent Oxide ..	4,744	4,301	3,655	3,814	2,277
Other Materials ..	3,271	3,702	7,151	10,396	11,749
<i>Total Sulphur Content..</i>	<i>317,836</i>	<i>329,963</i>	<i>327,149</i>	<i>362,887</i>	<i>371,963</i>

(a) All imported.

## § 17. Non-metallic Minerals.

1. **Asbestos.**—Production of asbestos in Australia has been confined mainly to crocidolite which is found principally in the Hammersley Ranges in Western Australia, about 200 miles south-east of Roebourne. Production from this centre, which has reserves estimated at two million tons, has expanded greatly in recent years. The only deposits of chrysotile, located mainly at Nunyerry in Western Australia and at Baryulgil in New South Wales, are relatively small and widely scattered.

The production of chrysotile and crocidolite in Australia during the five years 1956 to 1960 is shown in the following table.

**PRODUCTION OF ASBESTOS.**  
(Short Tons of 2,000 lb.)

Year.	Chrysotile.			Crocidolite.
	New South Wales.	Western Australia.	Australia.	Australia.(a)
1956 .. .. .	697	852	1,549	8,160
1957 .. .. .	676	1,556	2,232	12,438
1958 .. .. .	712	1,543	2,255	13,313
1959 .. .. .	726	707	1,433	16,442
1960 .. .. .	1,072	69	1,141	14,472

(a) Produced in Western Australia only.

2. **Clays.**—Statistics of clay production in Australia are not entirely satisfactory, mainly because of differences between States in the classification of the various types of clays. In addition, the statistics are incomplete as some clays are outside the normal administrative control of some State Mines Departments. In the following table, the recorded production of the main types of clays produced in each State of Australia is shown for the year 1960.

**PRODUCTION OF CLAYS, 1960.**  
(Tons.)

Type.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Bentonite and Bentonitic Clay ..	17	..	173	..	382	..	572
Brick Clay and Shale ..	2,077,518	2,258,275	334,584	407,840	(a)310,342	157,245	4,545,804
Cement Clay and Shale ..	177,624	(b)	(b)	18,090	13,015	(b)	(c)208,729
Damouritic Clay ..	..	..	..	559	..	..	559
Fireclay, n.e.i. ..	88,872	14,498	12,571	21,009	20,347	..	157,297
Fuller's Earth ..	90	..	..	..	..	..	90
Kaolin ..	37,973	5,938	37	3,283	..	964	48,195
Stoneware Clay ..	75,353	..	30	53,442	..	..	128,825
Tile Clay ..	121,576	(b)	(b)	(b)	(b)	3,750	(c)125,326
Other Clays ..	6,036	191,299	(b)	(b)	(b)	13,064	(c)210,399

(a) Estimated.

(b) Not available.

(c) Incomplete.

3. **Gypsum.**—There are very extensive deposits of gypsum in Australia, but only the more accessible and easily worked deposits have been exploited. These deposits lie in four main regions, (a) in New South Wales stretching from around Griffith to near Broken Hill, (b) in the north-west corner of Victoria, the south-west corner of New South Wales and adjoining parts of South Australia, (c) in South Australia on both sides of St. Vincent Gulf and extending to Lake MacDonnell in the west, and (d) between Perth and Kalgoorlie in Western Australia. The South Australian deposits are the most important and more than half the total Australian production of gypsum in 1960 came from that State, where the main centres of production are Stenhouse Bay on Yorke Peninsula and Lake MacDonnell.

The building industry is the main user of the gypsum produced in Australia. The greatest part is used in the manufacture of plaster and most of the remainder in cement manufacture. A small amount is also used as fertilizer. A considerable quantity is exported, mainly to New Zealand for use in the plaster industry.

The production of gypsum in Australia is set out in the following table for the five years 1956 to 1960.

**PRODUCTION OF GYPSUM.**  
(Tons.)

Year.	New South Wales.	Victoria.	South Australia.	Western Australia.	Australia.
1956 .. ..	94,203	78,895	263,136	27,121	463,355
1957 .. ..	101,491	68,647	274,945	33,353	478,436
1958 .. ..	90,664	72,010	306,749	35,515	504,938
1959 .. ..	101,143	81,101	296,816	37,731	516,791
1960 .. ..	95,514	100,386	340,762	44,216	580,878

4. **Limestone.**—Limestone is quarried in all States, being used mainly for the manufacture of cement. Other uses are in agriculture, in the steel industry as a metallurgical flux, and in the chemical industry.

The recorded statistics of limestone production in each State of Australia for the years 1956 to 1960 are shown in the following table. Details of limestone produced for use as building or road material are not included.

**PRODUCTION OF LIMESTONE(a).**  
(\*000 Tons.)

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
1956 ..	1,700	813	(b)	1,076	(b)	179	4,264
1957 ..	1,897	846	(b)	1,135	(b)	205	4,572
1958 ..	2,061	859	(b)	1,220	(b)	235	5,324
1959 ..	2,056	1,120	(b)	1,017	(b)	230	5,305
1960 ..	2,400	1,157	(b)	1,064	(b)	215	5,669

(a) Includes shell and coral.

(b) Not available for publication, included in total for Australia.

5. **Magnesite.**—The major sources of magnesite at present are deposits at Fifield, Thuddungra and Lake Cargelligo in central New South Wales. Most of the output of magnesite in Australia is used for refractory purposes, particularly in the steel industry, and small amounts are used in chemical, paper, glass, rubber, and ceramic industries. Particulars of the production of magnesite in each State for the years 1956 to 1960 are set out in the table below.

**PRODUCTION OF MAGNESITE.**  
(Tons.)

Year.	New South Wales.	Queensland.	South Australia.	Western Australia.	Australia.
1956 .. ..	63,050	..	831	804	64,685
1957 .. ..	83,271	..	202	..	83,473
1958 .. ..	69,030	20	341	..	69,391
1959 .. ..	59,777	..	790	19	60,586
1960 .. ..	61,668	..	498	..	62,166

6. **Mica.**—Almost all Australian production of muscovite mica comes from the Northern Territory, though small quantities of inferior grades have been obtained from most of the States. The centre of mica production in the Northern Territory is the Harts Range area, about 130 miles north-east of Alice Springs, where mining has been carried on intermittently since 1892, and the Plenty River field, 50 miles north-east of Harts Range.

Prior to 31st December, 1960, the Commonwealth Mica Pool, details of which are given on page 1094 of Official Year Book No. 46, purchased all mica which was in accordance with certain specifications. From that date, this agency ceased buying locally-produced mica and will discontinue selling the product as soon as practicable.

Local production of block mica has declined steadily and in 1960 it had fallen to 9,500 lb. which was the lowest since 1925.

The following table shows the quantity of muscovite mica produced in Australia during the five years 1956 to 1960.

## MUSCOVITE MICA PRODUCTION.

(lb.)

Particulars.	1956.	1957.	1958.	1959.	1960.
New South Wales—					
Scrap .. .. .	..	..	15,680	7,000	..
Queensland—					
Scrap .. .. .	..	..	21,728	..	..
Northern Territory—					
Trimmed .. .. .	28,837	36,713	42,479	44,665	9,500
Crude and Film .. .. .	..	..	35,840	170,000	649,600
Scrap .. .. .	..	40,600	..	..	..

7. Salt.—Salt is obtained in Australia by evaporation of saline lakes and clay pans. Production satisfies local requirements and provides a considerable surplus for export. Recorded production in South Australia (the chief producing State) is shown in the following table for the years 1956 to 1960. Estimates of total Australian production are also shown.

## SALT PRODUCTION.

('000 Tons.)

Particulars.	1956.	1957.	1958.	1959.	1960.
South Australia .. .. .	332	339	336	358	359
Estimated Australian Total .. .. .	409	428	430	468	463

8. Other Non-metallic Minerals.—(i) *General*. Many other non-metallic minerals are produced in Australia in considerable quantities, and are listed separately in the following paragraphs.

(ii) *Barite*. The principal centre producing first-grade barite is at Oraparinna in the North Flinders Range in South Australia. The production of barite in Australia during 1960 was 11,417 tons, of which 11,357 tons came from South Australia and 60 tons from New South Wales.

(iii) *Diatomite*. Production of diatomite is carried on mainly in the eastern States of Australia. In 1960, 4,659 tons were produced, of which New South Wales produced 3,941 tons, mainly at Coonabarabran and Barraba. The remaining 718 tons were produced in Victoria, principally at Lillcur.

(iv) *Dolomite*. Up to 1950, New South Wales was the main producer of dolomite, but in that year a large deposit at Ardrossan in South Australia, which now produces over 90 per cent. of the total output, was opened up. In 1960, South Australia produced 182,290 tons; New South Wales, 3,357 tons; Tasmania, 2,678 tons; Queensland, 2,139 tons; and Western Australia, 404 tons, making an Australian total of 190,868 tons.

(v) *Felspar*. The main demand for felspar comes from the glass and ceramic industries. Most of the Australian production of felspar comes from New South Wales, which produced 5,325 tons of the Australian total of 8,414 tons in 1960. Of the remainder, 1,942 tons came from Western Australia and 1,147 tons from South Australia.

(vi) *Gemstones.* (a) *Opals.* Most of the opals won in recent years came from the Coober Pedy and Andamooka fields in South Australia which produced opals worth £598,000 in 1960. Other production in 1960 was from Lightning Ridge in New South Wales, valued at £40,000.

(b) *Sapphires.* In 1960, sapphires produced in the Inverell District of New South Wales were valued at £3,000 and production from the Anakie Field in Central Queensland was valued at £2,000.

(vii) *Phosphate Rock.* In the course of a search for deposits of uranium ore near Rum Jungle in 1961, the Bureau of Mineral Resources discovered high-grade phosphate rock deposits in the area. At this stage the size and potential of this discovery are not known. However, a programme is being conducted to make a preliminary assessment of the extent and grade of the new deposits.

(viii) *Silica.* The production of silica is not recorded in Victoria and production recorded in all other States may not be complete. The output of silica, which includes glass sand, quartz, quartzite, sand, sandstone, and silicious abrasives, but does not include production for use as building or road material, was 165,447 tons in New South Wales; 15,882 tons in Queensland; 14,615 tons in South Australia; 8,925 tons in Western Australia; and 5,231 tons in Tasmania; making a total of 210,100 tons recorded for those States during 1960.

(ix) *Sillimanite.* In 1960, 1,524 tons of sillimanite were produced in Australia, all of which came from South Australia.

(x) *Talc.* The Australian output of talc (including steatite) was 15,670 tons in 1960. South Australia produced 9,064 tons, Western Australia 5,470 tons, and New South Wales 1,136 tons.

(xi) *Other.* Other non-metallic minerals produced in Australia in small quantities during 1960 were fluorspar, garnet concentrate, glauconite, industrial diamonds, foundry loam, mineral pigments, pebbles for grinding, perlite, pyrophyllite, and serpentine.

### § 18. Oversea Trade in Minerals and Mineral Products.

Particulars of the quantity and value of the principal mineral and mineral product items imported into and exported from Australia during the years 1958 to 1960 are shown in the following table.

#### IMPORTS AND EXPORTS OF PRINCIPAL MINERALS AND MINERAL PRODUCTS: AUSTRALIA.

Item.	Unit of Quantity.	Quantity.			Value. (£A. 000.)		
		1958.	1959.	1960.	1958.	1959.	1960.
<b>IMPORTS.</b>							
<b>Aluminium, Refined—</b>							
Ingots .. .. .	ton	14,813	19,268	26,432	3,356	3,883	6,448
Plates, Sheets and Strips .. .. .	"	2,317	2,555	5,770	1,026	1,068	2,432
Foil .. .. .	"	2,409	2,788	3,909	1,711	1,803	2,560
Asbestos .. .. .	short ton	38,888	38,330	41,002	2,493	2,502	2,508
Gold, Unrefined Bullion .. .. .	fine oz.	160,232	136,674	143,852	2,502	2,136	2,235
<b>Iron and Steel—</b>							
Bars and Rods .. .. .	ton	24,798	9,035	54,075	2,750	1,940	4,597
Ferro-alloys .. .. .	"	13,335	23,989	41,612	1,486	1,859	3,391
Plate and Sheer (Plain) .. .. .	"	15,918	9,119	258,539	3,354	2,919	16,852
Tinplate .. .. .	"	66,059	50,348	63,741	6,699	4,774	6,039
<b>Petroleum Oils—</b>							
Crude .. .. .	'000 gals.	2,441,916	2,603,377	2,699,251	67,778	69,347	67,743
Enriched Crude .. .. .	"	95,302	35,559	237,336	4,079	802	6,923
Kerosene .. .. .	"	97,403	109,649	102,965	5,337	6,002	5,368
Lubricating Oil .. .. .	"	41,665	49,619	49,832	5,759	6,582	6,809
Spirit .. .. .	"	207,500	243,910	238,083	14,566	13,228	13,247
Phosphate Rock .. .. .	'000 tons	1,501	1,327	1,491	3,894	3,689	4,075
Sulphur .. .. .	ton	202,421	170,770	221,778	2,254	1,855	2,285
Titanium Oxide .. .. .	"	6,996	5,472	5,054	1,482	1,016	971.

## IMPORTS AND EXPORTS OF PRINCIPAL MINERALS AND MINERAL PRODUCTS: AUSTRALIA—continued.

Item.	Unit of Quantity.	Quantity.			Value. (£A'000 f.o.b.).		
		1958.	1959.	1960.	1958.	1959.	1960.
<b>EXPORTS.(a)</b>							
Asbestos .. ..	short ton	10,433	12,974	8,299	933	1,225	784
Coal .. ..	ton	823,925	794,190	1,577,140	3,408	3,178	6,327
Copper, Blister .. ..	"	14,471	16,225	502	3,156	4,375	162
Gold, Refined .. ..	fine oz.	128,550	128,052	2,513,583	2,111	2,007	39,275
Iron and Steel—							
Bars and Rods .. ..	ton	28,588	39,198	52,633	1,420	1,895	2,585
Plate and Sheet, Plain .. ..	"	85,444	141,313	60,728	5,169	8,468	4,251
Plate and Sheet, Galvanized	"	58,938	58,488	57,792	4,911	4,975	4,988
Scrap .. ..	"	156,978	182,985	205,747	2,800	3,404	3,431
Lead—							
Ore and Concentrate(b) .. ..	"	83,984	90,797	74,696	4,776	5,034	4,172
Lead-Silver Bullion .. ..	"	58,068	53,021	49,653	6,104	5,498	5,268
Pig .. ..	"	155,730	138,448	125,265	13,729	12,025	10,970
Petroleum Oils—							
Spirit .. ..	'000 gals.	80,171	32,682	35,289	4,814	2,140	2,588
Diesel Oil .. ..	"	43,081	93,008	179,490	2,511	5,305	10,232
Residual and Furnace Oil .. ..	"	202,052	146,869	174,804	9,131	6,484	7,320
Rutile Concentrate .. ..	ton	75,615	80,938	93,706	4,630	3,609	4,064
Silver, Refined .. ..	'000 fine oz.	4,876	3,001	2,800	1,911	1,224	1,150
Zinc—							
Ore and Concentrate .. ..	ton	261,279	193,254	321,930	2,749	2,472	5,395
Refinery Type Shapes .. ..	"	37,938	41,606	27,443	3,165	3,962	3,066

(a) Includes re-exports.

(b) Includes lead-copper concentrate.

Considerable quantities of metallic ores, concentrates, slags and residues are exported from Australia for refining overseas. The following table shows the quantities of such items exported during 1960 and their principal metallic content as estimated by assay.

## PRINCIPAL METALLIC CONTENTS OF SPECIFIED ORES AND CONCENTRATES, ETC., EXPORTED FROM AUSTRALIA DURING 1960.

Ores and Concentrates, etc.	Quantity Exported.	Metallic Contents—Estimated from Assay.						
		Copper.	Gold.	Lead.	Silver.	Tin.	Tungstic Oxide.	Zinc.
		ton.	ton.	fine oz.	ton.	fine oz.	ton.	ton.
Copper—								
Ore and Concentrate .. ..	137,897	34,408	9,632	..	305,883	..	..	..
Copper—Lead Dross and Speiss .. ..	5,333	941	..	3,223	218,883	..	..	..
Other Slags and Residues .. ..	139	76	..	1	..	1	..	5
Blister .. ..	502	498	..	..	..	..	..	..
Lead—								
Ore and Concentrate(a) .. ..	74,696	785	16,171	49,129	1,811,018	..	..	5,356
Slags and Residues .. ..	808	..	..	335	..	1	..	..
Lead-Silver Bullion .. ..	49,653	..	..	49,305	3,972,260	..	..	..
Tungsten—								
Scheelite Ore and Concentrate .. ..	505	..	..	..	..	..	351	..
Wolfram Ore and Concentrate .. ..	913	..	..	..	..	..	655	..
Zinc—								
Ore and Concentrate .. ..	321,930	..	..	2,239	93,056	..	..	168,200
Slags and Residues .. ..	6,443	..	..	..	..	..	..	4,530
Total Metallic Contents .. ..	..	36,708	25,803	104,232	6,401,100	2	1,006	178,091

(a) Includes lead-copper concentrate.

**§ 19. Government Aid to Mining, and Mineral Control.**

1. **Aid to Mining.**—(i) *Commonwealth.* (a) *Assistance to the Gold Mining Industry.* For particulars, see para. 9, page 1064.

(b) *Assistance to the Copper Mining Industry.* For particulars, see para. 8, page 1073.

(c) *Assistance to Producers of Sulphuric Acid and Iron Pyrites.* As a result of Tariff Board recommendations, the Sulphuric Acid Bounty Act was extended for a period of five years from 1st July, 1960. Arising from these same recommendations, the Pyrites Bounty Act 1960 was enacted on 15th December, 1960, to be operative for a period of five years from that date. The Acts provide for bounties to be paid to producers of iron pyrites and sulphuric acid.

(d) *Income Taxation Concessions.* For particulars of income taxation concessions to the gold, copper and uranium mining industries, see pages 1065, 1073 and 1085 respectively. Further information is given in a booklet entitled *Income Tax for the Mining Industry*, issued by the Commissioner of Taxation.

(e) *Search for Oil.* The Commonwealth Government has encouraged the search for oil in Australia, Papua and New Guinea and considerable sums have been spent during recent years in geological and geophysical surveys and in drilling operations.

The Bureau of Mineral Resources, in close co-operation with the Mines Departments of the States, has continued regional geological and geophysical surveys throughout the Commonwealth. In 1957, the Commonwealth introduced the Petroleum Search Subsidy Act 1957, whereby stratigraphic drilling operations were subsidised to the extent of 50 per cent. of cost. The Petroleum Search Subsidy Act of 1959 widened the scope of operations for which subsidy was offered to include all types of geophysical surveys and off-structure drilling operations. Another amendment in 1961 further widened the scope of the 1959 act to provide subsidy for test drilling and detailed structure drilling operations. It also provided for the calculation of drilling subsidies on a footage basis as an alternative to the total cost basis. To the end of 1961, actual payments of subsidy totalling more than £3 million had been made in accordance with the terms of the Subsidy Acts and it is anticipated that this amount will be greatly increased during the next three years because of the recent impetus in oil search activities. For further particulars of Government assistance in oil exploration, see § 15.—Oil Exploration in Australia, page 1095.

(f) *Rewards for Discovery of Uranium Ore.* The Commonwealth Government's offer to pay rewards up to a maximum of £25,000 for the discovery of any one deposit of uranium ore was withdrawn on 31st March, 1961.

(g) *Mica Pool.* The Commonwealth Mica Pool ceased purchasing mica on 31st December, 1960, and the Committee of Management was abolished on the same day. The Pool will continue to sell mica while stocks last.

(h) *Bureau of Mineral Resources, Geology and Geophysics.* The Bureau of Mineral Resources, Geology and Geophysics has sections dealing with geology, geophysics, mining engineering, petroleum technology and mineral economics. The geological section provides geologists to conduct all surveys required in Commonwealth Territories, and makes detailed and regional surveys in conjunction with or by arrangement with the State Mines Departments, surveys of possible oil-fields in Australia and New Guinea, surveys of mines for which financial assistance is sought, and investigations of deposits of radio-active minerals. The geophysical section conducts investigations throughout Australia and New Guinea connected with the search for metalliferous radio-active and other mineral deposits; investigations connected with exploration for coal, oil and water; regional magnetic and gravity surveys; engineering and military geophysics; and the operation of geophysical (magnetic and seismic) observatories. The Bureau works in close co-operation with the Mines Departments of the States. It has assumed full responsibility for geological and geophysical surveys in Commonwealth Territories, but suitable arrangements have been made to ensure that the local Administrations have the necessary technical advice directly available to them.

(i) *Ore-dressing and Mineragraphic Investigations.* These investigations are conducted by the Commonwealth Scientific and Industrial Research Organization as required by the industry. Ore-dressing investigations are carried out at the Ore-Dressing Laboratory, situated in the Department of Mining, University of Melbourne, and at the Ore-Dressing Laboratory, Kalgoorlie, situated at the School of Mines. The Mineragraphic Investigations Section is located in the Geology Department, University of Melbourne.

These two groups of laboratories perform complementary services—the Mineragraphic Investigations Section assesses microscopically the state of dispersion and the mineral association of ore bodies, while the Ore-Dressing Laboratories investigate the composition of ores and provide advice on suitable methods for their full-scale treatment. Much of this research is carried out on a co-operative research basis with the mining industry.

(j) *Department of Territories.* For particulars of the Northern Territory Administration, see paragraph (h) under section (ii) *States* following.

(ii) *States.* (a) *General.* In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and in general give a free technical service to the mining industry.

(b) *New South Wales.* State aid to assist metalliferous mining may consist of grants to assist the prospecting and/or mining for gold and minerals, and for the purchase, removal and installation of mining plant or equipment. A quantity of mechanical equipment is also available in several localities for hire at reasonable rentals to prospectors and small mine operators, and District Inspectors have geiger counters and scheelite detectors which are loaned to approved persons.

(c) *Victoria.* Loans may be granted to assist prospecting and development or the purchase of machinery for gold mining. The Mines Department has stamp batteries in different parts of the State to crush ore for prospectors at nominal rates. Small mining companies may avail themselves of these facilities. Drilling with diamond, rotary and percussion drills is carried out by the Mines Department for mining companies and for general mineral exploration. A survey of the State's underground water reserves is in progress, in conjunction with the opening up of town water supplies from underground sources.

(d) *Queensland.* Various forms of assistance to mining are made available by the Queensland Department of Development and Mines. Grants are made from the Consolidated Revenue Fund for use on construction and maintenance of roads in mining areas. Advances are made from the Gold Mining Encouragement Fund for mining development work. This assistance is restricted to gold mines and advances are repayable from proceeds of the mine, if any. From the Assistance to Metalliferous Mining Fund, plant, such as jackhammers, compressors and pumps, is purchased and maintained. Such plant is made available on hire, the rental payments being credited back to the fund. Prospecting assistance is made available in approved cases, the rates being £2 10s. a week for a single man and £3 10s. a week for a married man with dependants. This is not repayable. From the Advances to Mining Fund, assistance by way of subsidy is advanced for mine development. This is repayable from proceeds of the mine. The Department also maintains a treatment works for tin ores, etc., at Irvinebank, an assay office at Cloncurry, and diamond-drilling plants in several parts of the State. The Venus State mill at Charters Towers is available for the treatment of gold-bearing ores.

(e) *South Australia.* The Department of Mines provides the following services and facilities to the mineral industry:—(i) Hire of boring plant and mining equipment, boring and testing of mineral deposits, financial subsidies in approved cases for prospecting and mining development, development of sub-surface water supplies for farming, pastoral, irrigation and mining purposes, and purchase of basic metal ores from prospectors; (ii) geological examination of mineral deposits, water supply, dam foundation and drainage problems, guidance on mining legislation, and publication and issue of geological bulletins and maps. It also provides, through the Australian Mineral Development Laboratories, chemical and metallurgical, analytical and assay investigation, testing and treatment of ores and minerals, petrographic, mineragraphic and radiometric determinations. Pilot scale metallurgical and chemical treatment plants are maintained and operated for the development of mineral extraction processes.

(f) *Western Australia.* Assistance is given to prospectors to the extent of £5 a week south of the 26th parallel of latitude, and of £6 a week north of that parallel; also provision is made for the supply of some tools required for prospecting.

There are twenty State batteries operating intermittently throughout the goldfields for the treatment of ore from prospectors and small mine-owners, at a nominal charge. A cartage subsidy is also granted to such operators sending ore to State batteries for treatment.



Provision is made for loans to mine-owners who require assistance to develop mines. The Government also has a drilling scheme, financing mine-owners on a £1 for £1 basis.

(g) *Tasmania.* The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery, for sinking, repairing or de-watering of shafts, for construction of dams and water races, for testing and proving a deposit of any mining product, for developmental work and for diamond and other types of drilling. The Department has available for hire percussion and diamond drills for exploration, as well as a complete plant for small shaft sinking and tunnelling. Other assistance is rendered to the industry by geological and engineering advice and through ore-dressing research into metallurgical recoveries and the selection and design of treatment plant.

(h) *Northern Territory.* To encourage the development of the mining industry, the Northern Territory Administration has erected four Government batteries for the treatment of miners' ores. Only two of these, at Tennant Creek and Mount Wells near Burrundie, are now in operation. The re-opening of the other two batteries will depend on the revival of small scale wolfram and tin mining in Hatches Creek and Maranboy where these batteries are located.

The crushing charges are subsidized by Government grants. In addition, the Administration provides cartage subsidies and financial advances to encourage miners to carry out developmental work. Roads and water supply services are provided and maintained for mines under active development throughout the Territory.

2. **Controls on Minerals and Metals.**—Export controls are maintained over certain minerals and metals. These controls are enforced by means of the Customs (Prohibited Exports) Regulations as amended from time to time by Statutory Rules. To export these materials, it is necessary to obtain a clearance from the following Commonwealth Departments:—

- (i) Department of National Development—Mineral sands in all forms (including concentrates) containing zircon, rutile or ilmenite; lithium ores and concentrates; beryllium ores and concentrates; manganese ores; iron ores, beneficiated iron ores and iron concentrates;
- (ii) Department of Trade—Iron, steel and ferrous alloys;
- (iii) Department of Primary Industry—Phosphate rock, phosphate and superphosphate and fertilizers containing phosphate or superphosphate;
- (iv) Australian Atomic Energy Commission—All radio-active minerals, metals and compounds, including uranium and thorium in all forms; lithium metal and alloys; beryllium metal, alloys and compounds; zirconium metal, alloys and compounds.

Further information concerning the Atomic Energy Commission appears in Chapter XV.—Education and Research.

## CHAPTER XXVIII.

## DEFENCE.

## § 1. Department of Defence.

1. **Functions and Organization.**—(i) *Functions.* The functions of the Department of Defence include:—

Defence policy;

Joint Service matters and matters having an inter-departmental defence aspect;

The financial requirements of defence policy and the allocation of the funds made available;

The supply aspect of defence policy including the review of production programmes and capacity;

Important matters of policy or principle affecting the Defence Forces and their requirements, including the strength, organization and disposition of the forces, higher appointments in the Services, their weapons and equipment, and defence research and development.

(ii) *Organization, higher defence machinery and the control of the joint Service machinery.* The joint Service and inter-departmental advisory machinery of the Department consists of various committees headed by the Defence Committee, the Chiefs of Staff Committee, the Defence Administration Committee and the Joint War Production Committee.

The Defence Committee is a statutory body consisting of the Secretary, Department of Defence, who is Chairman; the Chairman of the Chiefs of Staff Committee; the Chiefs of Staff of the three Services; the Secretary, Prime Minister's Department; the Secretary, Department of External Affairs; and the Secretary to the Treasury. Its function is to advise the Minister for Defence on—

(a) The defence policy as a whole and the co-ordination of military, strategic, economic, financial and external affairs aspects of defence policy.

(b) matters of policy or principle and important questions having a joint Service or an inter-departmental defence aspect, and

(c) such other matters having a defence aspect as are referred to the Committee by or on behalf of the Minister for Defence.

The Chiefs of Staff Committee meets regularly for the discussion of technical matters on a joint service basis, and is responsible in peace for the preparation of strategic appreciations and military plans. The functions of the Defence Administration Committee, in addition to the regular review of the progress of the Defence Programme, include the co-ordination and integration of Service activities and the improvement of methods and organization. The function of the Joint War Production Committee is, briefly, to examine the relation between strategic plans and their requirements to ensure that the war potential for them exists. The major committees subordinate to the Defence Committee and/or the Chiefs of Staff Committee comprise the Principal Administrative Officers Committee (Maintenance and *Matériel*), the Principal Administrative Officers Committee (Personnel), the Defence Research and Development Policy Committee, the Joint Planning Committee, the Joint Intelligence Committee and the Joint Administrative Planning Committee.

In addition, the Defence Business Board furnishes advice on business matters of common interest to the three Services, or important subjects on which the collective advice of the Board is desired from the business aspect, with a view to promoting efficiency and economy in the execution of the Defence Programme. The Board comprises businessmen who serve in a part-time honorary capacity and consists of an independent chairman and deputy chairman and the business advisers of the three Service Departments.

**2. Basis of Current Defence Policy.**—The basic aim of Australia's defence policy is to ensure the security of Australia's mainland and its island territories. This aim can best be achieved by the policy of collective defence in south-east Asia, which is the area of primary defence interest to Australia. Australia is party to the various collective security arrangements which have been developed in the area—SEATO, ANZUS and British Commonwealth arrangements for defence co-operation.

Global war as a deliberate act of policy is considered unlikely, and the main aim of Australia's defence preparation is continually to improve its ability to make prompt and effective contribution of forces to a limited war or insurgency situation in south-east Asia in support of collective arrangements.

**3. The Defence Programme.**—(i) *Objectives.* The defence programme must be maintained at a level that will enable Australia to meet its regional and home defence responsibilities. In the present strategic circumstances, emphasis is placed on having both regular and citizen forces more readily available than in the past, and improving their means of both strategic and tactical mobility. The forces are provided with effective conventional weapons and equipment which is standard or compatible as far as possible with that used by the United States forces, with whom Australia is associated in defence arrangements.

The naval programme provides for the progressive development of a well-balanced and effective operational fleet with modern anti-submarine and air defence capability. Two modern guided missile destroyers of the *Charles F. Adams* type have been ordered from the United States, and the aircraft carrier *Melbourne* will be converted to an anti-submarine helicopter carrier in 1963. Two new type-anti-submarine frigates have already been commissioned, and two more will join the fleet in 1963. These four ships will be equipped with the Seacat short range air defence missile. The former aircraft carrier *Sydney* has been commissioned as a fast transport for the movement of Australian forces overseas, and a fleet tanker is being commissioned in the R.A.N. as H.M.A.S. *Supply*. By agreement with the Royal Navy, modern submarines are maintained on the Australian station for anti-submarine training.

The Army has been reorganized to increase the strength and ready availability of the combat element of the Regular Army and of the volunteer Citizen Military Forces. The combat elements are based on the new pentropic division, and steady progress is being made in the provision of new equipment. The tactical flexibility and mobility of the field force has been improved by the acquisition of four landing ships and the formation of the Army light aircraft squadron equipped with light helicopters and light fixed-wing aircraft.

The Air Force is an operational force consisting of three bomber squadrons, four fighter squadrons, two maritime reconnaissance squadrons and three transport squadrons. A fighter replacement programme has been commenced; the new aircraft will be the Mirage fighter with the air frames and engines manufactured to a substantial extent in Australia. New and improved Neptune maritime reconnaissance aircraft have also been obtained, and the acquisition of helicopters and a surface-to-air guided weapons system is proceeding. A major programme of airfield construction, extensions and installation has been effected.

In the field of research and development, Australia is making its principal contribution through the Long Range Weapons Establishment at Woomera and Salisbury in South Australia, which is a joint United Kingdom-Australian effort for the testing of guided weapons. The executive authority for this project is the Department of Supply (see p. 1119). Woomera is also to be used for the European Launcher Development Organization.

(ii) *Financial.* Details of defence expenditure for 1960-61 and the allocation of the Defence Vote for 1961-62 are set out in the two tables which follow.

DEFENCE EXPENDITURE.  
(£'000.)

Service or Department.	Maintenance.	Capital Material Requirements, Machinery, Plant and Equipment.	Capital Buildings, Works and Acquisition of Sites.	Total Expenditure.
<b>DEFENCE EXPENDITURE, 1960-61.</b>				
Defence .. .. .	1,255	30	18	1,303
Navy .. .. .	31,826	11,581	1,710	45,117
Army .. .. .	50,380	11,352	3,918	65,650
Air .. .. .	45,801	13,048	4,384	63,233
Supply .. .. .	15,168	2,637	3,177	20,982
Other Services .. .. .	1,359	..	523	1,882
<b>Total .. .. .</b>	<b>145,789</b>	<b>38,648</b>	<b>13,730</b>	<b>198,167</b>

<b>DEFENCE VOTE, 1961-62.</b>				
Defence .. .. .	1,449	109	138	1,696
Navy .. .. .	33,159	13,333	1,527	48,019
Army .. .. .	50,894	10,429	3,214	64,537
Air .. .. .	46,039	15,287	4,136	65,462
Supply .. .. .	16,034	2,789	2,696	21,519
Other Services .. .. .	1,238	90	298	1,626
<b>Total .. .. .</b>	<b>148,813</b>	<b>42,037</b>	<b>12,009</b>	<b>202,859</b>

(iii) *Personnel Strengths.* The personnel strengths of the Services at 31st December, 1961, are shown in the following table.

## PERSONNEL STRENGTHS: SERVICES, DECEMBER, 1961.

Category.	Navy.	Army.	Air Force.	Total.
Permanent Forces .. .. .	10,803	20,765	15,635	47,203
Citizen Forces (Volunteers) .. .. .	7,259	28,855	705	36,819
<b>Total Forces .. .. .</b>	<b>18,062</b>	<b>49,620</b>	<b>16,340</b>	<b>84,022</b>

4. *Australian Forces Serving in Malaya.*—Australia has participated with the United Kingdom and New Zealand in the Commonwealth Strategic Reserve in Malaya since it was first established in 1955. The strength of the Australian component of the Reserve is as follows:—

Navy: Two destroyers or frigates; an annual visit by an aircraft carrier;

Army: One infantry battalion and supporting units;

Air Force: One light bomber squadron, two fighter squadrons and supporting units.

At the request of the Government of the Federation of Malaya, the Strategic Reserve continues to be stationed in that country and to assist in border security operations against the communist terrorists.

Australia has also recently deployed to Thailand, at the invitation of the Government of Thailand, a contingent of Sabre fighter aircraft in pursuance of its obligations under the SEATO Treaty. A small number of Army instructors are also being provided at the invitation of the Government of South Vietnam to assist that country in training for jungle warfare, village defence and other related activities.

## § 2. Naval Defence.

1. **Administration.**—Under the provisions of the Constitution, the Minister of State for the Navy administers the Department of the Navy. Under the Naval Defence Act 1910–1952, the Royal Australian Navy is administered by the Naval Board. The Naval Board consists of the Minister as Chairman, four Naval Members, and the Secretary, Department of the Navy.

2. **Historical.**—Prior to 1901, naval defence systems were organized under the State Governments. Information regarding these systems is given in Official Year Book No. 2, page 1084. An outline of the development of Australian naval policy is given in Official Year Books No. 3, page 1060, and No. 12, page 1012. An account of the building of the Australian Navy, its cost, the compact with the Imperial Government, and other details appears in Official Year Book No. 15, pages 921–23. The growth and the activities of the Royal Australian Navy during the 1939–45 War are shown in Official Year Book No. 36, pages 1023–27.

3. **Link with the Royal Navy.**—Strong links with the Royal Navy are maintained by a constant exchange of officers for extended tours of duty, and by a full exchange of information and ideas. A liaison staff is maintained by the Royal Australian Navy in London, and by the Royal Navy in Australia. Advanced training and staff courses in the United Kingdom are provided by the Royal Navy for Royal Australian Navy officers.

A liaison staff is also maintained by the Royal Australian Navy in Washington and a comprehensive exchange of information is provided by this link. Staff courses in the United States are also attended by officers of the Royal Australian Navy.

4. **The Australia Naval Station.**—Defined limits of the Australia Station are as follows.

*Eastern*—From 3° 30' North, 169° East, south to 1° South, thence east to 170° East, thence south along this meridian to 30° South, thence to 45° South, 160° East, thence south along this meridian.

*Northern*—From 3° 30' North, 169° East, west to 125° East, thence south to the coast of Celebes, thence west along the coast of Celebes to 120° East, thence south along this meridian to 10° South, thence west to 78° East.

*Western*—From 10° South, 78° East, south along this meridian.

5. **Strength of H.M.A. Fleet.**—Ships in commission at June, 1962, were:—

- 1 Aircraft carrier;
- 1 Fast Troop Transport;
- 4 Destroyers;
- 5 Fast anti-submarine frigates;
- 5 Frigates;
- 4 Auxiliary vessels.

6. **Ships' Service Outside Australian Waters.**—During the year ended June, 1962, H.M.A. Ships *Melbourne*, *Vendetta*, *Vampire*, *Voyager*, *Yarra*, *Parramatta*, *Quiberon*, *Quickmatch* and *Queenborough* served on the Far East Station as units of the Commonwealth Strategic Reserve with headquarters at Singapore. H.M.A. Ships *Diamantina*, *Gascoyne* and *Banks* also made visits beyond the limits of the Australia Station.

7. **Personnel.**—The authorized establishment strength of the Royal Australian Navy for 1961–62 is 12,800 comprising 1,359 officers and 11,441 ratings. In December, 1961, the actual strength of the Naval Forces, permanent and reserves, serving full time, was 1,184 officers and 9,203 ratings, including 106 native ratings of the Papua and New Guinea

Division of the Royal Australian Navy. 74 cadet midshipmen were undergoing training at the Naval College. 13 officers and 358 ratings were serving in the Women's Royal Australian Naval Service. Reserve strength serving part-time comprised 1,038 officers and 6,250 ratings.

8. **Women's Royal Australian Naval Service.**—The established personnel strength of the W.R.A.N.S. is 16 officers and 370 ratings. They serve in the shore establishments in the following categories: Radio-operators, Regulating, Writers, Stores Assistants, Sick Berth Attendants, Motor Transport Drivers, Wrans (Radar Plot), Cooks and Stewards.

9. **Reserve Training.**—Members of the Royal Australian Naval Reserve carry out limited training at night or on Saturday afternoons, plus 13 days' annual continuous training; engagements are for three years and pay is approximately that of the Permanent Naval Forces. Special courses and service of longer duration are available to selected members. The Royal Australian Fleet Reserve consists of former ratings of the R.A.N., R.N., or a Dominion Navy.

10. **Papua and New Guinea Division of the Royal Australian Navy.**—A Papua and New Guinea Division of the Royal Australian Navy, consisting of native ratings, was inaugurated in July, 1951, as a separate part of the Permanent Naval Forces for employment in Papua and New Guinea and adjacent waters.

11. **Fleet Air Arm.**—The Fleet Air Arm of the Royal Australian Navy maintains two front line squadrons, embarked in the operational carrier, H.M.A.S. *Melbourne*. This ship is fitted with an angled deck, steam catapult and mirror deck-landing sights. Training and support squadrons for H.M.A.S. *Melbourne's* Sea Venom jet all-weather fighter and ground attack aircraft and Gannet turbo-prop anti-submarine aircraft are based at the Naval Air Station H.M.A.S. *Albatross* at Nowra, New South Wales.

12. **Ship Construction and Repair.**—There are three naval dockyards, at Garden Island and Cockatoo Island, New South Wales, and at Williamstown, Victoria. The dockyard at Cockatoo Island is operated by the Cockatoo Docks and Engineering Company Pty. Ltd., by agreement with the Commonwealth.

Under the present ship construction programme, two anti-submarine frigates are being completed at Cockatoo Island and Williamstown and will commission in June, 1963, and January, 1964, respectively. All three dockyards are also engaged on ship refitting work for the Navy.

The six coastal minesweepers purchased from Admiralty and the fleet replenishment tanker H.M.A.S. *Supply* are undergoing conversion and refit in the United Kingdom and are due to arrive in Australia in December, 1962. In addition, two destroyers of the *Charles F. Adams* class have been ordered from the United States.

13. **Naval College.**—The Royal Australian Naval College, transferred in 1930 from Jervis Bay, A.C.T., to Flinders Naval Depot, was re-established at Jervis Bay in January, 1958, and was commissioned as H.M.A.S. *Creswell*.

14. **Training Establishments.**—Flinders Naval Depot, at Crib Point, Westernport, Victoria, is the basic training establishment for ratings in the permanent forces, while several advanced training schools are established in Sydney, New South Wales. The Apprentice Training Establishment at Quaker's Hill, New South Wales, provides secondary education as well as training in trades in which the lads will be employed during their service in the Royal Australian Navy. Junior recruits training was introduced at Fremantle, Western Australia, during the latter half of 1960. A large proportion of instructional hours is devoted to school subjects, and the remaining instructional time is basic naval training and disciplinary training, so that on completion of training, ratings will be ready to undergo technical and specialist courses.

15. *Ships of the Royal Australian Navy.*—The following ships were in commission or in reserve in June, 1962.

## SHIPS OF THE ROYAL AUSTRALIAN NAVY, JUNE, 1962.

Vessel.	Description.	Displacement.
<b>In Commission—</b>		<b>Tons.</b>
<i>Melbourne</i> .. .. .	Aircraft Carrier .. ..	15,960
<i>Sydney</i> .. .. .	Fast Troop Transport ..	14,380
<i>Anzac</i> .. .. .	Destroyer .. ..	2,562
<i>Vampire</i> .. .. .	" .. ..	2,860
<i>Vendetta</i> .. .. .	" .. ..	2,836
<i>Voyager</i> .. .. .	" .. ..	2,840
<i>Parramatta</i> .. .. .	Frigate .. ..	2,023
<i>Queenborough</i> .. .. .	" .. ..	2,033
<i>Quiberon</i> .. .. .	" .. ..	2,068
<i>Quickmatch</i> .. .. .	" .. ..	1,990
<i>Yarra</i> .. .. .	" .. ..	2,014
<i>Diamantina</i> (Training) .. .. .	" .. ..	1,412
<i>Gascoyne</i> (Training) .. .. .	" .. ..	1,470
<i>Swan</i> (Cadet Training) .. .. .	" .. ..	1,048
<i>Barcoo</i> (Survey) .. .. .	" .. ..	1,446
<i>Warrego</i> (Survey) .. .. .	" .. ..	1,102
<i>Kimbla</i> (Trials) .. .. .	Boom Defence Vessel ..	766
<i>Bass</i> (Survey) .. .. .	General Purpose Vessel ..	204
<i>Banks</i> (Fishery Protection) .. .. .	" " " ..	194
<i>Paluma</i> (Survey) .. .. .	Coastal Survey Vessel ..	274
<b>In Reserve—</b>		
<i>Arunta</i> .. .. .	Destroyer .. ..	2,012
<i>Tobruk</i> .. .. .	" .. ..	2,436
<i>Culgoa</i> .. .. .	Frigate .. ..	1,537
<i>Kangaroo</i> .. .. .	Boom Working Vessel ..	768
<i>Karangi</i> .. .. .	" " " ..	768
<i>Kookaburra</i> .. .. .	" " " ..	768
<i>Koala</i> .. .. .	" " " ..	533
<i>Sprightly</i> .. .. .	Fleet Tug .. ..	570
<b>Under Dockyard Control—</b>		
<i>Derwent</i> .. .. .	Frigate (completing) ..	..
<i>Stuart</i> .. .. .	" " ..	..

## § 3. Military Defence.

1. *State Systems.*—A detailed historical account of the Australian defence forces prior to federation appears in Official Year Book No. 2, pages 1075–80. *See also* Official Year Book No. 12, page 999.

The strength of the military forces of the States at 31st December, 1900 (the eve of federation), exclusive of cadets, reservists, and rifle club members, was—New South Wales, 9,338; Victoria, 6,335; Queensland, 4,028; South Australia, 2,932; Western Australia, 2,696; Tasmania, 2,024; total for Australia, 27,353.

2. **Commonwealth Systems.**—(i) *General.* Under the terms of the Constitution Act 1900, the Commonwealth took over control of defence matters in March, 1901. The growth of the Commonwealth Military Forces may be considered to have taken place in a number of phases. For particulars of the phases which cover the period from the welding together of the military forces of the States into one homogeneous Army in 1902 up to the re-establishment of the Military Board and the organization of Commands after World War II., see Official Year Book No. 46 and earlier issues.

In 1960, a complete re-organization of the Australian Military Forces was undertaken. The re-organization involved the reshaping of the Army by:—

- (a) the adoption of a pentropic divisional organization,
- (b) increasing the Regular Field Force,
- (c) reducing the command, training, and administrative structure, and
- (d) converting the Citizen Military Forces to a wholly volunteer force and eliminating national service training which was introduced in 1951 and suspended in 1959–60.

This re-organization has now been completed.

(ii) *Composition of the Australian Military Forces.*

- (a) *The Australian Regular Army.* Current planning provides for a Regular Army with an annual average strength of 21,000.
- (b) *The Citizen Military Forces.* Planned strength of the C.M.F. is 30,000 volunteers. Members are required to volunteer for service overseas in the event of war.
- (c) *Strength of the Australian Military Forces.* The effective strength of the Australian Military Forces at 30th April, 1962, was—Australian Regular Army (including 652 Pacific Islanders and 586 Women's Services), 21,370; Citizen Military Forces, 30,153.

(iii) *Organization.* Army Headquarters is responsible for the policy and control of the Australian Military Forces. The Military Board consists of the Minister for the Army, President; the Chief of the General Staff; the Adjutant-General; the Quartermaster-General; the Master-General of the Ordnance; the Deputy Chief of the General Staff; the Citizen Military Forces Member; and the Secretary, Department of the Army. After World War II., Command Headquarters were established to implement Army Headquarters policy and to command and administer those units placed under their authority. Command Headquarters are established in the mainland capital cities of Australia. The geographic extent of Commands is as follows.

*Northern Command.*—The State of Queensland and a small part of northern New South Wales and the Territory of Papua and New Guinea.

*Eastern Command.*—The State of New South Wales, less those parts included in Northern, Southern, and Central Commands.

*Southern Command.*—The State of Victoria, the State of Tasmania, and part of southern New South Wales.

*Central Command.*—The State of South Australia, plus a portion of south-western New South Wales.

*Western Command.*—The State of Western Australia.

*Northern Territory Command.*—The Northern Territory.

The basic formation in the re-organized Army is the pentropic division, which is designed to have improved tactical capabilities with increased mobility and flexibility under conditions of tropical warfare. The pentropic division consists of five battle groups, each under the direct command of the divisional headquarters. Each battle group has, as its basic component, an infantry battalion of larger size and greatly increased fire-power compared with the infantry battalion which existed prior to the re-organization. In addition to the strengthened infantry battalion, each battle group includes supporting elements such as armour, artillery, engineers, signals, etc.

There are two pentropic divisions, one consisting of two A.R.A. and three C.M.F. battle groups, and the other of five C.M.F. battle groups.



(iv) *Military Training Systems.* (a) *The Staff College.* Until 1938, the training of staff officers was carried out in the various Military Districts throughout Australia, except in cases where officers were selected from time to time to attend courses abroad. In 1938, an Australian Command and Staff School, located in the original Officers' Mess at Victoria Barracks, Sydney, was established. Between 1939 and 1945, the training of staff officers was carried out under varying conditions by different schools in accordance with the changing needs of the war.

Early in 1946, the Staff School (Australia) was established at Seymour, Victoria, and redesignated the Staff College in conformity with other Empire training establishments for training officers for command and staff appointments. The College was later moved to Queenscliff, Victoria, where it is at present situated. As from 1961, the course is to be of eighteen months' duration and will be held biennially. The normal intake is 50 students, and, on successfully completing the course, an officer is awarded the symbol "psc". The course is designed to train selected officers for Grade II. appointments in all branches of the staff in peace and war, and to prepare them to assume, after experience, command and higher staff appointments. Each course includes, among the students, Army representatives of the United Kingdom and other Dominions and countries.

Included in the 1961 course are students from the United Kingdom, Canada, New Zealand, India, Pakistan, Ceylon, United States of America, Thailand, Malaya and Indonesia. Vacancies on each course are reserved also for officers who may be nominated by the Royal Australian Navy, the Royal Australian Air Force and the Commonwealth Public Service.

In order to ensure common standards in tactical doctrine and staff and command training throughout the Commonwealth of Nations, liaison is maintained with other Staff Colleges, and to this end there is also a reciprocal exchange of instructors between the United Kingdom and Australia. An instructor is now also provided by New Zealand.

(b) *The Royal Military College.* The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory for the purpose of providing trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations and provide for admission by "normal" and "service" entries. The length of the "normal" course is four years; "service" entry cadets attend for three years. While at the College, Staff Cadets are wholly maintained, and, in addition, receive payment increasing with each year of the course. The course of instruction is organized into military and civil departments, and the instructional staff comprises officers of the Army and civilian professors. On graduation, cadets are appointed lieutenants in the Australian Regular Army. The College also trains New Zealand cadets for commissions in the New Zealand Permanent Forces under an agreement made with the Government of that Dominion.

(c) *The Officer Cadet School.* The Officer Cadet School was established in 1951 at Portsea, Victoria, for the purpose of speeding up the production of junior regimental officers for the Australian Regular Army. Serving members of the Australian Regular Army, the Citizen Military Forces, National Servicemen, and civilians between the ages of 18 and 23 years are eligible to apply for entrance. A special entry provides for candidates up to 25 years. The course is of 44 weeks' duration, and on graduation cadets are appointed second-lieutenants in the Australian Regular Army. Graduates normally proceed to further training at the Army School of the Arm and Service to which they have been allotted, before being posted to regimental duties.

(d) *The Women's Royal Australian Army Corps School.* The W.R.A.A.C. School, established in 1952 at Mildura, Victoria, moved to Mosman, New South Wales, in 1958. It has three wings, one whose primary task is the training of officer cadets for the W.R.A.A.C., one for the training of non-commissioned officers at all levels and for other special courses, and one which is a basic training wing. The officer cadets are selected from eligible applicants, who may be serving members between 21 and 32 years of age, or civilians between 21 and 30 years of age. The course is of six months' duration and, on graduation, cadets are appointed lieutenants in the Women's Royal Australian Army Corps.

(e) *The Army Apprentices' School.* The Army Apprentices' School was opened in 1948 at Balcombe, Victoria, with the aim of training youths as skilled tradesmen for the Australian Regular Army, and to form a background for an Army career with prospects of promotion. The course is open to boys between the ages of 15 and 17 years and provides training in a number of highly skilled trades. A three-year course of intensive theoretical and practical work at the Apprentices' School is followed by one year in an appropriate Army workshop or technical unit. At the end of their third year, boys are given their

Army trade test and also take the Victorian Apprenticeship Commission's final grade public examinations, which ensures that they will be accepted as qualified tradesmen in civil life when they eventually leave the Army. In addition to trade training, the Apprentices' School provides general educational facilities up to the School Leaving Standard.

(f) *Other Schools.* Army Schools have been established for the major Arms and Services for the purpose of training officers and other ranks in the up-to-date techniques of their own Arm or Service, to qualify them for promotion requirements, and to produce trained instructors. Courses at Army Schools are conducted for members of both the Australian Regular Army and the Citizen Military Forces.

The following Army Schools have been established:—

Jungle Training Centre.	Royal Australian Army Service Corps Centre.
Armoured School.	Royal Australian Army Medical Corps School of Army Health.
School of Artillery.	Royal Australian Army Ordnance Corps School.
School of Military Engineering.	Royal Australian Electrical and Mechanical Engineers' Training Centre.
Transportation Training Centre.	School of Music.
School of Military Survey.	Air Support Unit (Army Component).
School of Signals.	
Infantry Centre.	
Army Intelligence Centre.	

(v) *Women's Services.* In July, 1950, approval was given for the enlistment of women into the Australian Regular Army on a limited scale. Enlistment into the Royal Australian Army Nursing Service commenced in November, 1950, and into the Australian Women's Army Corps early in 1951. In February, 1951, the Royal Australian Army Nursing Service became a Corps and was designated the Royal Australian Army Nursing Corps (R.A.A.N.C.). During June, 1951, the Australian Women's Army Corps was redesignated the Women's Royal Australian Army Corps (W.R.A.A.C.). The Women's Services in the Australian Regular Army now comprise two Corps only—

- (a) Royal Australian Army Nursing Corps,
- (b) Women's Royal Australian Army Corps.

Women's Services are incorporated in the Citizen Military Forces and one company of the Women's Royal Australian Army Corps is located in each Command excluding Northern Territory Command. Companies of the Royal Australian Nursing Corps are located in each Command excluding Northern Territory Command.

(vi) *Forces Overseas.* At 30th April, 1962, 1,339 members of the Australian Military Forces were serving in Malaya and Singapore as part of the British Commonwealth Far East Strategic Reserve.

(vii) *History of the Australian Military Forces in War.* Members of the Commonwealth Military Forces have taken part in the following campaigns:—the South African War, 1902; the First World War, 1914–1918; the Second World War, 1939–1945; Korea, 1950–1954; Malaya, 1955–1960.

(viii) *The Australian Cadet Corps.* The Australian Cadet Corps is a voluntary organization. It serves as a training ground to provide, to some extent, the future officers and non-commissioned officers of the Australian Military Forces, and, as such, occupies a foremost position in the scheme of national defence. The Australian Cadet Corps, however, does not form part of the Australian Military Forces. School Cadet units are raised at educational establishments throughout the Commonwealth and Papua and New Guinea, except in the Northern Territory. The minimum age for enrolment is the year in which the applicant reaches the age of 14 years, and cadets, who in the large majority of schools receive a free issue of A.M.F. pattern uniform, may remain in the Cadet Corps until they cease to be pupils of the educational establishments concerned. A few units retain their own pattern school uniform and are not issued with A.M.F. pattern uniforms. Provision is made for the appointment of officers, cadet under-officers, warrant and non-commissioned officers on an authorized establishment scale from within school units. School Cadet units may be, and in many cases are, affiliated with Citizen Military Force units.

The establishment of the Corps is 38,000 all ranks, and at 31st March, 1962, comprised 308 School Cadet units with a posted strength of 37,025, all ranks.

## § 4. Air Defence.

1. **General.**—A statement regarding the preliminary steps taken in connexion with the development of air defence appears in Official Year Book No. 18, page 610, and one on the expansion and development and zones and operations of the Royal Australian Air Force during the 1939–45 War, in Official Year Book No. 36, page 1027.

2. **Administration and Organization.**—The Department of Air is responsible for policy for the organization and control of the Royal Australian Air Force. The Air Board is responsible, subject to approved policy, for the control and administration of the Royal Australian Air Force, and is constituted as follows:—Chief of the Air Staff, Air Member for Technical Services, Air Member for Personnel, Air Member for Supply and Equipment, and the Secretary, Department of Air.

Headquarters of the Royal Australian Air Force is in Canberra. A R.A.A.F. representative is located in London and Air Attachés are located in Paris and Washington.

The units of the Royal Australian Air Force are organized into the following two functional Commands throughout Australia and its Territories.

*Operational Command.* Operational Command is responsible for the command of operational units and the conduct of their operations within Australia and its territories.

*Support Command.* Support Command is responsible for the command of training units, supply and servicing units; recruitment and individual training in the R.A.A.F.; and supply and servicing, including technical servicing of the R.A.A.F., in Australia.

The organization of the Royal Australian Air Force includes the following types of formations and units.

*Formations.* These comprise a headquarters unit to control the activities of a number of units at one location. Each formation has a base squadron which provides common services to all units at the location.

*Flying Squadrons.* These bomber, fighter, transport and maritime reconnaissance squadrons undertake the operational and, in conjunction with operational conversion units, the operational training flying commitments of the R.A.A.F.

*Operational Conversion Units.* These units specialize in operational conversion training of aircrew for the bomber and fighter squadrons.

*Aircraft Depots.* These units specialize in major overhauls, etc., of aircraft and equipment and relieve flying unit ground staff of these commitments.

*Stores Depots.* Stores and equipment ordered by the R.A.A.F. are delivered to these centrally located depots for distribution to units.

*Flying Training, Ground Training, Navigation, Radio and Air Armament Training Units.* These units specialize in the aircrew and ground staff training required by the R.A.A.F.

*Airfield Construction Squadrons.* These units specialize in the construction of R.A.A.F. aerodromes and associated buildings and works services.

*Royal Australian Air Force Academy.* This unit is the training college for officer cadet entrants to the R.A.A.F.

*Telecommunications Units.* These units are responsible for the communications services of the R.A.A.F.

*R.A.A.F. Staff College.* This college trains specially selected R.A.A.F. officers for higher staff and command posts.

3. **Aircraft.**—Some of the aircraft which are at present being used in the Royal Australian Air Force are: bomber squadrons—Canberra; fighter squadrons—Avon Sabre; transport squadrons—Dakota, Hercules and Metropolitan; maritime reconnaissance squadrons—Neptune; Army liaison squadron—Bell helicopter and Cessna; Search and Rescue squadron—Iroquois helicopter; training—Avon Sabre, Canberra, Dakota, Meteor, Vampire and Winjeel.

4. **Establishment.**—The Royal Australian Air Force establishment comprises an operational element and a support element consisting of 16,282 personnel. The support element includes headquarters and administrative staffs and the organization for training, supply and maintenance.

5. **Strength of Royal Australian Air Force.**—At 1st May, 1962, the strength of the Royal Australian Air Force was as follows:—Permanent Air Force, 15,754; Citizen Air Force, 741; and General Reserve, 15,524.

6. **Women's Royal Australian Air Force.**—At 1st June, 1962, the Women's Royal Australian Air Force had an establishment of 865, with an enlisted strength of 773. There are 27 musterings, excluding members of the W.R.A.A.F. in training. The entry age is 18 to 34 years inclusive. Parental consent must also accompany applications for those between the ages of 18 and 21 years. A good education is necessary and applicants must be of British nationality, single, or a widow without dependants, and must be physically fit. Engagement period is six years with the option of re-enlistment for further periods of two, four, or six years. Members are contributors to the Defence Forces Retirement Benefits Fund.

All W.R.A.A.F. trainees undergo a month's initial training course at Point Cook, Victoria. On graduating they are posted for duty to R.A.A.F. units anywhere in Australia. Wherever possible, the Air Force endeavours to post members of the W.R.A.A.F. to R.A.A.F. units according to an indicated preference.

7. **Operations in Korea and Malaya.**—Reference to R.A.A.F. participation in operations in Korea and Malaya is contained in Official Year Book No. 39, pages 1251–2 and in subsequent issues.

## § 5. War Gratuities.

Reference is made in earlier issues of the Official Year Book to the payments made under the provisions of the War Gratuity Acts 1920 (*see* No. 15, p. 930) and the War Gratuity Act 1945–1947 (*see* No. 41, p. 999).

## § 6. Department of Supply.

1. **General.**—Reference to the creation of the Department of Supply is contained in Official Year Book No. 39, page 1257. On 24th April, 1958, the Department of Defence Production was abolished and the functions previously undertaken by that Department were transferred to the Department of Supply. References to those functions and to the activities of the various branches and establishments of the former Department of Defence Production are contained in Official Year Book No. 44, pages 1059–61.

2. **Functions of the Department.**—The functions of the Department of Supply include:—

- (i) Defence research and development, including the operation of the Joint United Kingdom—Australia Long Range Weapons Project, and Australian research and development through the Weapons Research Establishment, the Aeronautical Research Laboratories, the Defence Standards Laboratories and associated establishments;
- (ii) Manufacture, acquisition, provision and supply of munitions (including aircraft) and miscellaneous goods and services required by the defence forces;
- (iii) Arrangement of contracts for the supply of goods and the performance of services;
- (iv) Operation and management of factories, workshops and undertakings concerned in the production of munitions (including aircraft), clothing, canvas-ware and other defence goods;

- (v) Acquisition, maintenance and disposal of strategic materials;
- (vi) Planning and establishment of manufacturing facilities for the production of munitions and other defence goods;
- (vii) Investigation and development of Australian sources of supply in connexion with defence.
- (viii) Sale or disposal of surplus Commonwealth property other than land or buildings;
- (ix) Provision of Commonwealth transport facilities outside the Australian Capital Territory;
- (x) Provision and control of stores required for or in connexion with matters administered by the Department of Supply, and general storage for other Departments as required;
- (xi) Provision of security services within the Department;
- (xii) Arrangements for ascertaining costs and the control and limitation of profits in connexion with the production of munitions and other defence goods.

3. **Act Administered.**—The Minister for Supply administers the Supply and Development Act 1939–1948, except insofar as it concerns the building (*see also* Chapter XIV., § 1, p. 514 of this volume), repair and maintenance of merchant ships and the building, extension, alteration, repair and maintenance of shipyards, drydocking and repair facilities for merchant ships.

4. **Research and Development Branch.**—(i) *General.* The Research and Development Branch, which is under the control of the Chief Scientist, is responsible for research and scientific development in relation to war *matériel*, including the operation of the Joint United Kingdom—Australia Long Range Weapons Organization. The Chief Scientist is also the Chairman of the Board of Management for Research and Development, which is responsible for the efficient and economical conduct of research and development undertakings. The headquarters of the Branch is situated at 339 Swanston-street, Melbourne, and the following establishments are included in the Branch:—

- (a) Weapons Research Establishment, Salisbury, South Australia.
- (b) Defence Standards Laboratories at Maribyrnong, Victoria, Finsbury, South Australia, and Alexandria, New South Wales.
- (c) Aeronautical Research Laboratories, Fishermen's Bend, Victoria.

(ii) *Weapons Research Establishment, Salisbury, South Australia.* This Establishment has three main sections, namely, the Trials and Instrumentation Wing, the Weapons Research and Development Wing and the Engineering Wing.

The Trials and Instrumentation Wing is concerned with the Joint United Kingdom—Australia Long Range Weapons Project and is responsible for the testing of guided missiles developed in the United Kingdom. The Weapons Research and Development Wing is engaged chiefly on Australian-initiated research but also provides a supporting research service for the Joint Project. The Engineering Wing designs the technical features of new installations on the range and operates the engineering facilities of the Establishment.

The headquarters of Weapons Research Establishment, consisting of the main laboratory, workshop, and administrative services, is located at Salisbury.

Accommodation has been provided in the area for a number of United Kingdom firms which are developing guided weapons under contract to the British Ministry of Supply.

A modern airfield (Edinburgh Field) has been established adjacent to the Headquarters at Salisbury to meet the flying requirements of the establishment, the flying effort being provided by the R.A.A.F.

Testing ranges have been established in South Australia at Woomera, which is approximately 280 miles north-west of Adelaide and 9 miles north of Pimba, a settlement on the Trans-continental railway line.

Agreements have been signed by the Australian and United States Governments for a co-operative programme for the establishment and operation in Australia, for scientific purposes, of facilities for space vehicle tracking and communications. A space Research Station has been established at Island Lagoon, south of Woomera, for optical and telemetry

tracking and recording of information from satellite and deep space probe vehicles. The station carries out this work with a Baker Nunn camera, Minitrack radio tracking equipment and an 85 ft. diameter dish radio telescope. Tracking stations have been set up at Red Lake, north of Woomera, and at Muchea in Western Australia. These are an integral part of "Project Mercury", the "Man in Space" project of the United States National Aeronautics and Space Administration.

A modern township of 688 family houses and flats and 1,118 single quarters, together with modern amenities such as hospital, school, kindergartens, community store, swimming pool, and all sporting facilities, has been built at Woomera to accommodate the range and allied services personnel and their families.

(iii) *Defence Standards Laboratories.* The Defence Standards Laboratories at Maribyrnong, Victoria; Finsbury, South Australia; and Alexandria, New South Wales, continue to give comprehensive service to industry, the armed services and other Commonwealth and State Departments. The broad function of these laboratories is the application of scientific knowledge and research to the problems arising in design, development, manufacture, inspection, storage, and use of war *matériel*. Research is also carried out in connexion with the development of new and improved materials, methods and equipment of known or potential interest.

(iv) *Aeronautical Research Laboratories.* The broad function of the Aeronautical Research Laboratories is the application of scientific knowledge in the field of aeronautics to the operational and technical problems of the armed Services and industry, and to the development of new weapons and military equipment. More specifically, the Laboratories conduct investigations in aerodynamics, structures, materials, and power plants, with particular attention to aeronautical defence problems, especially those of missile design and operational effectiveness. These Laboratories also collaborate with the United Kingdom on aeronautical research matters of mutual interest.

5. *Production.*—(i) *Munitions.* The Department is responsible for the production in Australia of munitions (other than specialized Navy requirements) for the Australian Services. Production is carried out substantially in government factories but large orders are also placed with private industry.

The following government factories are currently in operation:—Ammunition—Footscray, Victoria; Explosives and Filling—Albion and Maribyrnong, Victoria; Mulwala and St. Mary's, New South Wales; Ordnance—Maribyrnong, Bendigo and Port Melbourne, all in Victoria; Small Arms—Lithgow, New South Wales; Clothing—South Melbourne and Brunswick, Victoria.

With the exception of the Clothing Factory, these factories are largely complementary to each other in the manufacture of a range of basic munitions. The Ammunition Factory makes the brass and non-ferrous components of gun ammunition, including melting and rolling the raw materials, and these components are then passed to the filling factories for filling and assembly. However, the Factory makes the complete round for small arms ammunition, the propellant being supplied by the Explosives Factories. Electronic fuses are also being developed and produced with this factory as the co-ordinating establishment. Private industry is producing the electronic components required for these fuses.

The Ordnance Factories have produced armament and propulsion units for Daring class destroyers and frigates. Heavy forgings are produced at Maribyrnong and heavy plate fabrications are produced at both Maribyrnong and Bendigo. At Maribyrnong, production capacity exists for fire control equipment. Steel shell bodies are produced at Maribyrnong and passed to Explosives Filling Factories to be filled with explosives and assembled with other components produced at the Ammunition Factory and in private industry.

At Port Melbourne, production capacity exists for large marine diesel engines. At present, one 5,500 b.h.p. "Doxford" engine for the Australian Shipbuilding Board and two 10,500 b.h.p. "Sulzer" engines for the Broken Hill Proprietary Company Limited are in production. The major components of these engines are forged and/or fabricated at Maribyrnong and Bendigo.

The Small Arms Factory is equipped to make the rifles and other small arms for which the Ammunition Factory produces the ammunition. The Factory is currently producing the F.N. 7. 62mm. automatic rifle for the Australian Army to replace the .303 in. Lee Enfield rifle.

Orders for the new rifle have also been received from the New Zealand, Ghana and Malayan Governments. The stocks required for these rifles are produced from Australian-grown timber and fabricated by private industry.

The Clothing Factory makes uniforms and canvas goods for the three services as well as for the Postmaster-General's and Repatriation Departments and the Department of Supply.

(ii) *Aircraft.* (a) *General.* Production of military types of aircraft and aero engines and of other aircraft components required by the Royal Australian Air Force is also administered by the Department of Supply. Planning of capacity and the negotiation of contractual arrangements in connexion with aircraft modification, repair and overhaul, and for the supply of certain aircraft and engine spare parts and airborne equipment for the R.A.A.F., the R.A.N. and the Army are also functions of the Department.

The following government factories are operated:—Aircraft Factory, Fishermen's Bend and Test Field, Avalon, Victoria; and Airframe Repair Workshops, Parafield and Northfield, South Australia.

(b) *Aircraft, Engine and Other Production.* The current approved production programmes for the major aircraft manufacturing organizations comprise the French Mirage supersonic fighter, the Jindivik radio-controlled jet-propelled target aircraft, and the Malkara guided missile at the Government Aircraft Factory, Melbourne; Avon-Sabre jet-engined fighters and Rolls-Royce Avon and S.N.E.C.M.A. Atar turbo-jet engines at Commonwealth Aircraft Corporation Pty. Ltd., Melbourne.

The Mirage project is being undertaken by the Government Aircraft Factory acting as the prime contractor, with the Commonwealth Aircraft Corporation manufacturing the engine, wing and fin.

Jindiviks are being produced for the Weapons Research Establishment at Woomera and for the British Government. The Malkara missile is being developed in accordance with British Army needs.

Production activities included the manufacture of engine spare parts at the De Havilland Aircraft Engine Factory, Sydney, of aircraft pressed metal parts at Chrysler Australia Ltd., Adelaide, and of turbine and compressor blades for jet engines at A.N.I. National Forge Pty. Ltd., Melbourne.

(c) *Repair and Overhaul.* During the year, the R.A.A.F. continued the broad policy of returning to the factories in which they were produced all Australian-made aircraft and aero engines requiring major overhaul, repair or the incorporation of modifications. Repair and overhaul of R.A.A.F. aircraft of certain other types and of carrier-based aircraft operated by the R.A.N. were undertaken by civilian personnel in the aircraft factories or in the works of contractors specially equipped for the purpose.

Canberra bomber and Jindivik target aircraft were repaired and modified at the Government Aircraft Factories.

Dakota transport and other miscellaneous aircraft were reconditioned and serviced at the Airframe Repair Workshops at Parafield, South Australia.

Vampire trainer and carrier-operated Sea Venom aircraft were modified, repaired and overhauled at De Havilland Aircraft Pty. Ltd., Bankstown, New South Wales. Engines from Sea Venom, Vampire and Gannet aircraft, as well as from Centurion tanks, were modified, repaired, and overhauled by De Havilland at Lidcombe. Propellers from the R.A.A.F. and the R.A.N. were also overhauled there.

The repair and overhaul of carrier-operated Fairey Gannet aircraft for the R.A.N. and the erection of Meteor target aircraft for the Woomera Rocket Range were handled by the Fairey Aviation Company of Australasia Ltd., Sydney.

Sycamore helicopters, Bristol freighter aircraft and Alvis Leonides and Bristol Hercules engines were repaired and overhauled by Bristol Aviation Services, also in Sydney.

Wright turbo-compound engines from Neptune aircraft and Allison T.56 engines from Hercules transports were overhauled at Qantas Empire Airways Ltd., Sydney, for the R.A.A.F.

The reconditioning and servicing of aircraft instruments, electrical, electronic and other ancillary equipment and airframe components were carried out by various contractors.

(d) *Telecommunications.* Developmental and production orders were placed with industry for new and improved types of Service telecommunications equipment. Large quantities of this equipment were also repaired and overhauled.

6. *Contract Board.*—(i) *General.* Under the Supply and Development Act 1939–1948, the Contract Board is the authority responsible for purchasing supplies and arranging services for the Naval, Military and Air Forces of the Commonwealth, as well as for the Department of Supply. It is also responsible for the sale or disposal of all surplus or unserviceable war *matériel* and other goods approved for disposal. In addition, the Board purchases and arranges disposals on behalf of other Commonwealth departments and authorities which have no public contract organization of their own, e.g., Immigration, National Development and External Affairs (Colombo Plan supplies).

(ii) *The Board and its Administrative Organization.* The Contract Board meets in Melbourne, and comprises representatives of the Departments of Supply, Navy, Army and Air. The Board's administrative organization is the Directorate of Contracts. In each State other than Victoria, there is a District Contract Board with an administrative organization similar to the Directorate of Contracts. The table following shows, in respect of the Contract Board organization, the purchases and realizations from disposals for the years 1959–60 and 1960–61.

**CONTRACT BOARD ORGANIZATION : PURCHASES AND REALIZATIONS FROM DISPOSALS.**

(£.)

State.	Purchases.		Realizations from Disposals.	
	1959–60.	1960–61.	1959–60.	1960–61.
Contract Board, Victoria .. ..	20,870,475	21,589,537	2,566,171	2,909,299
District Contract Board—				
New South Wales .. ..	4,632,332	5,021,320	1,518,981	1,663,509
Queensland .. ..	1,095,748	944,056	564,946	586,846
South Australia .. ..	2,301,840	1,942,675	644,545	463,891
Western Australia .. ..	417,070	471,046	243,696	355,204
Tasmania .. ..	89,025	97,471	64,399	97,639
<b>Total .. ..</b>	<b>29,406,490</b>	<b>30,066,105</b>	<b>5,602,738</b>	<b>6,076,388</b>

7. *Defence Supply Planning.*—The central planning authority of the Department is the Planning Branch, the principal functions of which are:—

- (i) to plan for and to assist in the development of additional production capacity to meet the Services' munitions requirements for peace and war;
- (ii) to provide and administer stockpiles of relevant materials and reserve pools of plant and equipment considered essential for expansion of production in the event of war;
- (iii) to prepare and advance co-ordinated production programmes against Service orders and to analyse and interpret achievement against these programmes for the information of the Department and the Services;
- (iv) to provide advisory services in the field of instrumentation, machine tools, materials, and inspection, to Government factories and contractors engaged in the production of munitions requirements; and
- (v) to administer the national stockpile.

A series of Industry Advisory Committees has been established to advise the Minister and the Department in the development of industrial mobilization plans to meet the Services *matériel* requirements for mobilization and war. The Committees are: Ammunition;



Electrical; Explosives and Chemicals; Machine Tools and Gauges and Munitions Factory Equipment; Materials; Military Vehicles; Radar and Telecommunications; Weapons and their Equipment; Hard Fibres; Raw Cotton; and Rubber and Allied Materials.

Members of the Committees include industrialists of wide experience and the highest ability in their chosen fields.

**8. Stores and Transport Branch.**—This Branch, administered by a Board of Management and working under the direction of a General Manager, functions as the Central Storage Authority and the Central Transport Authority for all Commonwealth Departments. It is the authority for the arrangement of furniture removals at departmental expense in all States, but not in the Australian Capital Territory or the Northern Territory. It has agents in Canberra and Darwin. It also operates a Shipping and Customs Section and the England–Australia Bulk Air Freight Scheme for Commonwealth Departments.

On 30th June, 1960, the Branch had under its control land, buildings and works, vehicles, plant and equipment valued at £10,034,121 and 3,310,254 sq. ft. of storage space, as well as storage facilities for large quantities of chemicals, bulk liquids and explosives.

**9. Finance Branch.**—The total expenditure on Department of Supply activities during the year 1960–61 was £51,681,000, comprising £20,982,000 from Parliamentary appropriations, and £30,699,000 from Trust Fund Accounts. The latter consisted of—Stores and Transport, £6,314,000; Government Factories and Establishments, £16,055,000; Munitions Production, £8,180,000; and Defence Production Materials, £150,000.

## CHAPTER XXIX.

### REPATRIATION.

#### § 1. General.

The Repatriation Commission, established under the Repatriation Act 1920-1961, and consisting of three full-time members, is responsible for the administration of the Repatriation Act and associate legislation, all matters of policy, and the general administration and overall supervision of the Repatriation Department. The central office is in Melbourne and there is a branch office under the control of a Deputy Commissioner in each State.

The principal functions of the Department are—

- (i) the payment of war and service pensions to ex-service men and women and their dependants;
- (ii) the provision of medical treatment to ex-service men and women for injuries and illnesses caused or aggravated by their war service;
- (iii) the provision of medical treatment in certain circumstances to ex-service men and women who are suffering from injuries and illnesses not caused or aggravated by war service;
- (iv) the provision of medical treatment to widows and dependants of deceased ex-servicemen whose deaths are due to war service.

Other functions of the Repatriation Department are outlined in a later section of this chapter (*see* § 5, General Benefits and Miscellaneous, page 1134).

Benefits are provided in respect of service, not only in the 1914-18 and 1939-45 Wars, but also in the Korea and Malaya operations and with the British Commonwealth Far East Strategic Reserve.

#### § 2. War Pensions.

1. *General.*—The first provision for the payment of war pensions to ex-servicemen and their dependants was made by the Commonwealth Parliament in the War Pensions Act 1914, which came into operation on 21st December, 1914. This Act was repealed in 1920 by the Australian Soldiers' Repatriation Act (amended from 31st December, 1950, to the Repatriation Act). Some of the main features relating to war pensions under the Repatriation Act 1920-1961 are set out in the following paragraphs.

(i) *Eligibility for Pension.* The 1943 amendments to the Repatriation Act considerably widened the provisions in this respect, to the benefit, mainly, of members of the Citizen Military Forces who had not served outside Australia. These provisions are summarized as follows.

- (a) A member of the forces who served (1) outside Australia, (2) in the Territories of Australia, such as Papua and New Guinea, or (3) within Australia in circumstances which can be regarded as combat against the enemy, is

covered for war pension purposes in respect of incapacity or death which may result from any occurrence that happened during the period from the date of his enlistment to the date of the termination of his service in respect of that enlistment.

- (b) In other cases where a member served only in Australia, incapacity or death to be pensionable must have been attributable to service.
- (c) There is a third ground applicable to all in (a) and those in (b) who had at least six months' camp service. This provides that, where a condition existed at enlistment, a pension may accrue if it is considered that the condition was aggravated by service.

(ii) *Pensions for Incapacity.* From 28th September, 1961, the 100 per cent. pension rate for an ex-serviceman's incapacity was increased from £5 10s. to £5 15s. a week (higher rates were payable in respect of certain commissioned ranks). The rates for wives and children of incapacitated ex-servicemen are £1 15s. 6d. and 13s. 9d. a week, respectively.

(iii) *Supplementation of Pensions.* Where an ex-serviceman is, because of his war disability, temporarily (for at least three months) precluded from earning other than a negligible percentage of a living wage, an additional pension may be granted to bring the total pension to the ex-serviceman up to £13 5s. a week, an increase of 10s. from 28th September, 1961.

(iv) *Women's Nursing and Auxiliary Services.* Members of Women's Services are eligible for pensions and other benefits as prescribed in the Act on the same basis as male members of the Forces.

(v) *Pulmonary Tuberculosis.* If, at any time after discharge, an ex-serviceman who served in a theatre of war became or becomes incapacitated, or died or dies, from pulmonary tuberculosis, war pension is payable as if the incapacity or death resulted from an occurrence on service. (See also § 3. Service Pensions.) Medical treatment may also be provided on application.

(vi) *Special Rates.* Those who have been totally blinded as a result of war service and those who are permanently and totally incapacitated receive a special pension which was increased from £12 15s. to £13 5s. a week from 28th September, 1961. This special pension may also be granted to ex-servicemen who are suffering from pulmonary tuberculosis. In addition, there is an intermediate rate for tuberculous patients fit for light employment. This intermediate rate was similarly increased from £8 17s. 6d. to £9 7s. 6d. a week. In addition to the special pension, an attendant's allowance of £3 5s. a week is granted to the war-blinded and to certain others who are deemed to be in need of an attendant. A war-blinded ex-serviceman who is also affected with total loss of speech or total deafness is entitled to an attendant's allowance of £5 5s. a week in lieu of that referred to above. The wife and any children under 16 years of age receive the same rates as shown in sub-para. (ii).

(vii) *Clothing Allowance.* As from 1st October, 1959, provision was made for ex-servicemen to receive a clothing allowance ranging from 3s. 9d. to 7s. 6d. weekly for damage to clothing caused by the use of an artificial limb or other appliance, where the incapacity is due to war service, or by the use of oils, ointments, or other substances used in the necessary treatment of accepted disabilities, e.g. skin diseases, suppurating wounds, etc.

(viii) *Specified Disabilities.* Where the disability is amputation of a limb or limbs or total loss of vision in one eye, amounts ranging from 13s. 6d. to £7 10s. a week in addition to the statutory rate of pension are payable as from 28th September, 1961. In addition, attendant's allowances of either £3 5s. or £5 5s. a week are payable in certain double amputation cases.

(ix) *Time Limit Removed for Wives and Children.* Prior to the 1950 amending Act, wives who were married and children who were born after specified dates, were ineligible to receive a war pension. This time limit was removed as from 2nd November, 1950.

(x) *Rates of Pension for Death. (a) Widows.* From 28th September, 1961, the rates of pension were increased by 5s. a week, the minimum rate being increased from £5 10s. to £5 15s. a week (higher rates are payable in respect of certain commissioned ranks).

In addition to pension, a widow receives an allowance if she has a dependent child or children under the age of 16 years, or if she is over 50 years of age, or is permanently unemployable, or has a child over 16 years who is undertaking education or training and who is, in the opinion of the Commission, not receiving an adequate living wage.

(b) *Children.* From 28th September, 1961, the rate of pension for the eldest child (under 16 years of age) was increased from £1 11s. 6d. a week to £1 19s. a week, and that for each younger child from £1 2s. 6d. a week to £1 7s. 6d. a week. Additional pension of 6s. a week may be paid in certain circumstances. Where both parents are dead, pension payable to each child was increased from £3 3s. a week to £3 11s. 6d. a week.

(xi) *Widowed Mother on Death of Member.* A pension ranging from £2 5s. to £4 3s. a week, according to the rank of the ex-serviceman, may be granted to the widowed mother of a deceased unmarried son, provided widowhood occurred either prior to or within three years after the death of the member. The pension may be supplemented by payment of an additional amount (not exceeding £5 5s. a week as from 28th September, 1961) according to the extent of other income of the pensioner. The value of property owned does not affect the pension.

2. *Appeals Tribunals.*—The principal Act was amended, as from 1st June, 1929, to create tribunals to hear appeals in respect of war pensions. The War Pensions Entitlement Appeal Tribunal is empowered to hear and decide any appeal by or on behalf of ex-servicemen or their dependants against a decision of a Repatriation Board or the Repatriation Commission that the incapacity or death of an ex-serviceman did not arise out of war service. Assessment Appeal Tribunals were created to hear and decide any appeal against a current assessment or a "Nil" assessment of war pension made by the Repatriation Commission in respect of the incapacity of an ex-serviceman which had been accepted as arising out of war service. Provision was made by subsequent legislation to enable the Tribunals to hear appeals by certain members whose application for a service pension had been refused on the grounds that they were not suffering from pulmonary tuberculosis or were permanently unemployable.

3. *Summary of War Pensions, 1960-61.*—The following table provides a summary of war pensions for the 1914-18 War, the 1939-45 War, the Korea and Malaya operations and the Far East Strategic Reserve.

WAR PENSIONS: SUMMARY, AUSTRALIA, 1960-61.

Particulars.	1914-18 War.	1939-45 War.	Korea and Malaya Operations.	Far East Strategic Reserve.	Total.
New claims granted .. .. .	2,094	27,202	913	61	30,270
Restorations .. .. .	356	976	7	..	1,339
Claims rejected (gross) .. .. .	2,085	14,718	848	118	17,769
Pensions cancelled or discontinued .. .. .	955	15,653	68	1	16,677
Deaths of pensioners .. .. .	4,921	3,112	24	..	8,057
Number of pensions in force at 30th June, 1961 .. .. .	121,286	533,323	6,551	130	661,290
Annual pension liability at 30th June, 1961 .. .. .	£ 23,017,259	35,147,236	351,539	7,339	58,523,373
Amount paid in pensions during the year 1960-61 .. .. .	£ (a)	(a)	(a)	(a)	61,050,901

(a) Not available.

4. *Classes of War Pensions, Australia, 1960-61.*—(a) *New Claims Granted.* The following is an analysis of the total number of new claims granted during 1960-61.

**WAR PENSIONS: NEW CLAIMS GRANTED, AUSTRALIA, 1960-61.**

Class.	1914-18 War.	1939-45 War.	Korea and Malaya Operations.	Far East Strategic Reserve.	Total.
Ex-servicemen .. .. .	843	5,877	188	25	6,933
Wives of ex-servicemen .. .. .	1,002	5,846	193	14	7,055
Children .. .. .	139	14,703	520	15	15,377
Other dependants .. .. .	110	776	12	7	905
<b>Total .. .. .</b>	<b>2,094</b>	<b>27,202</b>	<b>913</b>	<b>61</b>	<b>30,270</b>

(b) *Pensions in Force.* The following table shows the number of pensions in force at 30th June, 1961, for each war and for each class of pensioner.

**WAR PENSIONS IN FORCE: AUSTRALIA, 30th JUNE, 1961.**

Class.	Number of Pensioners at 30th June, 1961.				
	1914-18 War.	1939-45 War.	Korea and Malaya Operations.	Far East Strategic Reserve.	Total.
Ex-servicemen .. .. .	50,338	159,727	2,043	53	212,161
Wives .. .. .	46,031	134,365	1,457	27	181,880
Children .. .. .	1,791	211,440	2,787	34	216,052
War widows .. .. .	21,791	13,685	65	4	35,545
Children of deceased ex-servicemen	212	6,680	110	8	7,010
Orphans .. .. .	27	119	..	1	147
Parents .. .. .	822	7,039	86	2	7,949
Brothers and sisters .. .. .	57	100	3	..	160
Others .. .. .	217	168	..	1	386
<b>Total .. .. .</b>	<b>121,286</b>	<b>533,323</b>	<b>6,551</b>	<b>130</b>	<b>661,290</b>

(c) *Special Rate Pensions.* At 30th June, 1961, special rate pensions were being paid to the following classes of ex-servicemen.

**WAR PENSIONS: MEMBERS ON SPECIAL RATES, AUSTRALIA, 30th JUNE, 1961.**

Class.	1914-18 War.	1939-45 War.	Korea and Malaya Operations.	Far East Strategic Reserve.	Total.
Totally and permanently incapacitated ex-servicemen .. .. .	12,433	6,710	24	..	19,167
Blinded ex-servicemen .. .. .	229	227	2	..	458
Tuberculous ex-servicemen .. .. .	471	367	13	..	851
Tuberculous ex-servicemen (intermediate rate) .. .. .	115	215	1	..	331

5. *Number of War Pensioners and Annual Liability, States, etc., 30th June, 1961.*—The following table shows the number of pensions in force and annual liability for each war at 30th June, 1961, according to place of payment. (The amount paid is shown on p. 1131.)

## WAR PENSIONS: NUMBER OF PENSIONERS AND ANNUAL LIABILITY, 30th JUNE, 1961.

Where Paid.	Number of War Pensions in Force at 30th June, 1961.				Annual Pension Liability (£.)
	Incapacitated Ex-service-men.	Dependants of Incapacitated Ex-service-men.	Dependants of Deceased Ex-service-men.	Total.	
1914-18 WAR.					
New South Wales(a) .. ..	16,110	15,383	7,700	39,193	7,497,700
Victoria .. ..	16,739	15,598	7,702	40,039	7,648,676
Queensland .. ..	6,417	5,992	2,174	14,583	3,032,630
South Australia(b) .. ..	3,906	3,880	1,802	9,588	1,835,858
Western Australia .. ..	3,986	4,098	1,606	9,690	1,511,040
Tasmania .. ..	2,162	2,125	931	5,218	1,053,191
<i>Australia</i> .. ..	<i>49,320</i>	<i>47,076</i>	<i>21,915</i>	<i>118,311</i>	<i>22,579,095</i>
Overseas .. ..	1,018	1,129	828	2,975	438,164
<b>Total</b> .. ..	<b>50,338</b>	<b>48,205</b>	<b>22,743</b>	<b>121,286</b>	<b>23,017,259</b>

1939-45 WAR.					
New South Wales(a) .. ..	55,664	113,042	10,363	179,069	12,089,268
Victoria .. ..	44,240	97,135	7,224	148,599	9,570,659
Queensland .. ..	22,225	51,210	3,401	76,836	5,465,636
South Australia(b) .. ..	16,438	38,150	2,808	57,396	3,500,884
Western Australia .. ..	14,350	30,192	2,308	46,850	2,946,718
Tasmania .. ..	6,242	15,766	796	22,804	1,399,660
<i>Australia</i> .. ..	<i>159,159</i>	<i>345,495</i>	<i>26,900</i>	<i>531,554</i>	<i>34,972,825</i>
Overseas .. ..	568	896	305	1,769	174,411
<b>Total</b> .. ..	<b>159,727</b>	<b>346,391</b>	<b>27,205</b>	<b>533,323</b>	<b>35,147,236</b>

## KOREA AND MALAYA OPERATIONS.

New South Wales(a) .. ..	800	1,563	101	2,464	129,072
Victoria .. ..	463	918	63	1,444	78,239
Queensland .. ..	361	790	39	1,190	68,413
South Australia(b) .. ..	145	342	10	497	24,360
Western Australia .. ..	165	388	21	574	29,228
Tasmania .. ..	74	198	10	282	13,478
<i>Australia</i> .. ..	<i>2,008</i>	<i>4,199</i>	<i>244</i>	<i>6,451</i>	<i>342,790</i>
Overseas .. ..	35	48	17	100	8,749
<b>Total</b> .. ..	<b>2,043</b>	<b>4,247</b>	<b>261</b>	<b>6,551</b>	<b>351,539</b>

## FAR EAST STRATEGIC RESERVE.

New South Wales(a) .. ..	18	24	5	47	2,572
Victoria .. ..	10	19	..	29	1,009
Queensland .. ..	14	17	8	39	2,523
South Australia(b) .. ..	2	1	..	3	257
Western Australia .. ..	8	1	..	9	581
Tasmania .. ..	1	..	..	1	29
<i>Australia</i> .. ..	<i>53</i>	<i>62</i>	<i>13</i>	<i>128</i>	<i>6,971</i>
Overseas .. ..	..	..	2	2	368
<b>Total</b> .. ..	<b>53</b>	<b>62</b>	<b>15</b>	<b>130</b>	<b>7,339</b>

(a) Includes the Australian Capital Territory.

(b) Includes the Northern Territory.

6. Summary of War Pensions.—(i) *Number.* The following table shows, for each war and in total, the number of pensions granted, pensions in force, and the annual liability for pensions in each of the years ended 30th June, 1957 to 1961.

## WAR PENSIONS: SUMMARY, AUSTRALIA.

Year ended 30th June—	Pensions Granted.	Claims Rejected.	Number of War Pensions in Force at 30th June.				Annual Pension Liability at 30th June. (£.)
			Incapaci- tated Ex-service- men.	Depend- ants of Incapaci- tated Ex-service- men.	Depend- ants of Deceased Ex-service- men.	Total.	
1914-18 WAR.							
1957 .. ..	2,276	2,442	57,380	54,183	21,677	133,240	19,074,146
1958 .. ..	2,353	2,368	55,814	52,806	21,985	130,605	20,739,134
1959 .. ..	2,098	2,767	54,005	51,215	22,240	127,460	21,032,135
1960 .. ..	2,343	2,638	52,324	49,861	22,528	124,713	22,428,690
1961 .. ..	2,094	2,085	50,338	48,205	22,743	121,286	23,017,259
1939-45 WAR.							
1957 .. ..	28,634	19,682	143,055	308,333	25,287	476,675	25,609,726
1958 .. ..	29,007	18,165	147,147	321,215	25,269	493,631	28,339,013
1959 .. ..	27,829	18,954	151,249	332,691	25,758	509,698	29,904,732
1960 .. ..	28,397	17,852	155,534	341,985	26,327	523,846	33,056,692
1961 .. ..	27,202	14,718	159,727	346,391	27,205	533,323	35,147,236
KOREA AND MALAYA OPERATIONS.							
1957 .. ..	782	616	1,279	1,881	215	3,375	188,864
1958 .. ..	820	989	1,478	2,408	240	4,126	235,300
1959 .. ..	834	1,193	1,670	2,970	249	4,889	269,208
1960 .. ..	908	1,174	1,864	3,593	255	5,712	311,195
1961 .. ..	913	848	2,043	4,247	261	6,551	351,539
FAR EAST STRATEGIC RESERVE.							
1961 .. ..	61	118	53	62	15	130	7,339
TOTAL.							
1957 .. ..	31,692	22,740	201,714	364,397	47,179	613,290	44,872,736
1958 .. ..	32,180	21,522	204,439	376,429	47,494	628,362	49,313,447
1959(a) .. ..	30,761	22,914	206,924	386,876	48,247	642,047	51,206,075
1960(a) .. ..	31,648	21,664	209,722	395,439	49,110	654,271	55,796,577
1961 .. ..	30,270	17,769	212,161	398,905	50,224	661,290	58,523,373

(a) Excludes Far East Strategic Reserve pensioners;—1959—16, 1960—65, with annual liability 1959—£1,410, 1960—£3,733.

(ii) *Amount Paid and Place of Payment.* The following table shows for the years 1956-57 to 1960-61 the amounts paid in pensions and the place where they were paid.

## WAR PENSIONS: AMOUNT PAID.

(£.)

Place of Payment.	1956-57.	1957-58.	1958-59. (a)	1959-60. (a)	1960-61.
New South Wales(b) .. .. .	15,297,734	16,824,229	16,813,419	18,167,146	20,266,212
Victoria .. .. .	13,372,248	14,871,179	15,201,405	16,100,551	18,321,955
Queensland .. .. .	6,106,669	6,919,363	7,215,834	7,741,918	8,916,007
South Australia(c) .. .. .	4,309,036	4,812,417	4,846,030	5,052,143	5,686,305
Western Australia .. .. .	3,584,495	4,008,412	3,946,502	4,235,747	4,654,877
Tasmania .. .. .	2,026,868	2,211,862	2,229,229	2,416,016	2,582,985
Abroad .. .. .	506,737	630,735	605,004	648,344	622,560
<b>Total .. .. .</b>	<b>45,203,787</b>	<b>50,278,197</b>	<b>50,857,423</b>	<b>54,361,865</b>	<b>61,050,901</b>

(a) Excludes payments to Far East Strategic Reserve pensioners.  
Capital Territory.

(b) Includes the Australian  
(c) Includes the Northern Territory.

## § 3. Service Pensions.

1. *General.*—The Repatriation Act 1920-1961, administered by the Repatriation Department, provides for a service pension to be paid, subject to a means test of income and property, to the following persons.

- (i) A male ex-serviceman who is sixty years of age and who served in a theatre of war, or to an ex-servicewoman who is 55 years of age and who served abroad. No pension is payable to the wife or children under 16 years of age of an ex-serviceman granted a service pension on account of age.
- (ii) An ex-serviceman who is permanently unemployable and who served in a theatre of war (or in the case of an ex-servicewoman, who served abroad). Service pensions are also payable to a pensioner's wife and up to four children under 16 years of age.
- (iii) An ex-serviceman suffering incapacity from pulmonary tuberculosis whether or not the person served in a theatre of war. Service pensions are also payable to a pensioner's wife and up to four children under 16 years of age.

Only those persons who qualify under (iii) are entitled to receive both service and invalid pensions at the same time.

2. *Rate of Pension.*—The maximum rate of service pension is the same as that for age and invalid pensions paid by the Department of Social Services, namely, £5 5s. a week. A member service pensioner with two or more children under 16 years of age in his care, custody and control, is eligible for a further 10s. a week for each child except the first, if he receives a service pension on the ground of being permanently unemployable, or suffering from pulmonary tuberculosis. In addition, a service pensioner in receipt of service pension at the maximum rate may also receive supplementary assistance of 10s. a week if he pays rent and is entirely dependent upon his service pension.

The maximum rate for a member's wife is £2 17s. 6d. a week; the rate for the first child under sixteen years of age is 15s. a week and for each other child (not exceeding three) 2s. 6d. a week.

The means test sets limits to the amount of income or property which a pensioner may have for the purpose of service pension. The amount of service pension payable will depend upon the claimant's "means as assessed", which consists of his annual rate of income plus a property component equal to 9d. a fortnight for each complete unit of £10 of net value of property above £200. For married couples, except where they are separated or



in other special circumstances, the income and property of each for purposes of applying the means test is taken to be half the total income and property of both, even if only one is a pensioner or claimant. A person's "means as assessed" may consist entirely of income, entirely of property component, or of both income and property components. If his "means as assessed" do not exceed £3 10s. a week, the claimant will receive the full pension of £5 5s. a week. If his "means as assessed" exceed £3 10s. a week and are less than £8 15s. a week, a reduced pension will be payable. The rate payable will be the maximum rate of £5 5s. a week less the amount by which "means as assessed" exceed £3 10s. a week. If his "means as assessed" are £8 15s. a week, or in the case of a married couple £17 10s. a week, no service pension is payable.

Income means earnings and other forms of income derived from any source, with certain exceptions, of which the principal are—certain income derived from property, gifts or allowances from children, parents, brothers or sisters, benefits from friendly societies, child endowment, Commonwealth health benefits. The value of board and lodgings received by a pensioner is assessed as income at 12s. 6d. a week. Property includes all real and personal property, such as houses, land, money in hand, in a bank or on loan, shares, investments or legacies, vehicles used for business purposes, livestock. Property does not include an applicant's home, furniture or personal effects, the surrender value of life assurance policies (up to £750), value of any reversionary interest, the capital value of any life interest, annuity or contingent interest, vehicles maintained only for personal use.

Eligibility for service pensions was extended on 1st November, 1941, to veterans of the South African War 1899–1902, and in 1943 to members of the Forces of the 1939–45 War. Members who served in Korea, and those who served in Malaya prior to the commencement of the Repatriation (Far East Strategic Reserve) Act 1956, are also eligible.

An ex-serviceman or ex-servicewoman in receipt of a service pension is entitled, with certain exceptions, to free medical benefits for disabilities not caused by war. These benefits include general practitioner service, specialist service where necessary, full pharmaceutical benefits, surgical aids and appliances (including spectacles), dental treatment and treatment in Repatriation General Hospitals.

3. Operations, 1960-61.—The following table gives a summary of service pensions during 1960-61.

*Claims granted during year—*

Ex-servicemen .. .. .	7,336
Wives .. .. .	1,690
Children .. .. .	902
<i>Total</i> .. .. .	<u>9,928</u>

*Claims rejected during year—*

Ex-servicemen .. .. .	1,365
Wives .. .. .	598
Children .. .. .	546
<i>Total</i> .. .. .	<u>2,509</u>

Service pensions cancelled or discontinued during year ..	3,838
Deaths of pensioners during year .. .. .	2,455
Pensions in force at 30th June, 1961 .. .. .	50,302
Annual pension liability at 30th June, 1961 .. .. .	£8,343,831

4. Number of Service Pensioners and Amount Paid.—(i) *Summary, Australia.* The following table shows the number of service pensions in force and the annual liability for pensions for the five years 1956-57 to 1960-61.

SERVICE PENSIONS : SUMMARY, AUSTRALIA.

Year	Number of Service Pensions at 30th June payable to—						Annual Pension Liability at 30th June.
	Aged Ex-servicemen.	Ex-servicemen who are—		Dependants of Ex-servicemen where the Ex-serviceman is—		Total.	
		Permanently Unemployable.	Suffering from Pulmonary Tuberculosis.	Permanently Unemployable.	Suffering from Pulmonary Tuberculosis.		
							£
1956-57 .. ..	13,547	10,794	1,449	11,074	2,213	39,077	5,242,292
1957-58 .. ..	15,365	11,472	1,477	11,667	2,222	42,203	5,998,648
1958-59 .. ..	16,973	11,898	1,433	11,956	2,112	44,372	6,244,617
1959-60 .. ..	18,193	12,140	1,379	12,080	2,026	45,818	6,924,312
1960-61 .. ..	22,125	12,645	1,273	12,520	1,739	50,302	8,343,831

(ii) *Amount Paid and State where Paid.* The following table shows for the years 1956-57 to 1960-61 the amount paid in pensions and the State where paid.

SERVICE PENSIONS: AMOUNT PAID.

(£.)

State where Paid.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
New South Wales(a) .. ..	1,727,099	1,899,624	2,233,721	2,359,860	2,734,907
Victoria .. ..	1,089,529	1,319,599	1,387,328	1,518,196	1,730,645
Queensland .. ..	845,828	945,654	995,258	1,079,810	1,213,000
South Australia(b) .. ..	477,229	520,481	583,826	643,906	762,677
Western Australia .. ..	547,473	697,531	775,769	875,706	1,051,198
Tasmania .. ..	220,204	246,859	244,398	270,745	290,311
<b>Australia .. ..</b>	<b>4,907,362</b>	<b>5,629,748</b>	<b>6,220,300</b>	<b>6,748,223</b>	<b>7,782,738</b>

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory.

§ 4. Medical Treatment of Ex-Servicemen Suffering from War Service Disabilities.

At 30th June, 1961, there were 4,563 in-patients in Repatriation medical institutions and State mental hospitals, including a number whose care was undertaken by the Repatriation Commission on behalf of other countries or Commonwealth departments. There were 443,119 out-patient attendances for treatment during the year, and 1,794,410 treatments by local medical officers resident in metropolitan and country areas. The expenditure for the year ended 30th June, 1961, on medical treatment was £14,643,130.

## § 5. General Benefits and Miscellaneous.

1. **Other Departmental Activities.**—(i) *General.* During the 1939–45 War, the ordinary activities of the Department in the way of general benefits for the welfare of ex-servicemen and dependants were carried on without interruption. They were mainly education and training of children under the Soldiers' Children Education Scheme, medical benefits for widows and children of deceased ex-servicemen and for widowed mothers of deceased unmarried ex-servicemen, funeral expenses for certain classes of ex-servicemen and dependants, and allowances to certain classes of dependants.

By legislation passed in June, 1940, these benefits were extended to servicemen engaged in the 1939–45 War, and in November, 1950, to those engaged in the Korea and Malaya Operations, and new benefits designed for the re-establishment of servicemen after discharge from the Forces were made available. The re-establishment benefits administered by the Repatriation Commission are:—payment of re-employment allowance while awaiting employment; provision of tools of trade and equipment where such are necessary to employment; transportation expenses to meet the cost of fares and removal of household belongings, where an ex-serviceman takes up training, employment, or a business, or settles on the land; supplementing of wages of apprentices whose apprenticeships were interrupted by war service; re-establishment loans to enable ex-servicemen and widows to establish themselves in business, practices or other occupations, including (until the Division of War Service Land Settlement began operations early in 1946) agricultural occupations; payment of re-establishment allowance during the early stages of establishment in business; gifts up to £75 for furniture to ex-servicemen who are blind or totally and permanently incapacitated, also to widows with children under 16 years of age; and free passages to Australia for wives, widows and children of ex-servicemen who married abroad (and passages outward from Australia in certain cases of ex-servicemen and dependants).

In 1949, the Commission took over the functions of the Re-establishment Division of the former Department of Post-War Reconstruction, and became responsible for the co-ordination of all matters relating to training under the Commonwealth Reconstruction Training Scheme. This scheme is now concluded, the prescribed time limits for eligibility having expired. Re-establishment of the more seriously disabled, where ordinary training is not sufficient, continues to be a function of the Commission, and special means have to be found to overcome each problem.

(ii) *General Repatriation Benefits.* The following table gives a summary of expenditure during the five years 1956–57 to 1960–61 on the more important general repatriation benefits for all wars.

## EXPENDITURE ON GENERAL REPATRIATION BENEFITS: SUMMARY.

(£.)

Year ended 30th June—	Medical Treatment.	Employment and Vocational Training.	Business Loans and Furniture.	Soldiers' Children Education Scheme.	Living Allowances.	Other Benefits.	Total.
1957..	9,418,584	253,665	91,380	427,546	2,447,443	234,797	12,873,415
1958..	10,179,683	340,004	56,492	593,097	2,906,870	228,136	14,304,282
1959..	11,230,541	368,441	36,799	608,442	3,531,840	239,167	16,015,230
1960..	12,729,687	294,967	23,516	646,224	4,210,731	268,129	18,173,254
1961..	14,643,130	215,279	6,874	730,170	5,069,563	276,137	20,941,153

2. **Expenditure by the Repatriation Department, 1960–61.**—The net expenditure by the Department for the year ended 30th June, 1961, was £94,281,208 distributed as follows.

Pensions, Allowances and other Benefits	..	..	..	£ 74,689,179
Treatment	..	..	..	14,643,130
Administration	..	..	..	3,721,265
Works, Rent and Maintenance	..	..	..	1,227,634
				<b>94,281,208</b>

3. **Settlement of Returned Service Personnel on the Land.**—Reference to the settlement of returned service personnel on the land will be found in Chapter IV.—Land Tenure and Settlement, pages 96–9, of this Year Book.

4. **The Services Canteens Trust Fund.**—(i) *Introduction.* The Services Canteens Trust Fund was established under the Services Trust Funds Act 1947. This Act transferred to the Fund the profits and assets of the Army, Navy and Air Force canteens, the mess and regimental funds of disbanded wartime units, money derived from the sale of amenities supplied to the defence forces between 3rd September, 1939, and 30th June, 1947, and funds held by the A.M.F. Special Benefits Committee, the trustees of the R.A.N. Relief Fund and the trustees of the R.A.A.F. Welfare Fund.

(ii) *Establishment and Administration of the Fund.* The total amount transferred to the Fund to 31st December, 1961, was £5,526,892. The Act prescribed that, of this, £2,500,000 and such further amounts as the trustees of the Fund might from time to time decide should be devoted to the provision of education facilities for the children of eligible ex-service men and women, and that the balance of the fund should be used to provide relief for ex-service men and women and their dependants in necessitous circumstances.

The Fund is administered by ten honorary trustees, appointed by the Governor-General. The trustees have power to determine the persons or groups of persons to benefit from the Fund and the extent of benefits to be granted within the provisions of the Act, and to appoint regional committees to assist with the administration.

Regional committees have been established in all Australian States, the Australian Capital Territory, the Northern Territory (Darwin and Alice Springs), New Zealand and London. All Australian diplomatic and consular posts also act as local representatives of the trustees. They have delegated to them by the trustees specific powers to deal with applications for assistance from the Fund.

Members of regional committees are all persons who served in the 1939–45 War or are widows of men who served during the war, and, with the exception of regional chairmen and deputy chairmen, have been selected by the trustees from nominees of the major ex-service organizations. They serve in an honorary capacity.

(iii) *Assistance from the Fund.* (a) *General.* Persons eligible for assistance from the Fund are those who, between 30th September, 1939, and 30th June, 1947, served in the Australian Naval, Military or Air Forces, including members of the Canteens Staff of any ship of the Royal Australian Navy, persons duly accredited to any part of the Defence Force who served in an official capacity on full-time paid duty, and their dependants.

The trustees are charged under the Services Trust Funds Act with providing educational assistance, including professional and trade training, for the children of deceased or incapacitated eligible servicemen or of eligible servicemen who are in needy circumstances, and for the children of other eligible servicemen in exceptional circumstances, and with providing benefits or other relief for eligible servicemen and their dependants in necessitous or deserving circumstances.

The trustees have introduced schemes for providing—

- (i) Welfare relief for ex-service men and women who are eligible for benefits, and for their dependants;
- (ii) Benefits for children of eligible ex-service men and women who are suffering from serious and incapacitating afflictions; and
- (iii) Education benefits for the children of eligible ex-service men and women.

From its inauguration in 1947, the Fund is to be available for 40 years for welfare relief and for 30 years for educational benefits.

(b) *Welfare Relief.* More than one million men and women served in the Australian Armed Forces during the 1939–45 War and they and all their dependants are eligible for benefits from the Fund. The trustees have therefore prescribed a policy for welfare relief which makes assistance available only to those who are in genuine distress from which they cannot extricate themselves by their own efforts.

Applications are carefully investigated to determine the bona fides of the applicant and of the case presented, and to help regional committees in deciding the kind of assistance if any, to be given. Where possible, investigations are made by trained social workers on the staff either of the Fund or of recognized agencies.

To 31st December, 1961, £1,227,417 had been granted as welfare relief from the fund, £860,716 to ex-servicemen and their dependants, and £366,701 to widows and orphans. The amount granted during 1961 was £71,522. A total of 27,879 ex-service men and women, and 11,080 widows and orphans were granted welfare assistance from the Fund to 31st December, 1961.

Of all persons eligible for assistance from the Fund, widows and orphans are considered likely to be in greatest need, especially in the period immediately following the death of an ex-serviceman. Consequently, every effort is made to locate these widows and orphans and their degree of need is interpreted more liberally than is that of ex-servicemen.

(c) *Assistance under Afflicted Children's Scheme.* Also considered particularly deserving of assistance are dependent children suffering from afflictions which permanently disable or seriously retard their progress, or prevent the enjoyment of normal health and strength, who face a prospect of complete or partial dependence on others for all or part of their lives. The trustees introduced a plan to ensure that any eligible child suffering from a serious affliction may be assisted as necessary to have access to whatever treatment or facilities are available to help the child to lead as normal a life as possible, despite his or her handicap. The extent to which assistance will be granted in a particular case depends largely on the nature of the child's affliction, the facilities available, the family circumstances, and the funds that can be made available. Up to 31st December, 1961, 2,244 afflicted children had been assisted under the Afflicted Children's Scheme, involving an expenditure of £110,613.

(d) *Educational Assistance Scheme.* Educational assistance is restricted to children who are 15 years of age and over, except in exceptional circumstances, when it may be granted from the age of 13, and, in the case of orphans, when assistance may commence from the age of 12 years. The object of the trustees is to assist eligible children to obtain the highest education within their capacity. Educational assistance from the Fund is in the form of awards ranging from £5 to £200 a year depending on the cost of the course undertaken and the family circumstances. These awards are granted for practically every type of course of education, whether secondary, tertiary or commercial. They are designed to cover, or contribute towards, the cost of essential books, fees in cases where government school courses are not available, fares between the child's home and school, essential equipment and material, a uniform allowance in certain years, and a maintenance allowance for the child while at school. Provision exists for one post-graduate scholarship each year for study overseas, valued at £1,000 per annum for three years. Higher training education awards are also provided for selected students for post-graduate study in such fields as physiotherapy, speech therapy, occupational therapy, orthoptic therapy, laboratory technique, etc.

The number of children assisted under the educational scheme to 31st December, 1961, was 35,308, and the expenditure on educational awards, post-graduate scholarships and higher training education awards to 31st December, 1961, was £1,768,104.

## § 6. Seamen's War Pensions and Allowances.

The Seamen's War Pensions and Allowances Act 1940 provided for the grant of pensions to Australian mariners (defined in the Act to cover *inter alia* persons employed in sea-going service on ships registered in Australia and engaged in trading, or on certain other ships owned in Australia and operating from Australian ports) who sustained injury through enemy action, and their dependants, and to the dependants of those who were killed by enemy action. Detention allowances were provided for Australian mariners who were captured, and their dependants, during the period of detention. Compensation to Australian mariners was provided for in respect of personal effects lost or damaged through enemy action. Regulations passed in 1942 provided also for the continuance of wages for those captured by the enemy.

Amendments to the original Act and regulations raised pensions to rates corresponding to those payable under the Repatriation Act, and made mariners eligible for general benefits on the same scale as those available under that Act.

Pensions payable at 30th June, 1961, numbered 235, comprising 55 to incapacitated mariners, 99 to their dependants, and 81 to the dependants of deceased mariners, and the total expenditure during the year 1960-61 was £43,570, compared with amounts ranging between £33,000 and £39,000 in the previous four years.

## CHAPTER XXX.

### MISCELLANEOUS.

This chapter comprises miscellaneous statistics and other descriptive information not directly related to the subjects of the preceding chapters, arranged in sections as follows:—

1. Valuation of Australian Production; 2. Indexes of Production; 3. Consumption of Foodstuffs and Beverages; 4. Patents, Trade Marks and Designs; 5. Copyright; 6. The United Nations; 7. Australian Representation Abroad; Oversea Representation in Australia; 8. Retail Trade.

Other matter previously included in this chapter has been transferred to Chapter VI.—Manufacturing Industry, Chapter XIV.—Transport and Communication or Chapter XV.—Education and Research (*see Preface*).

#### § 1. Valuation of Australian Production.

1. *General*.—The value of production for Australia is computed in accordance with the decisions reached at the Conferences of Australian Statisticians and principally at the Conference held in 1935. The figures published below have been compiled by the Statisticians in the various States from the latest data available, and relate to 1960–61. The adoption of substantially uniform methods of valuing production and of estimating elements of costs of production and marketing renders the results comparable as between States.

Attention is directed to the fact that the values shown in the tables herein refer only to the production of primary industries and factories, and exclude the building and construction industry, those industrial establishments not classified as factories, and certain agricultural and farmyard produce obtained from areas of less than one acre.

The following is a brief explanation of the terms used.

- (a) *Gross Value of Production* is the value placed on recorded production at the wholesale price realized at the principal markets. In cases where primary products are consumed at the place of production or where they become raw material for a secondary industry, these points of consumption are presumed to be the principal markets.
- (b) *Local Value* (i.e., the gross production valued at the place of production) is ascertained by deducting marketing costs from the gross value. Marketing costs include freight, cost of containers, commission, and other charges incidental thereto.
- (c) *Net Value of Production* represents local value less value of materials used in the process of production. Materials used in the process of production include seed, power, power kerosene, petrol and other oils, fodder consumed by farm stock, manures, dips, sprays and other costs. No deductions have been made for depreciation or certain maintenance costs as particulars are not available for all States. The Net Value of Production is the only satisfactory measure to use when comparing or combining the value of primary industries with those of other industries.

For the years shown in the following tables, no allowance for power, power kerosene, petrol and other oils has been made in New South Wales; and in the case of Tasmania, allowance for these items has been made since 1958–59 only. In the case of the mining and quarrying industry, however, this allowance has been made throughout. Costs of materials used in the process of production are not available for all States in respect of Trapping, Forestry and Fisheries, and local values have been used for these industries with consequent overstatement in net values.

2. Value of Production, Australia, 1960-61.—The following table shows particulars of the gross, local and net values of production in Australia by industries during the year 1960-61.

**GROSS, LOCAL AND NET VALUE OF PRODUCTION OF PRIMARY INDUSTRIES AND FACTORIES : AUSTRALIA, 1960-61.**

(£'000.)

Industry.	Gross Production Valued at Principal Markets.	Local Value—Gross Production Valued at Place of Production.	Net Value of Production (with-out deduction of depreciation or maintenance).
Agriculture .. .. .	535,681	453,842	391,861
Pastoral .. .. .	565,282	516,538	458,169
Dairying .. .. .	204,756	188,633	142,131
Poultry .. .. .	66,956	58,602	33,663
Bee-farming .. .. .	1,883	1,458	(a) 1,458
<i>Total, Rural</i> .. .. .	<i>1,374,558</i>	<i>1,219,073</i>	<i>1,027,282</i>
Trapping .. .. .	7,409	6,601	(a) 6,601
Forestry .. .. .	57,845	52,057	(a) 52,057
Fishing and Whaling .. .. .	14,254	12,813	(a) 12,813
Mines and Quarries .. .. .	(a) 180,898	180,898	138,687
<i>Total, Non-rural</i> .. .. .	<i>260,406</i>	<i>252,369</i>	<i>210,158</i>
<i>Total, All Primary</i> .. .. .	<i>1,634,964</i>	<i>1,471,442</i>	<i>1,237,440</i>
Factories .. .. .	(b) 2,164,233	(b) 2,164,233	2,164,233
<i>Total, All Industries</i> .. .. .	<i>3,799,197</i>	<i>3,635,675</i>	<i>3,401,673</i>

(a) Local value. (b) Net value.

3. Net Value of Production, States, 1960-61.—The following tables show the total net value of production, and the net value per head of population, for each industry and State during the year 1960-61.

**NET(a) VALUE OF PRODUCTION OF PRIMARY INDUSTRIES AND FACTORIES, 1960-61.**

(£'000.)

Industry.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Australia
Agriculture .. .. .	98,171	104,031	73,471	58,323	46,708	10,939	80	138	391,861
Pastoral .. .. .	159,960	116,181	94,346	36,119	39,978	6,403	4,477	705	458,169
Dairying .. .. .	50,239	50,947	21,298	8,470	4,398	6,613	28	138	142,131
Poultry .. .. .	12,971	17,011	1,074	1,359	526	567	60	95	33,663
Bee-farming(b) .. .. .	723	319	71	157	151	34	..	3	1,458
<i>Total, Rural</i> .. .. .	<i>322,064</i>	<i>288,489</i>	<i>190,260</i>	<i>104,428</i>	<i>91,761</i>	<i>24,556</i>	<i>4,645</i>	<i>1,079</i>	<i>1,027,282</i>
Trapping(b) .. .. .	2,312	2,945	307	540	240	207	50	..	6,601
Forestry(b) .. .. .	15,300	14,795	7,149	3,729	5,167	5,735	24	158	52,057
Fishing and Whaling(b)	3,299	1,787	1,372	1,237	4,220	813	85	..	12,813
Mining and Quarrying .. .. .	62,779	13,158	27,460	11,404	15,444	5,571	2,778	93	138,687
<i>Total, Non-rural</i> .. .. .	<i>83,690</i>	<i>32,685</i>	<i>36,288</i>	<i>16,910</i>	<i>25,071</i>	<i>12,326</i>	<i>2,937</i>	<i>251</i>	<i>210,158</i>
<i>Total, All Primary</i> .. .. .	<i>405,754</i>	<i>321,174</i>	<i>226,548</i>	<i>121,338</i>	<i>116,832</i>	<i>36,882</i>	<i>7,582</i>	<i>1,330</i>	<i>1,237,440</i>
Factories .. .. .	964,956	700,511	170,627	170,062	96,631	61,446	..	..	2,164,233
<i>Total, All Industries</i> .. .. .	<i>1,370,710</i>	<i>1,021,685</i>	<i>397,175</i>	<i>291,400</i>	<i>213,463</i>	<i>98,328</i>	<i>7,582</i>	<i>1,330</i>	<i>3,401,673</i>

(a) See letterpress on p. 1137. (b) Local value.

**NET(a) VALUE OF PRODUCTION OF PRIMARY INDUSTRIES AND FACTORIES  
PER HEAD OF POPULATION, 1960-61.**  
(£ s.)

Industry.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia. (b)
Agriculture ..	25 7	35 19	48 17	60 19	64 0	31 5	37 14
Pastoral ..	41 5	40 3	62 15	37 15	54 16	18 6	44 2
Dairying ..	12 19	17 12	14 3	8 17	6 1	18 18	13 13
Poultry ..	3 7	5 18	0 14	1 8	0 14	1 12	3 5
Bee-farming(c) ..	0 4	0 2	0 1	0 3	0 4	0 2	0 3
<b>Total, Rural ..</b>	<b>83 2</b>	<b>99 14</b>	<b>126 10</b>	<b>109 2</b>	<b>125 15</b>	<b>70 3</b>	<b>98 17</b>
Trapping(c) ..	0 12	1 1	0 4	0 11	0 6	0 12	0 13
Forestry(c) ..	3 19	5 2	4 15	3 18	7 2	16 8	5 0
Fishing and Whaling	0 17	0 12	0 19	1 6	5 16	2 6	1 4
Mines and Quarries	16 4	4 11	18 5	11 18	21 3	15 18	13 7
<b>Total, Non-rural..</b>	<b>21 12</b>	<b>11 6</b>	<b>24 3</b>	<b>17 13</b>	<b>34 7</b>	<b>35 4</b>	<b>20 4</b>
<b>Total, All Primary Factories..</b>	<b>104 14 248 19</b>	<b>111 0 242 2</b>	<b>150 13 113 10</b>	<b>126 15 177 14</b>	<b>160 2 132 8</b>	<b>105 7 175 11</b>	<b>119 1 208 6</b>
<b>Total, All Industries</b>	<b>353 13</b>	<b>353 2</b>	<b>264 3</b>	<b>304 9</b>	<b>292 10</b>	<b>280 18</b>	<b>327 7</b>

(a) See letterpress on p. 1137.

(b) Includes N.T. and A.C.T.

(c) Local value.

4. Net Value of Production, Australia, 1956-57 to 1960-61.—The following table shows the net value of production for Australia during the years 1956-57 to 1960-61.

**NET(a) VALUE OF PRODUCTION OF PRIMARY INDUSTRIES AND  
FACTORIES : AUSTRALIA.**  
(£'000.)

Industry.	1956-57.	1957-58.	1958-59.	1959-60.	1960-61.
Agriculture ..	254,861	244,530	328,943	291,951	391,861
Pastoral ..	597,681	447,247	443,622	536,215	458,169
Dairying ..	140,792	127,624	141,944	152,193	142,131
Poultry ..	28,402	27,326	27,360	30,424	33,663
Bee-farming(b) ..	2,254	1,566	1,605	2,060	1,458
<b>Total, Rural ..</b>	<b>1,023,990</b>	<b>848,293</b>	<b>943,474</b>	<b>1,012,843</b>	<b>1,027,282</b>
Trapping(b) ..	6,013	6,027	6,362	6,881	6,601
Forestry(b) ..	52,099	51,306	52,273	53,859	52,057
Fishing and Whaling(b)	10,506	10,402	11,243	12,325	12,813
Mines and Quarries ..	139,982	126,802	118,336	126,155	138,687
<b>Total, Non-rural</b>	<b>208,600</b>	<b>194,537</b>	<b>188,214</b>	<b>199,220</b>	<b>210,158</b>
<b>Total, All Primary Factories ..</b>	<b>1,232,590 1,622,120</b>	<b>1,042,830 1,728,723</b>	<b>1,131,688 1,842,601</b>	<b>1,212,063 2,074,882</b>	<b>1,237,440 2,164,233</b>
<b>Total, All Industries</b>	<b>2,854,710</b>	<b>2,771,553</b>	<b>2,974,289</b>	<b>3,286,945</b>	<b>3,401,673</b>

(a) See letterpress on p. 1137.

(b) Local value.

In the chapters dealing with the respective industries, tables will be found showing the value of production and the value per head of population for the industry by States for a series of years up to 1960-61.



## § 2. Indexes of Production.

In the first two tables in this section, indexes of price and quantum (i.e., value at constant prices) of production are given for the following industrial groups:—Agriculture, Pastoral, Farmyard and Dairying, and All Farming combined (including separate indexes for Wool and Products other than Wool). In the third table, indexes of quantum (i.e., value at constant prices) of production, exports and consumption of farm products for food use are shown.

1. Farm Production Price Indexes.—The Farm Production Price Indexes shown in the following table relate to average "prices" of agricultural, pastoral, farmyard and dairying products realized at the principal markets of Australia. The "price" data used are average unit values for the total quantities of the relevant commodities produced or marketed in each year and the index numbers therefore measure both the effects of changes in prices (as such) and of variations in the quality, type, usage, etc., of products marketed. The index numbers for any year relate to the average values of products produced or marketed in that year, irrespective of the periods in which payment is received by producers.

The indexes have been calculated by the fixed-base weighted aggregative method. "Prices" for each commodity in any year are obtained by dividing gross value of production by the quantity produced in that year. In the original published series of Production Price Index Numbers, the average quantities of the relevant commodities produced in the period 1923–24 to 1927–28 were used as fixed weights. This series, re-computed to the base, average 1936–37 to 1938–39 = 100, was published in earlier issues of the Official Year Book (see No. 43, p. 1050). For 1936–37 and later years, the original series was replaced in December, 1952, by a revised series in which average quantities of each product marketed during the period 1946–47 to 1950–51 were used as fixed weights. In the revised series, the regimen was extended and modified to include farm products (as defined by Australian Statisticians) in all cases. Certain other refinements were also incorporated in the revised indexes, the principal of which was the omission from the weights used for the All Farming Index of quantities of crops marketed for livestock feeding in Australia.

**FARM PRODUCTION : INDEXES OF PRICES AT PRINCIPAL MARKETS,  
AUSTRALIA.**

(Base: Average 1936–37 to 1938–39 = 100.)

Year.	Agriculture.	Pastoral.	Farm-yard and Dairying.	All Farming.	Wool (Shorn and Dead).	Products other than Wool.
1940–41	106	107	105	107	102	108
1941–42	111	108	107	110	102	113
1942–43	131	123	130	128	118	132
1943–44	149	128	147	139	118	146
1944–45	151	128	152	142	118	150
1945–46	174	133	159	157	118	169
1946–47	194	182	157	185	187	185
1947–48	267	263	183	247	301	230
1948–49	234	313	197	260	366	225
1949–50	272	396	228	316	483	261
1950–51	291	818	258	505	1,098	308
1951–52	355	501	332	410	552	363
1952–53	364	531	387	440	623	379
1953–54	324	534	395	429	621	365
1954–55	316	489	371	401	540	355
1955–56	330	451	392	397	468	373
1956–57	336	536	386	432	607	374
1957–58	336	435	382	388	473	359
1958–59	322	396	386	369	370	369
1959–60	329	464	402	403	440	391
1960–61	349	443	404	402	397	404

2. **Indexes of Quantum (i.e. Value at Constant Prices) of Farm Production.**—The indexes shown in the following table relate to gross output of farm products valued at constant prices. They have been calculated by revaluing quantities of each farm product included in the indexes at the average unit gross value of each product for the base years.

In the original published series, the period 1923–24 to 1927–28 was adopted as the base for revaluing each farm product. This series, re-computed to the base, average 1936–37 to 1938–39 = 100, was published in earlier issues of the Official Year Book (*see* No. 43, p. 1051). For 1936–37 and later years, the original series was replaced in December, 1952, by a revised series in which average unit values for the period 1936–37 to 1938–39 were used. The regimen used for the revised series was extended and modified to include farm products (as defined by Australian Statisticians) in all cases. Certain other refinements were incorporated in the revised indexes, the principal of which was the omission, in calculating the All Farming Index, of quantities of crops fed to livestock in Australia.

### INDEXES OF QUANTUM<sup>(a)</sup> OF FARM PRODUCTION, AUSTRALIA.

(Base: Average 1936–37 to 1938–39 = 100.)

Year.	Agri- culture.	Pastoral.	Farm- yard and Dairying.	All Farming.	Wool (Shorn and Dead).	Products other than Wool.
1940–41	74	109	107	97	115	91
1941–42	104	112	104	104	118	99
1942–43	97	114	103	102	116	98
1943–44	86	115	100	100	119	94
1944–45	68	101	99	88	101	84
1945–46	100	86	103	92	92	92
1946–47	84	92	103	91	95	90
1947–48	122	98	107	109	101	111
1948–49	108	105	111	109	108	109
1949–50	117	112	111	115	115	115
1950–51	108	109	106	109	116	107
1951–52	103	105	97	103	112	100
1952–53	121	126	108	121	131	118
1953–54	129	123	107	122	128	120
1954–55	120	127	117	123	132	120
1955–56	134	136	120	131	146	127
1956–57	120	148	117	131	164	121
1957–58	109	142	114	124	148	116
1958–59	165	159	119	149	164	145
1959–60	140	163	123	144	172	136
1960–61	177	152	120	152	165	148

(a) Indexes of value at constant prices, i.e., quantities revalued at average unit values for the base years (*see* text preceding table).

3. **Farm Products for Food Use: Indexes of Quantum (i.e. Value at Constant Prices) of Production, Exports and Consumption.**—The indexes shown in the following table have been calculated by revaluing quantities of each farm product included in the indexes at the average unit gross value of each product for the years 1936–37 to 1938–39. The items included comprise products in the form in which they are sold from farms in all cases except live-stock sold for slaughter for meat, which are included in terms of dressed carcass weight of meat. Quantity data relating to exports include exports of processed food in terms of farm product equivalent. The indexes of production relate basically to gross output of farm products for food use, including crops exported for stock-feeding overseas. Particulars are not available prior to 1946–47 except for the base years.

**FARM PRODUCTS FOR FOOD USE: INDEXES OF QUANTUM(a) OF  
PRODUCTION, EXPORTS AND CONSUMPTION.**

(Base: Average 1936-37 to 1938-39 = 100.)

Year.	Production.		Exports.		Consumption in Australia.	
	Total.	Per Head of Total Population.	Total.	Per Head of Total Population.	Total.	Per Head of Total Population.
1946-47.. ..	90	82	73	66	107	98
1947-48.. ..	113	102	113	102	110	99
1948-49.. ..	110	97	112	99	111	98
1949-50.. ..	116	99	116	99	114	98
1950-51.. ..	109	90	104	86	120	99
1951-52.. ..	100	81	70	57	119	96
1952-53.. ..	118	93	113	89	119	94
1953-54.. ..	122	94	102	79	124	96
1954-55.. ..	121	91	117	89	127	96
1955-56.. ..	129	95	131	97	131	97
1956-57.. ..	123	88	118	85	136	98
1957-58.. ..	115	81	90	64	139	98
1958-59.. ..	146	101	137	94	142	98
1959-60.. ..	138	93	132	89	145	98
1960-61(b) ..	149	98	170	112	143	95

(a) Indexes of value at constant prices, i.e., quantities revalued at average unit values for the base years, 1936-37 to 1938-39. (b) Subject to revision.

### § 3. Consumption of Foodstuffs and Beverages.

1. **Quantities Consumed.**—The estimates of total consumption and consumption per head of population in Australia in the two tables which follow have been compiled by deducting net exports from the sum of production and imports and allowing for recorded movements in stocks of the respective commodities. While the estimates may be generally accepted as reasonably accurate, there are some deficiencies to which attention should be directed. These relate chiefly to the quantities of poultry, game and fish (fresh and shell) and the quantities of visible oils and other fats entering consumption. In addition, little information is available on the quantities of vegetables, fruit, eggs, etc., which householders produce for their own requirements and the extent of wastage occurring in the marketing of foodstuffs. In all these cases, careful estimates have been compiled from the best available data, and the quantities shown as entering consumption in Australia have been adjusted to allow for these circumstances. The absence of particulars for stocks of certain commodities has resulted in some inaccuracies in the estimates of annual consumption. Consumption of foodstuffs is measured in general at "producer" level. As a result, no allowance is made for wastage before the foodstuffs are consumed. In recent years, wastage of foodstuffs has possibly been less than previously because of more efficient distribution and storage methods. Furthermore, it is likely that the quantities of foodstuffs shown in the following pages as available for consumption have been supplemented by production by householders for their own requirements. In most cases, broad estimates of non-commercial (householders') production have been made. Except in a few special cases, no adjustment has been made for changes in stocks held by wholesalers and retailers. Where no allowance is made, it is considered unlikely that these stocks would make any appreciable difference to consumption estimates. Allowance has not been made for the purchase of foodstuffs for dispatch overseas as gifts in bulk and by parcel post. These deficiencies, however, do not seriously impair the accuracy of the estimates compiled.

The estimates of consumption per head of population shown in the second of the following tables have been derived by dividing the total apparent consumption of each commodity or commodity group in a given year by the mean population of Australia in the same period.

More detailed information on the consumption of foodstuffs and beverages is contained in the statistical bulletin: *Report on Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia*, issued by this Bureau.

The following tables show the average annual consumption during the three-year periods ended 1938-39, 1948-49, and 1958-59, together with the data for each of the years 1958-59, 1959-60 and 1960-61.

**ESTIMATED QUANTITY OF FOODSTUFFS AND BEVERAGES AVAILABLE FOR CONSUMPTION ANNUALLY: AUSTRALIA.**

Commodity.	Unit of Quantity.	Average three years ended—			1958-59.	1959-60.	1960-61. (a)
		1938-39.	1948-49.	1958-59.			
<b>Milk and Milk Products—</b>							
Fluid Whole Milk .. ..	Mill. gals.	161	233	276	281	291	298
Fresh Cream .. ..	'000 tons	19.7	5.1	8.7	8.9	9.1	9.3
<b>Full Cream Milk Products—</b>							
Condensed, Concentrated and Evaporated Full Cream Milk—							
Sweetened .. ..	"	13.2	11.9	11.3	9.8	12.1	11.3
Unsweetened .. ..	"		13.6	27.6	28.5	29.6	29.7
Powdered Full Cream Milk .. ..	"	8.1	11.0	11.0	10.8	12.2	11.7
Infants' and Invalids' Foods .. ..	"	3.0	4.3	9.4	9.7	13.0	11.8
<b>Milk By-Products—</b>							
Condensed, Concentrated and Evaporated Skim Milk .. ..	"	(b)	(b)	5.6	4.9	4.7	4.7
Powdered Skim Milk .. ..	"		1.9	10.7	13.1	16.4	20.5
Cheese .. ..	"	13.4	18.8	25.0	23.0	28.8	29.8
<b>Total (in terms of Milk Solids) .. ..</b>	"	<b>120.5</b>	<b>167.4</b>	<b>212.4</b>	<b>215.7</b>	<b>230.8</b>	<b>239.0</b>
<b>Meat—</b>							
Beef (carcass weight) .. ..	"	430.3	372.7	538.4	522.3	442.5	395.8
Mutton (carcass weight) .. ..	"	184.1	154.0	221.6	244.8	288.8	293.0
Lamb (carcass weight) .. ..	"	46.0	86.1	127.7	141.7	176.8	177.2
Pigmeat (carcass weight) .. ..	"	31.8	24.3	43.9	47.6	47.2	53.4
Offal .. ..	"	25.7	30.3	49.7	53.9	52.8	50.6
Canned Meat (canned weight) .. ..	"	6.5	9.0	17.9	21.0	18.7	19.3
Bacon and Ham (cured carcass weight) .. ..	"	31.5	39.9	30.3	31.7	31.8	31.4
<b>Total (in terms of carcass equivalent weight) .. ..</b>	"	<b>775.5</b>	<b>736.9</b>	<b>1,054.1</b>	<b>1,088.2</b>	<b>1,078.5</b>	<b>1,039.9</b>
<b>Poultry, Game and Fish—</b>							
Poultry and Rabbits (dressed weight) .. ..	"	29.8	54.0	50.9	52.2	53.0	54.5
<b>Fish (c)—</b>							
Fresh—							
Australian origin .. ..	}	19.7	19.4	13.8	13.8	14.7	14.3
Imported .. ..				9.0	10.0	14.4	14.0
Cured (including Smoked and Salted) .. ..	"	(d)	(d)	3.8	3.6	5.0	5.1
Crustaceans and Molluscs .. ..	"	2.1	2.1	3.8	4.1	4.6	5.3
Canned—Australian origin .. ..	}	12.4	10.5	3.3	3.6	3.5	3.4
Imported .. ..				7.4	7.4	9.0	12.0
<b>Total (edible weight) .. ..</b>	"	<b>51.5</b>	<b>63.2</b>	<b>76.2</b>	<b>72.6</b>	<b>81.8</b>	<b>85.5</b>
<b>Eggs and Egg Products—</b>							
Shell Eggs .. ..	"	78.7	86.5	92.1	93.3	98.1	e 113.0
Liquid Whole Egg (f) .. ..	"	2.9	8.6	5.7	5.6	6.9	e 8.3
Egg Powder (f) .. ..	"	..	..	0.2	0.3	0.3	e 0.3
<b>Total (Shell Egg Equivalent) .. ..</b>	}	81.6	95.1	98.0	99.2	105.3	e 121.6
<b>Total .. ..</b>				Mill. doz.	139.3	162.3	167.3
<b>Fats and Oils—</b>							
Butter .. ..	'000 tons	101.0	84.7	118.4	115.1	118.7	116.4
<b>Margarine—</b>							
Table .. ..	"	2.8	3.0	15.5	15.4	16.0	16.1
Other .. ..	"	12.2	18.7	21.2	22.9	25.9	27.2
Vegetable Oils and Other Fats .. ..	"	14.4	13.8	19.6	20.0	20.4	20.9
<b>Total (Fat Content) .. ..</b>	"	<b>115.5</b>	<b>105.5</b>	<b>148.3</b>	<b>147.1</b>	<b>154.4</b>	<b>151.7</b>

See next page for notes.

ESTIMATED QUANTITY OF FOODSTUFFS AND BEVERAGES AVAILABLE FOR CONSUMPTION ANNUALLY: AUSTRALIA—*continued.*

Commodity.	Unit of Quantity.	Average three years ended—			1958-59.	1959-60.	1960-61. (a)
		1938-39.	1948-49.	1958-59.			
<b>Sugar and Syrups—</b>							
Refined Sugar—							
As Sugar .. .. .	'000 tons	216.5	234.6	259.0	270.2	248.1	249.6
In manufactured products ..	"	110.1	174.2	226.1	227.1	252.8	251.0
Honey, Glucose and Syrups (Sugar content) .. .. .	"	17.3	19.1	22.8	23.7	29.2	25.9
<i>Total (Sugar Content) ..</i>	<i>"</i>	<i>343.9</i>	<i>427.9</i>	<i>507.9</i>	<i>521.0</i>	<i>530.1</i>	<i>526.5</i>
<b>Pulse and Nuts—</b>							
Dried Pulse .. .. .	"	4.5	7.2	10.7	9.4	9.5	9.5
Peanuts (weight without shell)	"	2.8	8.7	7.2	8.3	12.3	11.5
Edible Tree Nuts (weight without shell) .. .. .	"	2.6	4.4	6.7	7.3	7.0	8.2
Cocoa (Raw Beans) .. .. .	"	6.3	11.6	12.1	12.1	13.9	15.9
<i>Total .. .. .</i>	<i>"</i>	<i>16.2</i>	<i>31.9</i>	<i>36.7</i>	<i>37.1</i>	<i>42.7</i>	<i>45.1</i>
<b>Fruit—</b>							
Citrus Fruit (g) .. .. .	"	97.8	127.2	153.8	149.6	186.4	164.8
Other Fresh Fruit .. .. .	"	288.2	297.5	341.4	368.8	390.1	392.1
Jams .. .. .	"	35.1	42.5	37.5	36.5	39.1	38.2
Dried Fruit .. .. .	"	24.8	30.4	26.4	25.6	30.4	29.9
Canned Fruit .. .. .	"	31.9	37.3	59.4	57.7	69.6	82.4
<i>Total (Fresh Fruit equivalent)</i>	<i>"</i>	<i>532.3</i>	<i>607.9</i>	<i>691.4</i>	<i>704.5</i>	<i>801.4</i>	<i>799.6</i>
<b>Vegetables—</b>							
Leafy and Green Vegetables ..	"	(b)	154.0	172.1	172.8	175.2	178.5
Tomatoes(g) .. .. .	"	(h) 48.0	86.3	124.4	122.5	114.6	141.5
Root and Bulb Vegetables .. ..	"	(b)	143.7	152.8	142.4	147.4	143.8
<b>Potatoes—</b>							
White .. .. .	"	318.5	424.3	495.4	511.9	523.7	401.8
Sweet .. .. .	"	7.4	5.3	6.1	6.2	6.4	6.5
Other Vegetables .. .. .	"	(b)	162.8	178.4	178.7	162.7	173.1
<i>Total .. .. .</i>	<i>"</i>	<i>(b)</i>	<i>976.4</i>	<i>1,129.2</i>	<i>1,134.5</i>	<i>1,130.0</i>	<i>1,045.2</i>
<b>Grain Products—</b>							
Flour (including Wheatmeal for baking and Sharps) .. .. .	"	574.0	689.7	789.1	787.4	804.6	788.7
Breakfast Foods .. .. .	"	32.5	45.8	58.8	56.4	60.4	64.6
Rice (Milled) .. .. .	"	12.2	3.0	16.1	16.4	16.8	17.2
Tapioca, Sago, etc. .. .. .	"	3.7	2.3	1.4	1.0	1.3	1.1
Pearl Barley .. .. .	"	3.0	1.7	2.0	1.9	2.0	1.9
Barley Meal and Polished Wheat (Rice substitute) .. .. .	"	..	1.6	0.5	0.5	0.1	0.1
Edible Starch (Cornflour) .. ..	"	4.3	4.9	2.7	2.2	2.4	3.0
<i>Total .. .. .</i>	<i>"</i>	<i>629.7</i>	<i>749.0</i>	<i>870.6</i>	<i>865.8</i>	<i>887.6</i>	<i>876.6</i>
<b>Beverages—</b>							
Tea .. .. .	"	21.1	22.1	26.1	26.0	27.0	27.3
Coffee .. .. .	"	2.0	3.4	5.9	8.0	8.0	8.0
Beer .. .. .	Mil. gals.	80.1	129.5	221.0	220.7	230.1	234.6
Wine .. .. .	"	4.2	9.8	11.1	11.4	11.7	11.7
Spirits .. .. .	Mil.pf.gals.	1.5	2.4	2.8	2.9	3.3	3.1

(a) Subject to revision. (b) Not available. (c) Edible weight. (d) Included with fresh.  
 (e) Not comparable with data prior to 1960-61, in which year the average weight of an egg was altered in calculations from 1.75 oz. to 2 oz. (f) In terms of weight of shell eggs. (g) Includes fresh equivalent of manufactured products. (h) Probably understated owing to lack of complete data.

ESTIMATED QUANTITY OF FOODSTUFFS AND BEVERAGES AVAILABLE FOR CONSUMPTION ANNUALLY PER HEAD OF POPULATION: AUSTRALIA.

Commodity.	Unit of Quantity.	Average three years ended—			1958-59.	1959-60.	1960-61. (a)
		1938-39.	1948-49.	1958-59.			
<b>Milk and Milk Products—</b>							
Fluid Whole Milk .. .. .	Gallon	23.4	30.5	28.3	28.2	28.6	28.7
Fresh Cream .. .. .	lb.	6.1	1.5	2.0	2.0	2.0	2.0
<b>Full Cream Milk Products—</b>							
Condensed, Concentrated and Evaporated Full Cream Milk—							
Sweetened .. .. .	"	4.2	3.5	2.6	2.2	2.7	2.4
Unsweetened .. .. .	"						
Powdered Full Cream Milk .. .. .	"	2.6	3.2	2.5	2.4	2.7	2.5
Infants' and Invalids' Foods .. .. .	"	1.0	1.3	2.2	2.2	2.9	2.5
<b>Milk By-Products—</b>							
Condensed, Concentrated and Evaporated Skim Milk .. .. .	"	(b)	(b)	1.3	1.1	1.0	1.0
Powdered Skim Milk .. .. .	"		0.6	2.5	2.9	3.6	4.4
Cheese .. .. .	"	4.4	5.5	5.7	5.2	6.3	6.4
<i>Total (in terms of Milk Solids)</i> .. .. .	"	39.3	49.1	48.7	48.4	51.0	51.4
<b>Meat—</b>							
Beef (carcass weight) .. .. .	"	140.3	109.1	123.8	117.6	97.4	85.3
Mutton (carcass weight) .. .. .	"	60.0	45.1	50.9	55.1	63.7	63.2
Lamb (carcass weight) .. .. .	"	15.0	25.2	29.4	31.9	38.9	38.2
Pigmeat (carcass weight) .. .. .	"	10.4	7.1	10.1	10.7	10.4	11.5
Offal .. .. .	"	8.4	8.9	11.4	12.1	11.6	10.9
Canned Meat (canned weight) .. .. .	"	2.1	2.6	4.1	4.7	4.1	4.2
Bacon and Ham (cured carcass weight) .. .. .	"	10.2	11.7	7.0	7.1	7.0	6.8
<i>Total (in terms of carcass equivalent weight)</i> .. .. .	"	252.8	215.7	242.3	244.9	237.5	224.2
<b>Poultry, Game and Fish—</b>							
Poultry and Rabbits (dressed weight) .. .. .	"	9.7	15.8	11.7	11.7	11.7	11.7
<b>Fish(c)—</b>							
<b>Fresh—</b>							
Australian origin .. .. .	"	6.4	5.7	3.2	3.1	3.2	3.1
Imported .. .. .	"						
Cured (including Smoked and Salted) .. .. .	"	(d)	(d)	0.9	0.8	1.1	1.1
Crustaceans and Molluscs .. .. .	"	0.7	0.6	0.9	0.9	1.0	1.2
<b>Canned—</b>							
Australian origin .. .. .	"	4.1	3.0	0.8	0.8	0.8	0.7
Imported .. .. .	"						
<i>Total (Edible Weight)</i> .. .. .	"	16.8	18.5	17.7	16.3	18.1	18.5
<b>Eggs and Egg Products—</b>							
Shell Eggs .. .. .	"	25.7	25.4	21.2	21.0	21.6	(e) 24.4
Liquid Whole Egg(f) .. .. .	"	0.9	2.5	1.3	1.3	1.5	(e) 1.8
Egg Powder(f) .. .. .	"	..	..	..	0.1	0.1	(e) 0.1
<i>Total (Shell Egg equivalent)</i> .. .. .	No.	26.6 243	27.9 255	22.5 206	22.4 204	23.2 212	(e) 26.3 210
<b>Fats and Oils—</b>							
Butter .. .. .	lb.	32.9	24.8	27.2	25.9	26.2	25.2
<b>Margarine—</b>							
Table .. .. .	"	0.9	0.9	3.6	3.5	3.5	3.5
Other .. .. .	"	4.0	5.2	4.9	5.1	5.7	5.9
Vegetable Oils and other Fats .. .. .	"	6.4	5.3	4.5	4.5	4.5	4.5
<i>Total (Fat Content)</i> .. .. .	"	37.6	30.9	34.1	33.1	34.0	33.2
<b>Sugar and Syrups—</b>							
<b>Refined Sugar—</b>							
As Sugar .. .. .	"	70.6	68.7	59.5	60.8	54.6	53.8
In manufactured products .. .. .	"	35.9	51.0	52.0	51.1	55.7	54.1
Honey, Glucose and Syrups (Sugar Content) .. .. .	"	5.5	5.6	5.2	5.2	6.4	5.6
<i>Total (Sugar Content)</i> .. .. .	"	112.0	125.3	116.7	117.1	116.7	113.5

See next page for notes.

ESTIMATED QUANTITY OF FOODSTUFFS AND BEVERAGES AVAILABLE  
FOR CONSUMPTION ANNUALLY PER HEAD OF POPULATION:  
AUSTRALIA—continued.

Commodity.	Unit of Quantity.	Average three years ended—			1958-59.	1959-60.	1960-61. (a)
		1938-39.	1948-49.	1958-59.			
<b>Pulse and Nuts—</b>							
Dried Pulse .. .. .	lb.	1.5	2.0	2.5	2.1	2.1	2.1
Peanuts (weight without shell)	"	0.9	2.5	1.7	1.9	2.7	2.5
Edible Tree Nuts (weight without shell) .. .. .	"	0.8	1.3	1.5	1.6	1.5	1.8
Cocoa (Raw Beans) .. .. .	"	2.1	3.4	2.7	2.5	3.1	3.4
<i>Total .. .. .</i>	"	<i>5.3</i>	<i>9.2</i>	<i>8.4</i>	<i>8.1</i>	<i>9.4</i>	<i>9.8</i>
<b>Fruit—</b>							
Citrus Fruit(g) .. .. .	"	31.9	37.2	35.4	33.6	41.1	35.5
Other Fresh Fruit .. .. .	"	94.0	87.1	78.4	83.0	85.9	84.5
Jams .. .. .	"	11.4	12.4	8.6	8.2	8.6	8.2
Dried Fruit .. .. .	"	8.1	8.7	6.0	5.7	6.8	6.4
Canned Fruit .. .. .	"	10.4	11.0	13.6	13.0	15.3	17.8
<i>Total (Fresh Fruit equivalent) .. .. .</i>	"	<i>173.6</i>	<i>178.0</i>	<i>157.6</i>	<i>158.5</i>	<i>176.5</i>	<i>172.4</i>
<b>Vegetables—</b>							
Leafy and Green Vegetables .. .. .	"	(b)	45.1	39.5	38.8	38.6	38.5
Tomatoes(g) .. .. .	"	(h) 15.7	25.3	28.6	27.6	25.2	30.5
Root and Bulb Vegetables .. .. .	"	(b)	42.1	35.1	32.1	32.5	31.0
<b>Potatoes—</b>							
White .. .. .	"	103.8	124.2	113.8	115.2	115.4	86.4
Sweet .. .. .	"	2.4	1.5	1.4	1.4	1.4	1.4
Other Vegetables .. .. .	"	(b)	47.7	41.0	40.2	35.8	37.3
<i>Total .. .. .</i>	"	(b)	<i>285.9</i>	<i>259.4</i>	<i>255.3</i>	<i>248.9</i>	<i>225.1</i>
<b>Grain Products—</b>							
Flour (including Wheatmeal for baking and Sharps) .. .. .	"	187.1	201.9	181.4	177.2	177.2	170.0
Breakfast Foods .. .. .	"	10.6	13.4	13.5	12.7	13.3	13.9
Rice (milled) .. .. .	"	4.0	0.9	3.7	3.7	3.7	3.7
Tapioca, Sago, etc. .. .. .	"	1.2	0.7	0.3	0.2	0.3	0.2
Pearl Barley .. .. .	"	1.0	0.5	0.4	0.4	0.4	0.4
Barley Meal and Polished Wheat (Rice substitute) .. .. .	"	..	0.5	0.1	0.1	(i)	(i)
Edible Starch (Cornflour) .. .. .	"	1.4	1.4	0.6	0.5	0.5	0.7
<i>Total .. .. .</i>	"	<i>205.3</i>	<i>219.3</i>	<i>200.0</i>	<i>194.8</i>	<i>195.4</i>	<i>188.9</i>
<b>Beverages—</b>							
Tea .. .. .	"	6.9	6.5	6.0	5.8	6.0	5.9
Coffee .. .. .	"	0.6	1.0	1.3	1.6	1.7	1.7
Beer .. .. .	Gallon	11.7	16.9	22.7	22.2	22.6	22.6
Wine .. .. .	"	0.6	1.3	1.1	1.1	1.2	1.1
Spirits .. .. .	Pf. gal.	0.2	0.3	0.3	0.3	0.3	0.3

(a) Subject to revision. (b) Not available. (c) Edible weight. (d) Included with fresh.  
(e) Not comparable with data prior to 1960-61 in which year the average weight of an egg was altered in calculations from 1.75 oz. to 2 oz. (f) In terms of weight of shell eggs. (g) Includes fresh equivalent of manufactured products. (h) Probably understated owing to lack of complete data.  
(i) Less than 0.05 lb.

2. Level of Nutrient Intake.—The table below shows details of the estimated supplies of nutrients available for consumption in Australia during annual periods since 1958-59 in comparison with the annual average for the three-year periods ended 1938-39, 1948-49 and 1958-59. The table has been compiled by the Nutrition Section of the Commonwealth Department of Health and is based on the estimates of the quantity of foodstuffs available for consumption per head of population shown in the preceding table.

ESTIMATED SUPPLIES OF NUTRIENTS AVAILABLE FOR CONSUMPTION:  
AUSTRALIA.

(Per Head per Day.)

Nutrient.	Unit.	Average three years ended—			1958-59.	1959-60.	1960-61. (a)
		1938-39.	1948-49.	1958-59.			
Calories .. ..	No.	3,117	3,245	3,297	3,294	3,325	3,226
Protein—							
Animal .. ..	gm.	58.7	57.4	59.6	60.3	60.5	58.8
Vegetable ..	..	30.9	35.3	32.3	32.3	32.2	31.4
Total .. ..	..	89.6	92.7	91.9	92.6	92.7	90.2
Fat .. ..	..	133.5	121.7	131.7	133.4	135.3	132.0
Carbohydrate ..	..	377.4	424.8	416.7	412.0	415.3	398.0
Calcium .. ..	mgm.	642	785	817	818	854	900
Iron .. ..	..	15.4	15.1	14.0	14.1	14.0	13.5
Vitamin A(b) ..	I.U.	4,905	4,630	4,568	4,351	4,277	4,165
Ascorbic Acid ..	mgm.	86	96	89	88	90	85
Thiamine .. ..	..	1.4	1.5	1.3	1.3	1.3	1.3
Riboflavin .. ..	..	1.7	1.9	1.8	1.8	1.9	1.9
Niacin .. ..	..	18.7	17.6	18.6	19.0	18.9	18.0

(a) Subject to revision. (b) The Vitamin A figures for all periods prior to 1960-61 have been revised on the new basis of estimating total Vitamin A activity, used in 1960-61 i.e., by summing the Vitamin A content and one-third of the carotene value.

## § 4. Patents, Trade Marks and Designs.

1. Patents.—(i) *General.* Patents for inventions are granted under the Patents Act 1952-1960, which applies to the Commonwealth of Australia and the Territories of Norfolk Island, Papua and New Guinea. The Act is administered by a Commissioner of Patents. The principal fees payable up to and including the grant of a patent amount to £19 10s. Renewal fees are payable as follows:—£5 before the expiration of the fourth year, and an amount progressively increasing by £1 before the expiration of each succeeding year up to the final fee of £16, payable before the expiration of the fifteenth year. An extension of time for six months for payment of a renewal fee may be obtained.

(ii) *Summary.* The number of separate inventions in respect of which applications were filed and the number of letters patent sealed during the years 1957 to 1961 are shown in the following table.

## PATENTS : AUSTRALIA.

Particulars.	1957.	1958.	1959.	1960.	1961.
Applications .. ..	9,899	10,511	11,430	11,828	12,901
Applications accompanied by provisional specifications ..	3,683	3,919	4,063	3,772	3,919
Letters patent sealed ..	6,407	6,093	5,488	4,857	4,940

2. Trade Marks and Designs.—(i) *Trade Marks.* Under the trade marks Act 1955-1958 the Commissioner of Patents is also Registrar of Trade Marks. This Act has replaced the Trade Marks Act 1905-1948.

Provision is made for the registration of users of trade marks and for their assignment with or without the goodwill of the business concerned.



A new classification of goods has been adopted and trade marks registered under the repealed Acts are reclassified on renewal.

(ii) *Designs.* Under the Designs Act 1906–1950, the Commissioner of Patents is also Registrar of Designs.

(iii) *Summary.* The following table shows the applications for trade marks and designs received and registered during the years 1957 to 1961.

**TRADE MARKS AND DESIGNS : AUSTRALIA.**

Particulars.	1957.	1958.	1959.	1960.	1961.
<b>Trade Marks—</b>					
Received .. ..	4,589	5,331	5,436	6,083	6,209
Registered .. ..	3,569	4,219	3,792	3,203	4,592
<b>Designs—</b>					
Received .. ..	1,394	1,362	1,366	1,283	1,413
Registered .. ..	917	1,758	819	1,507	1,522

3. *Revenue.*—Revenue of the Commonwealth Patent, Trade Marks, Design and Copyright Offices for the years 1957 to 1961 was as follows:—1957, £302,279; 1958, £347,659; 1959, £348,523; 1960, £417,047; 1961, £552,610.

### § 5. Copyright.

1. *Legislation.*—Copyright is regulated by the Commonwealth Copyright Act 1912–1950 wherein, subject to modifications relating to procedure and remedies, the British Copyright Act of 1911 has been adopted and scheduled to the Australian law. The Act is administered by the Commissioner of Patents.

Reciprocal protection of unpublished works was extended in 1918 to citizens of Australia and of the United States of America, under which copyright may be secured in the latter country by registration at the Library of Congress, Washington. The Commonwealth government promulgated a further Order in Council which came into operation on 1st February, 1923, and extended the provisions of the Copyright Act to the foreign countries of the Copyright Union, subject to the observance of the conditions contained therein.

2. *Applications and Registrations.*—The following table shows under the various headings the number of applications for copyright lodged and registered for the years 1957 to 1961.

**COPYRIGHT : AUSTRALIA.**

Particulars.	1957.	1958.	1959.	1960.	1961.
<b>Applications lodged—</b>					
Literary .. ..	1,064	1,078	1,153	1,042	1,088
Artistic .. ..	38	74	65	53	65
International .. ..	..	..	..	..	..
<b>Applications registered—</b>					
Literary .. ..	870	1,100	1,038	916	1,005
Artistic .. ..	26	38	47	61	37
International .. ..	..	..	..	..	..

## § 6. The United Nations.

1. **General.**—The Moscow Declaration of 1943 concerning a new international organization for the maintenance of international peace and security marked the end of the League of Nations. The dissolution of the League and the transfer of certain of its functions to the new body, the United Nations, took place over subsequent years. Information concerning the League of Nations was given in No. 35 and earlier issues of the *Official Year Book*.

The Charter of the United Nations was drawn up by the delegates of 50 nations at the United Nations Conference on International Organization at San Francisco from 25th April to 26th June, 1945. Australia's ratification was deposited on 1st November, 1945.

The full record of the Conference is contained in the *Report by the Australian Delegates on the United Nations Conference on International Organization* held at San Francisco from 25th April to 26th June, 1945.

At San Francisco, an Executive Committee and a Preparatory Commission were established, and when these bodies had completed their work of preparation for the first meeting of the United Nations, the General Assembly met in London on 10th January, 1946.

There were 51 original members. By the end of the Sixteenth Session (28th June, 1962), 53 new members had been admitted. There were then 104 member States, namely:—Afghanistan, Albania, Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Burma, Byelorussia, Cambodia, Cameroun, Canada, Central African Republic, Ceylon, Chad, Chile, China, Colombia, Congo (Brazzaville), Congo (Leopoldville), Costa Rica, Cuba, Cyprus, Czechoslovakia, Dahomey, Denmark, the Dominican Republic, Ecuador, El Salvador, Ethiopia, Finland, France, Gabon, Ghana, Greece, Guatemala, Guinea, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran, Iraq, the Republic of Ireland, Israel, Italy, Ivory Coast, Japan, Jordan, Laos, Lebanon, Liberia, Libya, Luxembourg, Madagascar, Malaya, Mali, Mauritania, Mexico, Mongolia, Morocco, Nepal, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, the Philippines, Poland, Portugal, Romania, Saudi Arabia, Senegal, Sierra Leone, Somalia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Tanganyika, Thailand, Togo, Tunisia, Turkey, the Ukraine, the Union of Soviet Socialist Republics, the United Arab Republic, the United Kingdom, the United States of America, Upper Volta, Uruguay, Venezuela, Yemen and Yugoslavia.

The principal organs of the United Nations are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the International Court of Justice and the Secretariat.

2. **General Assembly.**—This is the forum of the United Nations. In it, each member State is represented and has one vote. It meets in regular annual sessions from the middle of September and has provision for special sessions. With the exception of disputes which are before the Security Council and matters essentially within the domestic jurisdiction of any State, it has power to discuss any matter within the scope of the Charter and to make recommendations upon it. The Assembly elects the non-permanent members of the other major organs and considers annual reports from them. Upon the recommendation of the Security Council, it may expel a member which has persistently violated the principles of the Charter.

3. **The Security Council.**—This has the primary responsibility for the maintenance of international peace and security. It is composed of five permanent members, namely China, France, the United Kingdom, the Union of Soviet Socialist Republics and the United States of America, and six non-permanent members with two-year periods of office, of whom three retire at the end of each year. At the initial election, three countries, including Australia, were elected for a term of two years and three others for a term of one year only. The following are the non-permanent members of the Security Council for the year beginning on 1st January, 1962; Chile, the Republic of Ireland and the United Arab Republic (whose terms end on 31st December, 1962); Ghana and Venezuela (whose terms expire on 31st December, 1963) and Romania. Following an agreement reached during the sixteenth Session, Romania should retire at the end of 1962, and the Philippines should be elected for the remaining year of the term. On procedural matters, decisions are taken by an affirmative vote of any seven members, but on all other matters decisions can be made only on the affirmative vote of seven members, including the concurring votes of all the permanent members. However, members which are parties to a dispute submitted for peaceful settlement do not vote.

The Security Council is assisted by a Military Staff Committee consisting of the Chiefs of Staff of the permanent members of the Council or their representatives.

4. **The Economic and Social Council.**—This body consists of eighteen members, each elected for a period of three years. Its main functions are to make, or initiate, studies and reports, and to make recommendations to the General Assembly or to members of the United Nations upon international, economic, social, cultural, educational, health and related matters. It may make recommendations for the purpose of promoting respect for, and observance of, human rights and fundamental freedoms for all.

The members of the Economic and Social Council for the year beginning on 1st January, 1962, are: Brazil, Denmark, Japan, Poland, the United Kingdom and the Union of Soviet Socialist Republics (retiring at the end of 1962); Ethiopia, El Salvador, France, Italy, Jordan and Uruguay (retiring at the end of 1963); and Australia, Colombia, Senegal, the United States of America, Yugoslavia and India (retiring at the end of 1964).

5. **The Trusteeship Council.**—The Charter declares the political, social, cultural and economic advancement of the Trust Territories to be a sacred trust. Under the Charter, the Trusteeship Council should be composed of those members of the United Nations who are administering trust territories and an equal number of members who are not administering trust territories (including any permanent members of the Security Council who are not administering trust territories). Territories which may be placed under trusteeship in accord with individual trusteeship agreements are those previously held under mandate, those detached from enemy states as a result of the 1939–45 War, and those dependent territories placed under the system by the States responsible for their administration. Australia is automatically a member of the Trusteeship Council, as the power administering the Trust Territories of New Guinea and Nauru, the latter in joint administration with New Zealand and the United Kingdom. The present\* members of the Trusteeship Council are: Australia, Belgium, New Zealand, the United Kingdom and the United States of America (administering States), and Bolivia, China, France, India and the Union of Soviet Socialist Republics. China, France and the Union of Soviet Socialist Republics are members of the Trusteeship Council by virtue of their permanent membership of the Security Council.

The Council has among its duties the consideration of annual reports submitted by the trustee States, the carrying out of periodic inspections by agreement with them, and the formulation of questionnaires on the welfare and advancement of the dependent peoples.

6. **The International Court of Justice.**—This consists of fifteen judges, no two of whom may be nationals of the same State. Its jurisdiction comprises all cases which the parties refer to it, and all matters especially provided for in the Charter or in treaties and conventions in force. Provision exists in the Statute of the Court whereby States, parties to the Statute, may accept the jurisdiction of the Court as compulsory, either conditionally or unconditionally in certain international disputes.

The present\* members of the Court are: Judges Alfaro (Panama), Sir Gerald Fitzmaurice (United Kingdom), Basdevant (France), Cordova (Mexico), and Quintana (Argentina)—all retiring in 1964; Judges Badawi (United Arab Republic), Wellington Koo (China), Winiarski (Poland), Sir Percy Spender (Australia) and Spiropoulos (Greece)—all retiring in 1967; and Judges Jessup (United States of America), Koretsky (U.S.S.R.), Tanaka (Japan), Morelli (Italy), Bustamante y Rivero (Peru), all retiring in 1970. Sir Gerald Fitzmaurice was elected at the Fifteenth Session (1960) to fill the casual vacancy caused by the death of Sir Hersch Lauterpacht.

7. **The Secretariat.**—The Secretary-General is the head of the Secretariat of the Organization. He is appointed by the General Assembly upon the recommendation of the Security Council, and he appoints his staff in accordance with the rules approved by the General Assembly. Mr. Trygve Lie (Norway) was appointed first Secretary-General, and at the Sixth Session of the General Assembly in 1950 his appointment was extended for a further three years as from 1st February, 1951. In November, 1952, Mr. Lie announced his intention of retiring, and in April, 1953, Mr. Dag Hammarskjöld (Sweden) was appointed in his place. He was re-appointed for a further five years in September, 1957, but was killed on 18th September, 1961, in an aircraft crash. U Thant (Burma) was appointed on 3rd November, 1961, to act for the remainder of the term (until 10th April, 1963).

\* June, 1962.

8. **Specialized Agencies.**—In addition to these organs of the United Nations, there are specialized agencies which co-operate closely with the United Nations in many fields on economic and social questions.

Those now\* in operation are: International Labour Organization; Food and Agriculture Organization; United Nations Educational, Scientific and Cultural Organization; International Civil Aviation Organization; International Bank for Reconstruction and Development; International Monetary Fund; International Finance Corporation; International Development Association; Universal Postal Union; World Health Organization; International Telecommunications Union; World Meteorological Organization; Intergovernmental Maritime Consultative Organization.

To enable co-ordination of the work of the specialized agencies, arrangements have been made for them to submit reports on their activities and budgets to the United Nations where they are discussed by the Economic and Social Council and the General Assembly.

## § 7. Australian Representation Abroad : Oversea Representation in Australia.

1. **General.**—The following statements show particulars of the various Australian diplomatic and other representatives overseas and of oversea representatives in Australia in October, 1962. Full details of Commonwealth and foreign representation in Australia—diplomatic and consular—and of permanent Australian missions overseas may be obtained from publications issued by the Department of External Affairs, Canberra. A statement is issued each quarter by the Department of Trade, showing the latest particulars of the Australian Trade Commissioner Service overseas.

### 2. Australian Representation Overseas.—

#### AUSTRALIAN DIPLOMATIC AND OTHER REPRESENTATIVES OVERSEAS.

Her Majesty's Australian Ambassador Extraordinary and Plenipotentiary to—

*Argentina* (Buenos Aires)—(Vacant); H. W. Bullock (Chargé d'Affaires *ad interim*).

*Belgium* (Brussels)—W. R. Crocker, C.B.E.

*Brazil* (Rio de Janeiro)—O. L. Davis.

*Burma* (Rangoon)—(Vacant); F. T. Homer (Chargé d'Affaires *ad interim*).

*Cambodia* (Phnom Penh)—N. St. C. Deschamps.

*France* (Paris)—Dr. E. R. Walker, C.B.E.

*Germany, Federal Republic of* (Bonn)—F. J. Blakeney.

*Indonesia* (Djakarta)—K. C. O. Shann.

*Ireland* (Dublin)—(Vacant); H. D. White (Chargé d'Affaires *ad interim*).

*Israel* (Tel Aviv)—(Vacant); J. H. A. Hoyle (Chargé d'Affaires *ad interim*).

*Italy* (Rome)—A. T. Sterling, C.B.E.

*Japan* (Tokyo)—L. R. McIntyre, C.B.E.

*Korea* (Seoul)—(Vacant); J. D. Pethebridge (Chargé d'Affaires *ad interim*).

*Nepal*—(Vacant); W. B. Prichett (Chargé d'Affaires *ad interim*) (resident in New Delhi).

*The Netherlands* (The Hague)—W. R. Crocker, C.B.E.

*The Philippines* (Manila)—T. W. Cutts.

*South Africa* (Pretoria)—J. C. G. Kevin.

*Thailand* (Bangkok)—M. R. Booker.

*Union of Soviet Socialist Republics* (Moscow)—S. Jamieson.

*United Arab Republic* (Cairo)—F. H. Stuart.

*United States of America* (Washington, D.C.)—The Hon. Sir Howard Beale, K.B.E., Q.C.

*Vietnam* (Saigon)—B. C. Hill.

**High Commissioner for Australia in—**

*Britain* (London)—The Rt. Hon. Sir Eric Harrison, K.C.M.G., K.C.V.O.  
*Canada* (Ottawa)—D. O. Hay, D.S.O., M.B.E.  
*Ceylon* (Colombo)—B. C. Ballard.  
*Ghana* (Accra)—(Vacant); N. C. K. Evers (Acting).  
*India* (New Delhi)—(Vacant); W. B. Pritchett (Acting).  
*Malaya, Federation of* (Kuala Lumpur)—T. K. Critchley.  
*New Zealand* (Wellington)—The Hon. Dr. D. A. Cameron.  
*Nigeria* (Lagos)—A. P. Renouf.  
*Pakistan* (Karachi)—D. W. McNicol.  
*Tanganyika* (Dar-es-Salaam)—A. F. Dingle.

**Her Majesty's Australian Envoy Extraordinary and Minister Plenipotentiary to—**

*Laos* (Vientiane)—A. M. Morris.  
*Sweden* (Stockholm)—(Vacant); F. R. Gullick (Chargé d'Affaires).

**Australian Military Mission in—**

*Germany, Federal Republic of* (Berlin)—Head, F. J. Blakeney.

**Australian Mission to—**

*European Economic Community*—Head, Sir Edwin McCarthy C.B.E. (Resident in London).  
*United Nations* (New York)—Ambassador, Sir James Plimsoll, C.B.E.  
*United Nations* (Geneva)—Permanent Representative, R. W. Furlonger.

**Australian Commissioner in—**

*Singapore, Brunei, Sarawak and North Borneo* (Singapore)—G. A. Jockel.

**Consul-General in—**

*Greece* (Athens)—G. V. Greenhalgh.  
*Switzerland* (Geneva)—R. W. Furlonger.  
*United States of America* (New York)—A. R. Cutler, V.C., C.B.E.  
*United States of America* (San Francisco)—(Vacant); K. McCloskey (Acting).

**Consul in—**

*Denmark* (Copenhagen)—C. L. Waterman (Acting).  
*New Caledonia* (Noumea)—K. R. Douglas-Scott.  
*Portugese Timor* (Dili)—J. S. Dunn.  
*United States of America* (New York)—W. H. Bray.

**Trade Commissioner Service of the Commonwealth of Australia in—**

*Britain*—G. P. Phillips, Special Commercial Adviser; D. H. McKay, Trade Commissioner and Agricultural Representative (London).  
*Canada*—G. B. Zegelin, Acting Trade Commissioner (Montreal); W. R. Carney, Commercial Counsellor and Trade Commissioner (Ottawa).  
*Ceylon*—F. V. Street, Commercial Counsellor and Trade Commissioner (Colombo).  
*France*—L. Corkery, Trade Commissioner (Paris).  
*Germany, Federal Republic of*—R. K. Scott, Commercial Counsellor and Trade Commissioner (Bonn).  
*Ghana*—A. C. Schrape, Trade Commissioner (Accra).  
*Greece*—D. L. Crawford, Commercial Counsellor and Trade Commissioner (Athens).  
*Hong Kong*—R. W. Holberton, Senior Trade Commissioner (Victoria).  
*India*—L. C. Holmes, Commercial Counsellor and Senior Trade Commissioner (New Delhi); G. M. Carr, Trade Commissioner (Bombay); N. S. Pantou, Trade Commissioner (Calcutta).  
*Indonesia*—M. J. S. Knowles, Commercial Counsellor and Trade Commissioner (Jakarta).

- Italy*—F. P. Donovan, Trade Commissioner (Rome).  
*Japan*—P. R. Searcy, Commercial Counsellor and Senior Trade Commissioner (Tokyo).  
*Kenya*—J. M. Keddie, Trade Commissioner (Nairobi).  
*Lebanon*—H. M. Le Marchand, Trade Commissioner (Beirut).  
*Malaya, Federation of*—M. G. B. Coultas, Acting Commercial Counsellor and Trade Commissioner (Kuala Lumpur).  
*New Zealand*—D. F. McSweeney, Trade Commissioner (Wellington); C. L. Steele, Trade Commissioner (Auckland); S. D. Shubart, Trade Commissioner (Christchurch).  
*Pakistan*—D. M. Walker, Commercial Secretary and Trade Commissioner (Karachi).  
*Peru*—M. F. Roberts, Trade Commissioner (Lima).  
*The Philippines*—P. G. Gilmour, Commercial Counsellor and Trade Commissioner (Manila).  
*Rhodesia and Nyasaland, Federation of*—K. F. McKernan, Trade Commissioner (Salisbury).  
*Singapore*—W. Cairns, Commercial Counsellor and Trade Commissioner (Singapore).  
*South Africa*—J. L. Chapman, Trade Commissioner (Johannesburg).  
*Sweden*—F. R. Gullick, Senior Trade Commissioner; M. R. Ballantine, Assistant Trade Commissioner (Stockholm).  
*Thailand*—R. J. C. Schneeman, Commercial Counsellor and Trade Commissioner (Bangkok).  
*United Arab Republic (Cairo)*—F. G. Atkins, Commercial Counsellor and Trade Commissioner.  
*United States of America*—A. R. Callaghan, C.M.G., Commercial Counsellor and Trade Commissioner (Washington); H. C. Menzies, Senior Trade Commissioner (New York); B. T. Connolly, Trade Commissioner (San Francisco); D. R. Johns, Trade Commissioner (Chicago); A. J. Bennett, Agricultural Attaché and Assistant Trade Commissioner (Washington).  
*Venezuela*—J. S. Nicholls, Trade Commissioner (Caracas).  
*West Indies, Federation of*—L. J. Martin, Trade Commissioner (Port of Spain).

**Australian Trade Correspondent in—**

- Fiji*—P. O'Halloran (Suva).  
*Formosa*—E. J. N. Mycock (Taipei).  
*Hawaii*—R. E. Waddy (Honolulu).  
*Malta*—P. H. Toledo (Valletta).  
*Mauritius*—J. L. B. Cowan (Curepipe).  
*Mexico*—N. Pelham Wright (Mexico City).  
*South America*—Captain H. Cross (Montevideo).  
*Spain*—E. E. Glaisher (Madrid).

**Australian Marketing Officer in—**

- Burma*—J. N. Carpenter (Rangoon).  
*United States of America*—Mrs. B. Wilson (Los Angeles).

3. **Oversea Representation in Australia.**—Consular representatives are not included in the following statement. Particulars of these are contained in a publication *Consular Representatives and Trade Commissioners in Australia*, issued by the Department of External Affairs, Canberra. There are more than 180 such representatives in Australia, and 53 countries are represented.

## DIPLOMATIC REPRESENTATIVES IN AUSTRALIA.

**Ambassador Extraordinary and Plenipotentiary of—**

- Argentina*—(Vacant); Mr. G. T. Conti (Chargé d'Affaires *ad interim*) (Sydney 32 4315).
- Belgium*—His Excellency Monsieur Willy Stevens (Canberra 7 2501).
- Brazil*—(Vacant); Senhor Edmundo Radwanski (Chargé d'Affaires *ad interim*) (Canberra 9 2680).
- Burma*—His Excellency U Anug Shwe (Canberra 7 1451).
- Cambodia*—His Excellency Mr. Poc Thieun (Canberra 7 2517).
- China*—His Excellency Dr. Chen Chih-Mai (Canberra 9 4030).
- France*—His Excellency Monsieur Phillipe Monod (Canberra 7 1454).
- Germany Federal Republic of*—Herr Wilhelm Fabricius (Chargé d'Affaires *ad interim*) (Canberra U 1553).
- Greece*—His Excellency Monsieur P. Annino Cavalierato (Canberra 9 0144).
- Indonesia*—His Excellency Brigadier-General Suadi Suromihardjo (Canberra 7 1221).
- Ireland*—(Vacant); Mr. Sean Kennan (Chargé d'Affaires *ad interim*) (Canberra 4 3251).
- Israel*—His Excellency Mr. Moshe Yuval (Canberra 7 1309).
- Italy*—His Excellency Dr. Renato Della Chiesa D'Isasca (Canberra 7 2529).
- Japan*—His Excellency Mr. Saburo Ohta (Canberra 7 1251).
- Korea*—His Excellency Mr. Dong Whan Lee (Sydney 32 1961).
- The Netherlands*—His Excellency Dr. J. G. de Beus (Canberra 7 1256).
- The Philippines*—His Excellency Mr. M. Ezeleta (Canberra 7 8390).
- Portugal*—(Vacant); Senhor Manuel de Almeida Coutinho (Chargé d'Affaires *ad interim*) (Canberra 9 1992).
- South Africa*—His Excellency Mr. H. H. Woodward (Canberra 9 4000).
- Switzerland*—His Excellency Mr. F. Gygax (Canberra 7 7128).
- Thailand*—His Excellency Nai Vadhana Isarabhakdi (Canberra 7 8101).
- Union of Soviet Socialist Republics*—His Excellency Mr. Ivan F. Kurdiukov (Canberra 9 1033).
- United Arab Republic*—His Excellency Mr. M. Yusef (Canberra 7 7289).
- United States of America*—His Excellency Mr. William C. Battle (Canberra 7 1351).
- Vietnam*—His Excellency Mr. Tran Van Lam (Canberra 7 7240).

**High Commissioner for—**

- Britain*—His Excellency Lieutenant-General Sir William Oliver, K.C.B., K.C.M.G., O.B.E., D.L. (Canberra 7 2211).
- Canada*—His Excellency Mr. E. W. T. Gill (Canberra 7 1304).
- Ceylon*—His Excellency Mr. W. D. Gunaratna, O.B.E. (Canberra 9 0121).
- India*—His Excellency Shri B. K. Massand (Canberra J 3209).
- Malaya, Federation of*—His Excellency Dato Sulciman bin Dato Abdul Rahman, P.M.N., S.P.M.J. (Canberra 7 1543).
- New Zealand*—His Excellency Mr. S. C. Johnston (Canberra 7 1030).
- Pakistan*—His Excellency Mr. K. M. Kaiser, S.Q.A. (Canberra 9 0021).

**Envoy Extraordinary and Minister Plenipotentiary of—**

- Austria*—(Vacant); Dr. W. de Comtes (Chargé d'Affaires) (Canberra 4 6688).
- Chile*—(Vacant); Mr. G. Bucchi (Chargé d'Affaires) (Sydney 36 7442).
- Denmark*—(Vacant); Mr. Nils C. Stenderup (Chargé d'Affaires) (Sydney 28 3547).
- Finland*—(Vacant); Mr. T. I. Kala (Chargé d'Affaires) (Sydney 36 1252).
- Sweden*—His Excellency M. Nils-Eric Ekblad (Canberra 7 1421).

**Commissioner for—**

- Malta*—Captain George F. L. Stivala, O.B.E. (Melbourne 26 2438).

## TRADE COMMISSIONERS OF OVERSEA GOVERNMENTS IN AUSTRALIA.

*Britain*—Senior British Trade Commissioner (Minister)—Mr. F. B. Arnold, C.M.G., O.B.E. (Canberra 7 2211).

British Trade Commissioners—Messrs. H. W. Woodruff and A. F. Collings (Canberra 7 2211); Messrs. A. R. Bruce, O.B.E., N. L. Hibbs and J. R. Morley (Sydney 27 7521); Messrs. J. W. Stoodley and G. J. Husted (Melbourne 67 7254); Mr. N. A. Pinch (Brisbane 2 2307); Mr. J. D. Leithead (Perth 21 2042); Mr. M. E. Browne (Adelaide 51 4011).

*Canada*—Canadian Trade Commissioners—Mr. S. V. Allen (Sydney 27 7565) and Mr. H. A. Gilbert (Melbourne 61 3473).

*Ceylon*—Ceylon Trade Commissioner—Mr. M. C. M. Shibly (Sydney 25 5039).

*India*—Indian Trade Commissioner—Shri G. L. Puri (Sydney 27 5767).

*Malaya*—Malayan Trade Commissioner—Inche Bahadun bin Haji Hassan (Sydney 27 5298–9).

*New Zealand*—Senior New Zealand Trade Commissioner—Mr. C. H. Fowler (Sydney 25 3941).

New Zealand Government Trade Commissioners—Mr. A. C. Davys (Melbourne 67 8111); Dr. W. A. Brooker (Sydney 25 3941).

## § 8. Retail Trade.

1. *General*.—The statistics in this section relate to the number of retail establishments throughout Australia and the value of retail sales of goods by these establishments.

Information of this nature was first collected in respect of the year ended 30th June, 1948, by a full census of all retail establishments. As this was the first census of its type in Australia, its scope and the data sought were the minima consistent with the objective of securing a record of the number of such establishments, their type, their geographical distribution, their aggregate sales of goods and a simple commodity dissection together with a record of the value of certain services provided. This census was followed by a second census of all retail establishments trading during the year ended 30th June, 1949.

A third census was taken for the year ended 30th June, 1953, in which retailers were asked to furnish more detailed information concerning the dissection of their turnover into commodity groups, and questions were asked about stocks of goods on hand, the number of persons engaged in the business, and credit sales.

A further census was taken in respect of the year ended 30th June, 1957. The scope of this census followed the same general principles adopted for the previous census, but some additional questions were asked about type of organization, purchases and customers' indebtedness.

In general terms, the censuses covered the retail trading activities of establishments which normally sell goods by retail to the general public from fixed premises (i.e. shops, rooms, kiosks and yards). Certain types of "service" establishments were also included, e.g., boot repairers, hairdressers, motor garages and service stations and cafés. The censuses included the retail sales of those factories or wholesalers who conducted a regular retail business, but excluded those who only occasionally sold goods by retail. Both new and second-hand goods were included in sales recorded by relevant retail establishments.

During the period between censuses, variations in the value of retail sales have been measured by means of quarterly sample surveys. Annual totals derived from these surveys and some of the results of the 1956–57 census are contained in this section. Previous issues of this Year Book contain considerable detail from the information derived at the 1956–57 census (see Official Year Book No. 47, 1961, pp. 1149–52).

A census has been taken for the year 1961–62, but results therefrom are not yet available.

2. *Value of Retail Sales in Each Commodity Group, Australia*.—The following table shows the value of retail sales of goods in each of the commodity groups specified in the years 1954–55 to 1960–61 on a comparable basis throughout. The figures for the year 1956–57 were obtained from the census taken in respect of that year, whereas figures for the other years shown are estimates based on sample surveys.



VALUE OF RETAIL SALES: COMMODITY GROUPS, AUSTRALIA.(a)  
(£ million.)

Commodity Group.	Year ended 30th June—						
	1955.	1956.	1957.	1958.	1959.	1960.	1961.(b)
Groceries .. ..	302.0	328.7	343.9	358.3	377.3	403.9	434.2
Butchers' Meat .. ..	146.9	158.7	170.1	170.8	178.6	193.5	211.0
Other Food (c) .. ..	246.5	269.2	282.8	294.5	314.1	343.6	363.1
<i>Total Food and Groceries</i> .. ..	<i>695.4</i>	<i>756.6</i>	<i>796.8</i>	<i>823.6</i>	<i>870.0</i>	<i>941.0</i>	<i>1,008.3</i>
Beer, Wine and Spirits (d) ..	204.3	222.1	237.5	248.2	245.1	259.5	264.8
Clothing and Drapery .. ..	419.3	433.3	380.8	451.0	404.7	444.2	463.5
Footwear .. ..	135.6	143.9	59.3	145.1	64.9	72.6	76.9
Hardware(e) .. ..	99.0	104.6	144.2	145.1	157.5	169.1	172.8
Electrical Goods(f) .. ..	86.4	91.8	113.0	137.7	159.5	195.1	186.9
Furniture and Floor Coverings .. ..	86.4	91.8	92.5	97.6	99.8	117.0	119.3
Chemists' Goods .. ..	368.2	398.3	76.9	439.0	95.4	105.4	117.4
Newspapers, Books and Stationery .. ..	368.2	398.3	69.3	439.0	74.9	81.3	85.3
Other Goods(g) .. ..	2,008.2	2,150.6	2,247.8	2,342.2	2,453.5	2,691.3	2,821.4
<i>Total (excluding Motor Vehicles, etc.)</i> .. ..	<i>2,008.2</i>	<i>2,150.6</i>	<i>2,247.8</i>	<i>2,342.2</i>	<i>2,453.5</i>	<i>2,691.3</i>	<i>2,821.4</i>
Motor Vehicles, Parts, Petrol, etc.(h) .. ..	571.6	613.2	631.4	684.6	744.6	894.9	895.6

(a) Excludes Northern Territory and Australian Capital Territory. (b) Subject to revision.  
(c) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, cooked provisions, fish, etc., but excludes some delivered milk and bread. (d) Excludes sales made by licensed clubs, canteens, etc. (e) Excludes basic building materials (e.g. timber, building sheets, tiles, joinery, cement). (f) Includes radios, television and accessories, musical instruments, domestic refrigerators, etc. (g) Includes tobacco, cigarettes, etc., grain and produce, jewellery, office equipment, etc. (h) Includes tractors, new and used motor vehicles, parts, petrol, etc., but excludes farm machinery and implements, earth-moving equipment, etc.

3. Census of Retail Establishments, 1956-57.—Previous issues of this Year Book contain tables showing particulars of the number of retail establishments and the value of retail sales according to commodity groups and main type of business in each State and Territory, as derived from information collected at the 1956-57 Census of retail Establishments (see Official Year Book No. 47, 1961, pp. 1149-52).

## CHAPTER XXXI.

## STATISTICAL ORGANIZATION AND SOURCES OF INFORMATION.

## § 1. Statistical Organization in Australia.

1. **Early Development of Australian Statistics.**—(i) *Crown Colony "Blue Books"*. Statistical organization in Australia was founded in the "Blue Books" which, in the Crown Colony days, were prepared annually for the information of the Colonial Office. Although primarily intended for administrative purposes, these documents have been important sources of statistical data, even though some important matters are not covered, and others only partially so. These "Blue Books" formed the basis from which later statistical publications were developed. This led to an element of uniformity in statistical compilation within the British Empire.

(ii) *Statistical Registers*. Following the advent of responsible government, which was granted during the period 1851–1860 to all Australian States except Western Australia—and to that State in 1890—the "Blue Book" was succeeded in all States by "Statistical Registers". These were in many respects the old "Blue Books" in a new form, and were largely confined to summaries of the "by-product" statistics of government administrative departments.

The first example of extensive government organization for purely statistical purposes was the taking of periodic population censuses, which were initiated in all States under the Crown Colony régime. The growing need for quantitative data concerning the progress of the several young communities of Australia eventually led to the appointment of official Statisticians commissioned to prepare and publish such data.

(iii) *Statistical Conferences*. To enable the interchange of ideas between States and to obtain uniform State statistics which could be aggregated to Australian totals, conferences were held in the several States from as early as 1861. Altogether, six conferences were held prior to the formation of the Commonwealth Bureau of Census and Statistics in 1906. These were held in 1861, 1875, 1890, 1900, 1902 and 1903. The holding of these conferences has been continued since the formation of the Commonwealth Bureau, and a representative from New Zealand attended up to 1928.

2. **Creation of the Commonwealth Bureau of Census and Statistics.**—Under the provisions of section 51 of the Commonwealth Constitution, power is conferred on the Commonwealth Parliament "to make laws for the peace, order and good government of the Commonwealth with respect to—" (*inter alia*) "(XI.) Census and statistics". In compliance with this provision, the Census and Statistics Act 1905 was passed, and in 1906 the Commonwealth Bureau of Census and Statistics was created. A conference of Statisticians in 1906 defined the relations between the Commonwealth and State Bureaux, and in each case the State Statistician became the representative in his own State of the Commonwealth Statistician for the purpose of administering the Commonwealth Act. In addition, each State has its own "Statistics Act", and although these are not identical in all States, they embody common principles. The Commonwealth Bureau did not attempt to duplicate the existing statistical organization, but endeavoured to use the services of the State statistical offices whenever possible, and to undertake the initial collection of statistics only in fields not already occupied by the States, or in which efficiency demanded complete centralization.

3. **Integration of Statistical Services.**—The creation and development of the Commonwealth Bureau of Census and Statistics, the frequent conferences of Commonwealth and State Statisticians, and the close and increasing liaison between officers dealing with the same subjects in the State and Commonwealth fields, did much to promote uniformity in the official statistical collections and methods employed throughout Australia. The complete realization of this aim could not, however, be achieved, even with the utmost co-operation of those concerned, while seven distinct statistical systems operated.

This became apparent after the 1914–18 War, when the economic problems that then arose drew attention to deficiencies in Australian statistical data. With a view to overcoming these weaknesses, the Prime Minister of the day proposed to the Premiers' Conference that State statistical offices be transferred to the Commonwealth. Tasmania alone agreed to this, and the transfer was effected in 1924. Since then, an amalgamated office has functioned satisfactorily in that State as a Commonwealth office which also serves State statistical needs.

The boom of the 1920's, the depression of the 1930's, the 1939-45 War, and the post-war boom, each with its special economic problems, imposed a severe strain on the Commonwealth and State statistical systems. Moreover, the development during and since the 1939-45 War of a very considerable volume of new statistics added greatly to the complexities of the several administrations in their efforts to secure, and maintain, uniformity in statistical collections. The establishment of Commonwealth statistical offices in some State capitals ameliorated the situation to some extent—indeed, without their establishment, the new and expanded statistical collections could not have been carried out at all. However, this did not solve the problem and constituted only one of a number of improvisations devised to obtain uniform data essential for national purposes, and to satisfy urgent demands for new series of statistics. Furthermore, the excessive amount of time and effort entailed in such improvisations made it impossible to devote the necessary time to the major question of meeting growing statistical needs promptly.

The emergence of the problem of providing uniform statistical services throughout Australia, adequate to meet present-day demands, was foreseen during the 1939-45 War, and in 1949 discussions with the Premiers were initiated by the Prime Minister, with the object of integrating the statistical services of the Commonwealth and the States by agreement. These negotiations were continued by correspondence, and subsequently all State Governments accepted the terms of draft agreements to integrate their respective statistical offices with that of the Commonwealth.

The Statistics (Arrangements with States) Bill was introduced into the Commonwealth Parliament on 17th April, 1956, its purpose being to seek parliamentary approval of the making of arrangements with individual States for, and the setting up of, integrated statistical services. This legislation, permissive in nature, was designed to enable the Commonwealth to enter into an agreement with any State to effect an amalgamation of Commonwealth and State statistical offices and services. The object of such an agreement was that, in each State accepting it, there would be an integrated statistical service operated by Commonwealth statistical officers under the immediate direction of a statistician in the State who would hold office under both the Commonwealth and State governments. Both Commonwealth and State were to be adequately served with statistics, and no State would be required to surrender its existing powers in the field of statistics. The rights of officers transferred under any agreement entered into were provided for. After passing through the usual stages of Parliament, the bill became law on 12th May, 1956.

Integration of the Commonwealth and State statistical services was finally accomplished when the integration arrangement with Victoria came into effect on 15th September, 1958.

**4. Scope of the Commonwealth Bureau of Census and Statistics.**—The scope of the Commonwealth Bureau of Census and Statistics has constantly been widened, more particularly during the 1939-45 War, when the Bureau responded to the urgent demands of administration for immediate and accurate statistical information in various fields. Since the War, requirements in the administrative, industrial, financial and scientific spheres have led to the development of many new statistical collections. All the activities of the Bureau are covered by the Census and Statistics Act, which confers authority to collect information and contains stringent provisions to ensure that the information obtained is treated in strictest secrecy.

The following sections of this paragraph relate specifically to the organization and operation of the Commonwealth Bureau of Census and Statistics in Canberra. In the State Offices, the pattern is broadly similar, although local requirements have naturally given rise to differences in detail.

For administrative purposes, the Commonwealth Bureau, Canberra, is divided into a number of Divisions. These are:—Census, Compiling, Development, Methodology and Sampling, Prices, Publications, Research and Social Accounts, Mechanical Tabulation and Administrative.

(a) *Census Division.* This Division of the Bureau is responsible for the taking of periodic population censuses, and the tabulation, summarization and preparation for publication of the results obtained.

(b) *Compiling Division.* The Compiling Division is divided into the following Branches which compile statistics dealing with specific fields of activity.

Trade and Transport Branch—Responsible for the original compilation, tabulation and analysis of statistics relating to imports and exports, and for the compilation of statistics relating to road and rail transport, aviation, shipping, posts, telegraphs and telephones, and broadcasting and television.

**Employment and Labour Branch**—Compiles all employment estimates, wage and labour statistics.

**Primary Production Branch**—Deals with statistics relating to agricultural and pastoral activities, mining, forestry and fishing. Original data are supplied largely by the Deputy Commonwealth Statistician in each State.

**Secondary Production Branch**—Compiles all factory statistics, both annual and monthly. Collates on a Commonwealth basis original data supplied by Deputy Commonwealth Statisticians.

**Finance and Taxation Branch**—Compiles statistics of private finance (banking, insurance, exchange rates, etc.), public finance (Commonwealth, State, and Local and Semi-Governmental authorities), and statistics relating to all aspects of Commonwealth taxation.

**Demography Branch**—Concerned with statistics of births, deaths, marriages and migration, and the making of periodic estimates of population.

(c) *Development Division.* This Division was created in order to develop new statistical collections to meet post-war demands for more adequate and up-to-date statistics, and also to examine current collections in the light of such requirements. It is divided into the following two Branches.

**Development Branch**—Develops new statistical collections and examines current collections in the light of present-day requirements. Included in the latter are Social Statistics.

**Business Statistics Branch**—Conducts censuses and surveys and analyses statistics relating to internal trade (retail), business and hire purchase activities, and company investments and profits.

(d) *Methodology and Sampling Division.* Undertakes the development of sampling procedures and their application to statistical collections, and furnishes technical advice to other Divisions and Departments.

(e) *Prices Division.* Deals with the collection of retail and wholesale prices and the compilation of retail and wholesale price index numbers. A staff of trained field officers is maintained in the several States to facilitate the collection of accurate information.

(f) *Publications Division.* This Division is responsible for the editing and graphical illustration of all Bureau publications, and, in collaboration with other Divisions, for the initiation, development and co-ordination of statistical publications. It also maintains a regular flow of statistical series to certain international organizations, and revises statistical material in certain oversea and local publications.

(g) *Research and Social Accounts Division.* This Division is responsible for the preparation of all estimates in the field of social accounts and for research into this and other fields of statistics. It is divided into four branches as follows.

**National Income and Expenditure Branch**—Prepares and analyses estimates of national income and expenditure and tables of social accounts.

**Balance of Payments Branch**—Prepares and analyses estimates of Australia's balance of international payments.

**Quantum Indexes Branch**—Prepares indexes of quantum of imports, exports, etc., and undertakes research into quantum of production, national expenditure, etc.

**Research Branch**—Carries out research into specific fields of statistics.

(h) *Mechanical Tabulation Division.* This Division is equipped with modern tabulating equipment including four electronic units, and is responsible for all machine tabulating work required by other Divisions of the Bureau with the exception of the Census Division. It also carries out work for other Commonwealth Departments as capacity is available.

(i) *Administrative Division.* The Administrative Division is responsible for all aspects of staff recruitment and direction, supplies, payment of accounts, etc. The Reproduction Section of the Division is equipped with multilith and duplicating machines for processing statistical statements for more immediate requirements. In addition, a section of this Division is responsible for the co-ordination of statistics in Commonwealth Departments (*see para. 5 below*). The specialized library of official and unofficial publications on statistics and economics is controlled by the Administrative Division.

5. *Relation of the Bureau to other Commonwealth Departments.*—In October, 1950, the Commonwealth Public Service Board issued a circular relative to the compilation of statistics in other Commonwealth Departments, in which it stated that the Commonwealth Statistician should be the co-ordinating authority on all statistics in Commonwealth Departments, and that, as a general principle, where any new statistical field is to be established involving the regular collection of statistics, the Commonwealth Statistician should be consulted to ensure that they are necessary and that they are based on sound statistical methods; furthermore, that the Commonwealth Statistician should make a regular inspection, at least once every twelve months, of all statistical work done by Departments to ensure that their needs are met by the most economical means and without duplication of effort.

This project of co-ordination is being implemented as statistical developments require and as time and circumstances permit.

## § 2. Statistical Publications of Australia.

1. *General.*—The official statistical publications of Australia may be divided bibliographically into two main divisions, namely:—(i) Commonwealth publications dealing both individually and collectively with the several States of Australia; and (ii) State publications dealing with individual States only.

2. *Commonwealth Publications.*—Commonwealth publications containing statistics may be grouped under two heads, namely:—(i) Publications issued by the Commonwealth Statistician; and (ii) Parliamentary and Departmental Reports and Papers.

(i) *Publications issued by the Commonwealth Statistician.* The following is a list of the principal statistical publications issued from the Commonwealth Bureau of Census and Statistics since its inauguration.

*Australian Balance of Payments.*—Statements Nos. 1 to 3, 1928–29 to 1951–52.

*Australian Exports.*—Annually, 1958–59 to 1961–62.

*Australian Life Tables, 1901–1910.* *Australian Joint Life Tables, 1901–1910.*

*Australian Life Tables, 1920–1922.*

*Australian Life Tables, 1932–1934.* *Australian Joint Life Tables, 1932–1934.*

*Australian Life Tables, 1946–1948.*

*Australian Life Tables, 1953–1955.*

*Australian Mineral Industry Statistics (formerly Minerals and Metals Bulletin).*—Part 2 of Quarterly Bulletin issued jointly with the Bureau of Mineral Resources.

*Australian Primary Industries.*—Report prepared for the Empire Producers Conference, Sydney, March, 1938.

*Census (1911) Results.*—Bulletins. Vols. I. (Statistician's Report), II., and III., with Appendix *Mathematical Theory of Population*.

*Census (1921) Results.*—Bulletins, Nos. 1 to 26. Parts I. to XVI., forming Vol. I., and Parts XVII. to XXIX., forming, with the Statistician's Report, Vol. II. NOTE.—Part XXVII., Life Tables.

*Census (1933) Results.*—Bulletins, Nos. 1 to 25. Parts I. to XIV., forming Vol. I., Parts XV. to XXVIII., forming Vol. II., and Parts XXIX. to XXXVII., forming, with the Statistician's Report and Australian Life Tables, 1932–1934, Vol. III.

*Census (1947) Results.*—Bulletins, Nos. 1 to 25. Parts I. to XVI., forming Vol. I., Parts XVII. to XIX., forming Vol. II., and Parts XX. to XXVIII., forming, with the Statistician's Report and Australian Life Tables, 1946–1948, Vol. III.

*Census (1954) Results.*—Field Count Statements, Nos. 1 to 15. Final Summaries of Population and Dwellings, Nos. 16 to 55. Bulletins, Nos. 1 to 3. Vols. I. to VI., comprising respectively Parts I. to V. for each State; Vol. VII., comprising Parts I. to V. for the Australian Territories; Vol. VIII., comprising Parts I. to III. for Australia, Australian Life Tables 1953–1955, and the Statistician's Report.

*Census (1961) Results.*—See back pages of this volume.

*Census of Motor Vehicles, 1947–48 (see Survey of Motor Vehicles, 1947–48).*

- Census of Motor Vehicles, 31st December, 1955.*—Bulletins, Nos. 1 to 8.
- \* *Census of Retail Establishments (1947-48) Results.*—Bulletins, Nos. 1 to 7.
- \* *Census of Retail Establishments (1948-49) Results.*—Bulletins, Nos. 1 to 7.
- \* *Census of Retail Establishments (1952-53) Results.*—Bulletins, Nos. 1 to 14.
- Census of Retail Establishments (1956-57) Results.*—Bulletins, Nos. 1 to 8 (mimeograph)\* and 9 to 15 (printed).
- \* *Dairying Industry (formerly Summary of Dairying Industry).*—Statistical Bulletin, monthly; first issue, September, 1937.
- Demography.*—Bulletin, annually, 1911 to 1960.
- \* *Digest of Current Economic Statistics.*—August, 1959 onward.
- \* *Factories, Principal Statistics, Summary.*—Annually, 1948-49 to 1960-61.
- Finance.*—Bulletin, 1907 to 1916-17 annually; 1917-18 and 1918-19 (one vol.); 1919-20 and 1920-21 (one vol.); 1922-23 to 1959-60 annually. From 1955-56 issued in two parts; Part I., Public and Private Finance; Part II., Commonwealth Taxation.
- \* *Food Production and the Apparent Consumption of Foodstuffs and Nutrients in Australia, Report on.*—Statistical Bulletin, half-yearly, 1946-47 to 1947-48; annually, 1948-49 to 1960-61.
- \* *Fruit Growing Industry (formerly Summary of Fruit Growing Industry).*—Statistical Bulletin, annually, 1944-45 to 1960-61.
- Imports Cleared for Home Consumption.*—Annually, 1950-51 to 1961-62.
- Labour and Industrial Statistics.* Memoranda and Reports, various, to 1913.
- Labour Report.*—Annually, 1913 to 1960.
- \* *Livestock Numbers (formerly Summary of Livestock Statistics).*—Statistical Bulletin, annually, 1943 to 1962.
- Local Government in Australia.*—July, 1919.
- \* *Manufacturing Industries.*—Bulletins on Individual Industries, annually, 1936-37 to 1939-40, 1940-41 (issue incomplete), and 1944-45 to 1960-61.†
- Monthly Review of Business Statistics.*—October, 1937 onward.
- \* *Occupation Survey (1945) Results.*—Detailed tables.
- Official Year Book of the Commonwealth of Australia.*—Annually, 1907 to present issue (No. 48). Issues Nos. 40 to 48 also published in parts.
- Oversea Trade.*—Bulletin, annually, 1906 to 1961-62.
- \* *Oversea Trade.*—Preliminary Bulletin, annually, 1952-53 to 1961-62.
- (See also *Australian Exports and Imports Cleared for Home Consumption.*)
- Pocket Compendium of Australian Statistics (formerly Statistical Digest).*—1913, 1914, 1916, and 1918 to 1962, annually.
- Population and Vital Statistics.*—Bulletins and Reports, various, 1906-1910.
- Primary Industries.*—Bulletins, annually, 1950-51 to 1959-60, in two parts—Part I. Rural Industries; Part II. Non-Rural Industries and Value of Production.
- Production.*—Bulletin, annually, 1906 to 1949-50. From 1936-37 to 1949-50 issued in two parts—Part I. Secondary Industries; Part II. Primary Industries (including Total Recorded Production); thereafter separate Bulletins (see *Primary Industries and Secondary Industries*).
- Professional Papers.*—Various. A full list appears in Official Year Book No. 13, page 3.
- Quarterly Summary of Australian Statistics (replaced Monthly Summary of Australian Statistics).*—December, 1917 onward.
- \* *Report of Proceedings of the Conference of British Commonwealth Statisticians, 1951.*
- \* *Rural Land Use and Crop Production (formerly Summary of Crop Statistics).*—Statistical Bulletin, annually, 1943-44 to 1960-61.
- Secondary Industries.*—Bulletin, annually, 1950-51 to 1959-60.
- \* *Size Classification of Rural Holdings, 1955-56.*—Bulletins Nos. 1 to 7.

\* Distributed by the Commonwealth Statistician—for methods of obtaining other publications still in print see back pages of this volume.

† The series for 1960-61 comprises:—Nos. 1. Cement and Cement Goods, 2. Bricks, Tiles, Pottery and Earthenware, 3. Chemicals, Drugs and Medicines, 4. White Lead, Paints and Varnish, 5. Chemical Fertilizers, 6. Soap and Candles, 7. Basic Metal Industries, 8. Metal Fabricating Industries, 9. Motor Vehicles and Cycles, 10. Cotton Mills, 11. Woollen Mills, 12. Rope and Cordage, 13. Tanneries, 14. Boots and Shoes, 15. Clothing (including Hosiery and Knitted Goods), 16. Flour and Other Grain Mills, 17. Biscuits, 18. Confectionery, 19. Jam, Fruit, Vegetables, Pickles, Sauces, Condiments, etc., 20. Bacon Curing, 21. Butter, Cheese and Condensed, Concentrated, etc., Milk, 22. Aerated Waters and Cordials, 23. Meat and Fish Preserving, 24. Breweries, 25. Wineries and Distilleries, 26. Tobacco, Cigars and Cigarettes, 27. Sawmilling, 28. Pulp and Paper Making, 29. Rubber Works, 30. Brooms and Brushes, 31. Electric Light and Power Works, 32. Gas Works, 33. Plastic Moulding and Products, 34. Leather Goods (including Saddlery and Belting).

*Social Insurance*.—Report to the Hon. the Minister for Trade and Customs, 1910.  
*Social Statistics*.—Bulletin, 1907 to 1915 annually, and 1918.

*Superannuation for the Commonwealth Public Service*.—Report to the Hon. the Minister for Home Affairs, 1910.

\**Survey of Motor Vehicles (1947–48) Results*.—Bulletins Nos. 1 to 7.

*Transport and Communication*.—Bulletin, 1906, 1908 to 1916 annually, 1919 to 1930 annually, and 1932 to 1960–61 annually.

*Wealth*.—The Private Wealth of Australia and its Growth as ascertained by various methods, together with a Report on the War Census in 1915.

\**Wheat Industry (formerly Summary of the Wheat Situation)*.—Statistical Bulletin, periodically; first issue, July, 1936.

\**Wool Production and Utilization*.—Bulletin, annually, 1952–53 to 1960–61.

The foregoing list includes all the printed publications issued from the Bureau, and certain more important mimeographed publications issued for the most part annually. Minor changes in the titles of several publications have not been referred to above. Copies of a number of these publications, particularly earlier issues, are not available. In addition, there is also *The Australian Mineral Industry*, a printed quarterly publication prepared jointly with the Bureau of Mineral Resources, and copies of which are available from the Department of National Development in each capital city (6s. each).

Other mimeographed statements are distributed by the Commonwealth Statistician and deal with a wide variety of subjects, as follows.

*Annually*.—Bee Farming; Factory Products (Principal); Factory Statistics (Preliminary); Fire, Marine and General Insurance; Fishing and Whaling; Livestock Statistics (Preliminary); Milking Machines on Rural Holdings; Mining and Quarrying; Northern Territory Statistical Summary; Oversea Investment; Registrations of New Motor Vehicles; Taxation Collections; Trade of Australia with Eastern Countries; Rural Statistics of the Australian Capital Territory; Tractors on Rural Holdings; University Statistics; Value of Production; Wheat Industry; Wine and Brandy Statistics; Wool Production.

*Half-yearly*.—Australian Balance of Payments; Capital and Maintenance Expenditure; Labour Turnover; Trade of Australia with the United Kingdom; Road Traffic Accidents.

*Quarterly*.—Australian Oversea Trade with Major Groups of Countries; Balance of Payments; Building; Building—Australian Capital Territory; Consumer Price Index; Instalment Credit for Retail Sales; National Income and Expenditure; New Agricultural Machinery; New Capital Raisings; New Tractors; Retail Sales of Goods; Unit Trusts, Land Trusts and Mutual Funds.

*Monthly*.—Banking (General); Building Approvals; Employment; Exports of Wool; Export Price Index; Gold Mining Industry; Instalment Credit for Retail Sales; Life Insurance; Meat Industry; Oversea Trade; Production Statistics; Production Summaries†; Registrations of New Motor Vehicles; Retail Sales of Goods (Total); Savings Banks; Wage and Salary Earners in Civilian Employment; Wholesale Price (Basic Materials and Foodstuffs) Index.

*Periodically*.—Census (1961) Results (summarized mimeographed bulletins); *Demographic Review*; *Social Statistics*.

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\* Distributed by the Commonwealth Statistician—for methods of obtaining other publications still in print see back pages of this volume. † The current series comprises:—Nos. 2 Chemicals, etc., 3. Plastic and Synthetic Resins and Plasticisers, 4. Paints and Other Surface Coatings, 6. Soap, Detergents and Glycerine, 7. Internal Combustion Engines, 8. Lawn Mowers, 8A. Storage Batteries, 9. Electric Motors, Electrical Appliances, Wireless, Television, etc., 10. Motor Bodies and Trailers, 10A. Assembly of Motor Vehicle Chassis, 11. Pedal Cycles, 12. Meters, 13. Building Fittings, 14. Cotton Goods, 15. Woolscouring, Carbonizing and Fellmongering, 16. Woollen and Worsted Carding, Combing and Spinning, 17. Wool Weaving, 18. Hosiery, 19. Men's and Boys', Women's and Maids', Girls', Infants' and Babywear; Shirts; Cardigans, Pyjamas, Underclothing, etc., 20. Rayon and Synthetic Fibre Woven Fabrics and Spun Synthetic Yarns, 21. Paper and Paper Board, 22. Floor coverings, 24. Men's, Youths' and Boys' Outer Clothing, 25. Foundation Garments, 27. Gloves (other than Rubber) and Felt Hats (made in Hat Mills), 28. Footwear (excluding Sandshoes, Goloshes, Boots of Rubber), 29. Biscuits, Ice Cream, Confectionery, 32. Perambulators (including Pushers and Strollers), 34. Radios, Television and Cabinets, 35. Mattresses, 36. Preserved Milk Products, 38. Canned Fish, 39. Jams and Preserved Fruit and Vegetables, 40. Cereal Breakfast Foods, Cereal Products and Flour Milling, 41. Margarine and other Edible Processed Fats, 42. Malt and Beer, 43. Stock and Poultry Meals (Other than Cereal), 45. Gramophone Records, 47. Aerated and Carbonated Waters, Cordials and Syrups and Concentrated Cordial Extract, 48. Sports Goods, 49. Building Materials, 51. Hides and Skins used in Tanneries, 54. Flour Mills, 55. Butter and Cheese, 56. Canned Meat.

In addition to the above-mentioned publications, most of which are issued regularly, there have been a number of statements issued by this Bureau which contain the results of special surveys or new statistical series and descriptions thereof. The more important of these are listed below.

*Occasional Publications.—Special Business Surveys—*No. 1. Average Wage and Salary Earnings (1947); No. 2. Incidence of Industrial Awards (1948); No. 3. Part-time Employment (1948); No. 4. Methods of Payments to Employees (1949); No. 5. Receipts and Payments of Rent, Interest and Royalties, 1949–50; No. 6. Average Wage and Salary Earnings (1952); No. 7. Private Superannuation Schemes, 1951–52 (reprinted in *Finance Bulletin* No. 44); No. 8. Incidence of Industrial Awards (1956); No. 9. Private Pension and Retiring Allowance Schemes, 1955–56 (reprinted in *Finance, Part I. Bulletin* No. 47); No. 10. Receipts and Payments of Interest, Rent and Royalties, 1956–57; No. 11. Private Pension and Retiring Allowance Schemes, 1955–56 to 1957–58; No. 12. Private Pension and Retiring Allowance Schemes, 1955–56 to 1958–59; No. 13. Selected Large Private Pension Schemes, 1955–56 to 1960–61.

Survey of Wage Rates and Earnings, September, 1960; New Indexes of Minimum Weekly Wage Rates—Adult Males and Adult Females (1960); Minimum Weekly Wage Rate Index—Components of Total Wage Rate (1961); A Description of the Consumer Price Index (1961); Minimum Weekly Wage Rates, January, 1957, to June, 1961; Survey of Weekly Earnings, October, 1961; Wage and Salary Earners in Employment, June, 1947, to June, 1960; Minimum Weekly Wage Rates, 1939 to 1959; Minimum Weekly Wage Rates, January, 1960 to June, 1962. The information in the last two bulletins consolidates and extends that previously published in the relevant bulletins listed above, which are now superseded.

Further information on current publications of the Commonwealth Bureau of Census and Statistics is contained in a List of Publications available free, on request, from the Commonwealth Statistician, Canberra. This List contains also a subject index to show the Bureau publications in which information on the various subjects dealt with by the Bureau is to be found. Publications issued by the State Offices of the Commonwealth Bureau of Census and Statistics are also listed therein.

(ii) *Commonwealth Parliamentary and Departmental Reports and Papers.* Lists of the principal official reports and other documents containing statistical information issued from the inauguration of the Commonwealth appear in the Official Year Books up to No. 13, but it is not now practicable to undertake the preparation of such lists.

3. *State Publications.*—The publications issued by the Deputy Commonwealth Statistician of each State are set out hereunder. As with the Commonwealth Parliamentary and Departmental Reports and Papers, it is not practicable to enumerate the various Departmental Reports, statements of accounts, etc., issued by officials, boards, local and semi-governmental authorities, etc., in each State.

(i) *New South Wales.* Statistical Register of New South Wales (annually); Official Year Book of New South Wales (annually); Pocket Year Book of New South Wales (annually); New South Wales Statistical Bulletin (monthly to December, 1919, quarterly to June, 1943, then discontinued to September, 1948); New South Wales Monthly Summary of Business Statistics.

The following other publications are issued by the Deputy Commonwealth Statistician, New South Wales.

*Annually.* Consumption of Intoxicants; Divorce Statistics; General Insurance Business; Mining Statistics; Population of Local Areas; Rural Industries—Agricultural Statistics—Part I.: Crops (excluding Fruit and Vegetables) and Pasture; Part II.: Cultivated Holdings, Area of Crops, and Fruit and Vegetables; Livestock in Local Government Areas and Statistical Divisions, Livestock on Rural Holdings, Machinery on Rural Holdings, Principal Statistics of Agricultural Production in Local Government Areas and Statistical Divisions, Principal Statistics of Rural Production in Statistical Divisions (separate summary for each Division), Tractors on Rural Holdings; Secondary Industries—Factories in Local Government Areas and Statistical Divisions, Factory Statistics, Factory Statistics for Local Government Areas in Division of Cumberland, Secondary Industry in Principal Industrial Areas (Sydney, Newcastle, and Wollongong); Vital Statistics; Wholesale Sales and Stocks of Wine and Brandy.



*Quarterly.* Building Statistics, New Houses and Flats; Mining Statistics\*.

*Monthly.* Building Approved; Mining—Metal and Mineral Prices\*, Mining Production Estimates\*.

(ii) *Victoria.* Statistical Register of Victoria (annually to 1916, then discontinued); Victorian Year Book (annually); Victorian Pocket Year Book (annually); Victorian Statistical Abstract (quarterly to 1917, then discontinued to December, 1946, quarterly to March, 1958, then discontinued); Victorian Monthly Statistical Review.

The following other publications are issued by the Deputy Commonwealth Statistician, Victoria.

*Annually.* Age Distribution of Population of Victoria; Agricultural Statistics; Apicultural Statistics; Citrus Fruit Production; Education; Fire, Marine, and General Insurance; Factory Statistics (also Preliminary); Fruit Production; Grasses and Clovers Harvested for Seed; Hospital Morbidity Statistics; Industrial Accidents; Livestock; Local Government Finance Statistics; Maize Production; Oats and Barley Estimates; Onion Production; Population and Dwellings by Local Government Areas; Potatoes; Road Traffic Accidents; Rural Holdings and Machinery Thereon; Rural Statistics; Vegetables for Human Consumption; Vital Statistics; Viticultural Statistics; Wheat; Wholesale Sales and Stocks of Wine and Brandy.

*Triennially.* Grain and Seed Headers and Harvesters on Rural Holdings; Pick Up Balers and Forage Harvesters on Rural Holdings; Ploughs on Rural Holdings; Tractors on Rural Holdings.

*Quarterly.* Building Estimates (Preliminary); Building Statistics; Mortgages of Real Estate; Road Traffic Accidents.

*Monthly.* Apples and Pears in Cool Stores; Building Approvals; Motor Vehicle Registrations; Production Statistics.

(iii) *Queensland.* Statistics of the State of Queensland (annually); Queensland Official Year Book, 1901; A.B.C. of Queensland Statistics (annually to 1936, then discontinued); Queensland Year Book (annually 1937 to 1941, then discontinued to 1945); Queensland Pocket Year Book (annually); Queensland Statistics, Monthly Summary.

The following other publications are issued by the Deputy Commonwealth Statistician, Queensland.

*Annually.* Agricultural Production; Divorces; Factory Statistics—Summary; Materials Used and Articles Produced; Statistical Divisions and Local Authorities; Fire, Marine and General Insurance; Livestock; Local Government; Machinery in use on Rural Holdings; Patients treated in Public Hospitals; Roads open to Traffic—Types; Road Traffic Accidents; Rural Production, Equipment, etc.; Sugar Production; Wool Production.

*Quarterly.* Building Operations; External Trade; Retail Prices; Road Traffic Accidents; Sawmills; Population and Vital Statistics.

*Monthly.* Building Approvals; Motor Vehicle Registrations.

*Periodically.* Boundaries of Metropolitan Statistical Areas; Areas of Local Authorities and Statistical Areas; Employment Statistics; Farm Type Classification of Rural Holdings; Food and Grocery Prices in Queensland Towns; Population—Age Distribution, Conjugal Condition; Population and Number of Dwellings in Brisbane Statistical Areas; Population and Number of Dwellings in Local Authorities; Rural Holdings—Size Classification; Tractors on Rural Holdings—Fuel Used, Number; Wine and Brandy Statistics.

(iv) *South Australia.* Statistical Register of South Australia (annually); Official Year Book of South Australia, 1912 and 1913; Statesman's Pocket Year Book of South Australia (annually); Quarterly Abstract of South Australian Statistics; Monthly Summary of Statistics, South Australia.

The following other publications are issued by the Deputy Commonwealth Statistician, South Australia.

*Annually.* Beer, Wine, and Spirits; Births, Deaths and Marriages; Cereal Harvest Estimates; Cereal Statistics; Divorce Statistics; Factory Statistics; General Insurance; Livestock Statistics; Machinery on Rural Holdings; Oversea Trade; Rural Production; Vintage Estimate.

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\* Issued in conjunction with New South Wales Department of Mines.

*Half-yearly.* Population and Dwellings in Local Government Areas.

*Quarterly.* Building Operations; New Houses and Flats (Preliminary).

*Monthly.* Building Approvals; Oversea Trade.

(v) *Western Australia.* Statistical Register of Western Australia (annually); Western Australian Statistical Abstracts (quarterly, previously issued monthly to July, 1917); Pocket Year Book of Western Australia (annually); Official Year Book of Western Australia; Monthly Statistical Summary, Western Australia; Abstract of Statistics of Local Government Areas (annually).

The following other publications are issued by the Deputy Commonwealth Statistician, Western Australia.

*Annually.* Agricultural and Pastoral Activities—General Summary, Cereal Crop Forecast, Cereal Crops, Livestock and Woolclip, Machinery on Rural Holdings; Divorce; External Trade; Interstate Trade; Factories (also Preliminary); Fire, Marine and General Insurance; Motor Vehicles on Register in Licensing Areas; Population, Dwellings and Vital Statistics (Local Government Areas and Statistical Divisions); Road Traffic Accidents; and Salary Earners in Civilian Employment; Wholesale Sales and Stocks of Wine and Brandy.

*Quarterly.* Building Operations; Population and Vital Statistics; Road Traffic Accidents.

*Monthly.* Building Permits and Approvals.

(vi) *Tasmania.* Statistics of the State of Tasmania (annually); Pocket Year Book of Tasmania (annually); Tasmania, Monthly Review of Statistics.

The following other publications are issued by the Deputy Commonwealth Statistician, Tasmania.

*Annually.* Apple Production; Bee Farming; Crops; Dairy Industry; Divorces; Factory Production; Fire, Marine and General Insurance; Hop Production; Livestock; Livestock and Wool Production (Preliminary); Meat Production; Number of Farms, Farm Population, Employment, Irrigation and Machinery used; Population in Local Government Areas; Potato Production; Trade (Oversea); Trade (Oversea and Interstate) by Sea and Air; Wholesale Sales and Stocks of Wine and Spirits, Consumption of Alcoholic Liquors; Wool Production Statistics.

*Triennially.* Tractors on Rural Holdings.

*Quarterly.* Building Statistics (also preliminary statement on Houses and Flats); Population and Vital Statistics.

*Monthly.* Motor Vehicle Registrations; Road Traffic Accidents.

*Irregularly.* Compendium of Municipal Statistics.

### § 3. The Third Conference of British Commonwealth Statisticians, Canberra, 1951.

Conferences of the Government Statisticians of the British Commonwealth were held first in London in 1920 and then in Ottawa in 1935. The third Conference was held in Canberra, from 12th to 23rd November, 1951. Delegates were present from Australia, Canada, Ceylon, India, New Zealand and the United Kingdom (including a representative of the Colonial Office). Ireland, the Commonwealth Economic Committee and the United Nations were represented by observers, and the Australian State Government Statisticians were also present. A summary of the activities of the conference may be found in Official Year Book No. 39, page 1320. The fourth Conference was held in London in 1956 and the fifth was held in New Zealand in November, 1960.

## § 4. Select List of Australian Books.

(Compiled by the Librarian of the Commonwealth National Library.)

This list of *Australian Books* is designed to meet the growing need, in Australia as publishing develops, and overseas as interest in Australia widens, for an authoritative current reference and reading list of books dealing with Australia, or of Australian authorship, wherever published.

Australians will find these books in the National Library and in their State Libraries as well as in leading bookshops. Oversea readers may have access to them in the collections which the National Library maintains at 57 Australian posts in 43 countries, at places such as Australian Embassies, or Offices of the Australian High Commission, Consulate-General, Consulate or Trade Commissioners. They will be found also, increasingly, in leading libraries and bookshops in many countries. For example, they are supplied by the National Library to the National Library of Canada and the National Diet Library, Japan. In the United States, also, Australian books are included in the Farmington Plan in which 62 libraries and research institutions co-operate to ensure that at least one copy of all material published in any part of the world, and likely to be required for a serious purpose, will be available promptly somewhere in the country.

The list is classified broadly by subject, and under each heading there is first a list of the principal standard books still in print, then a list of selected books and official publications (excluding annual reports) published in the last few years. To ensure that, so far as is possible, an evenness of standard is maintained in the compilation of the list, the advice of a representative range of experts in the various subject fields has been sought. Where known, the retail price in the country of publication is given, but this is subject to fluctuation.

The Library also issues a series of select lists which include:—*Australian Public Affairs Information Service* (monthly and, since 1955, cumulated annually); a subject index of material in new books, pamphlets, current periodicals and government publications from English-speaking countries, with an important bearing on investigations into Australian political, economic, cultural and social affairs; and the following full bibliographies.

*Australian National Bibliography*, a monthly list of monographs (including government publications), maps, prints, sheet music and moving picture films, of Australian interest.

An annual cumulation of *Australian National Bibliography* and an annual publication entitled *Australian Government Publications*, listing Commonwealth and State government monographs and serials.

## AUSTRALIAN BOOKS, 1961.

## General and Descriptive.

## STANDARD WORKS IN PRINT.

- ANNUAL CATALOGUE OF AUSTRALIAN PUBLICATIONS. Canb. National Library of Australia, 1936 to 1960. 6s. 6d. *per issue*. From 1961, this was superseded by *Australian National Bibliography*.
- AUSTRALIA. National Library—*Australian Bibliographical Centre*. Australian bibliography and bibliographical services. Canb., Australian Advisory Council on Bibliographical Services, 1960. 15s.
- Union list of newspapers in Australian libraries. Canb., Australian Advisory Council on Bibliographical Services, 1959 to date. 2 pts. and supplements. Pt. 1, 10s.; pt. 2, 27s. 6d. (*Contents*: pt. 1, Newspapers published outside Australia; pt. 2, Newspapers published in Australia.)
- National Library—*Film Division*. Australian films: a catalogue of scientific, educational and cultural films, 1940–1958. Canb., Govt. Pr., 1959. 12s. 6d. Annual supplements, 5s.
- AUSTRALIAN ENCYCLOPEDIA: (ed. in chief Alec. H. Chisholm): Syd., Angus and Robertson, 1958. £50, 10 vol.
- AUSTRALIAN NATIONAL BIBLIOGRAPHY. Canb., National Library of Australia. 1961 to date. 4s. *per issue*. 20s. *per annual cumulation*. 60s. *per annum* for complete service. (Supersedes Books published in Australia, and Annual catalogue of Australian publications.)
- AUSTRALIAN NATIONAL TRAVEL ASSOCIATION. Australian tourist guide. Melb., 1960. 7s. 6d.
- AUSTRALIAN PUBLIC AFFAIRS INFORMATION SERVICE: a subject index to current literature. Canb., National Library of Australia, 1945 to date. Monthly. 2s. 6d. *per issue*.
- AUSTRALIAN QUARTERLY: a quarterly review of Australian affairs. Syd., Australian Institute of Political Science, 1929 to date. 4s. *per issue*.
- HENDERSON, K. R. Australia: introd. by K. R. Henderson. Neuchatel, Switzerland, Ides et Calendes, 1960. 35s.
- HILL, ERNESTINE. The great Australian loneliness. Melb., Robertson and Mullens, 1952. 30s.
- NOBLE, N. S., ed. The Australian environment: 3rd ed. Melb., C.S.I.R.O. in association with Melbourne Univ. Press, 1960. 30s.
- OFFICIAL YEAR BOOK OF THE COMMONWEALTH OF AUSTRALIA. Canb., Govt. Pr., 1908 to date, 5s. *per issue*; after No. 38, 10s.; after No. 46, 20s. Latest issue No. 48. (Available also in parts relating to specific subjects.)

## General and Descriptive—continued.

## STANDARD WORKS IN PRINT—continued.

- PRESS DIRECTORY OF AUSTRALIA AND NEW ZEALAND. Syd., Country Press, 1914 to date. Irreg. Latest issue, 1958. 30s.  
 STANDARD YEAR BOOK. Melb., Standard Publishing Co., 1960 to date. 95s. per v.  
 TAYLOR, T. G. Australia: a study of warm environments and their effect on British settlement (7th ed. revised and enlarged). Lond., Methuen, 1959. 57s. 9d.  
 UNITED STATES—Interior Department of the—Office of Geography. Australia: official standard names approved by the United States Board of Geographic Names. Wash. D.C., 1957. 84.00.  
 WALKABOUT: Australian geographical magazine. Melb., Australian National Travel Association, 1935 to date. Monthly, 32s. 6d. per annum.  
 WARD, R. B. The Australian legend. Melb., Oxford Univ. Press, 1958. 45s. (An historical analysis of Australian national characteristics.)

## RECENT PUBLICATIONS OF INTEREST.

- AUSTRALIA—Interior, Department of the. Australia: official handbook. Canb., 1961. 10s.  
 AUSTRALIA—Meteorology, Bureau of. 50 years of weather; 1908–1957. Melb., 1958–1961. (Three volumes covering Tasmania, Victoria and Western Australia have been issued.)  
 AUSTRALIA—National Capital Development Commission. Planning report, February, 1961: bringing up to date the proposals of the five year period 1959–1964. Canb., 1961. 5s. (processed).  
 AUSTRALIA—Trade, Department of. Australian profile. Lausanne, Commonwealth Govt. of Australia, 1960. For overseas distribution only.  
 AUSTRALIA. National Library. Catalogue of 16 mm. films: 2nd ed. Canb., 1960. 21s.  
 BEATTY, W. The awakening giant. Lond., Cassell, 1961. 25s. (A survey of Australia's northern areas.)  
 ———. A treasury of Australian folk tales and traditions. Syd., Ure Smith, 1960. 35s.  
 BLUNDELL, G. The land and people of Australia: 2nd. ed. Phil., Lippincott, 1959. \$2.95.  
 BRISSENDEN, A. They came to Australia: an anthology; ed. by Alan Brissenden and Charles Higham. Melb., Cheshire, 1960. 17s. 6d. (Extracts from writings on Australia from the time of Dampier to the present day.)  
 CLARK, S. A. All the best in the South Pacific: Tahiti, Samoa, Fiji, New Caledonia, New Zealand, Australia. N.Y., Dodd, Mead, 1961. 84.95. (A useful travel guide.)  
 CLUNE, F. P. Across the Snowy Mountains. Syd., Angus and Robertson, 1961. 27s. 6d.  
 COOK, J. The journals of Captain James Cook on his voyages of discovery; ed. from the original manuscripts by J. C. Beaglehole with the assistance of J. A. Williamson, J. W. Davidson and R. A. Skelton; v. 2: The voyage of the *Resolution* and *Adventure* 1772–1775. Lond., Hakluyt Society, 1961. 120s. (Volume two of the first definitive edition of Cook's journals.)  
 COUNTRY WOMEN'S ASSOCIATION IN TASMANIA. Tasmania: this lovely isle. Hobart, 1961.  
 CRAWFORD, R. M. Ourselves and the Pacific: 4th ed. Melb., Univ. Press, 1961. 10s. 6d.  
 FARWELL, G. M. Land of mirage: the story of men, cattle and camels on the Birdsville track. Adel., Rigby, 1960. 4s. 9d. (Australian pocket books.) (First published in 1950).  
 ———. Vanishing Australians: illus. by Douglas Maxted. Adel., Rigby, 1961. 22s. 6d. (Anecdotes of personalities of the outback.)  
 GILES, J. M. Migrant Australia. Lond., Mills and Boon, 1960. 12s. 6d.  
 HURLEY, F. Australia: a camera study. Syd., Angus and Robertson, 1961. 57s. 6d.  
 IDRIESS, I. L. Tracks of destiny. Syd., Angus and Robertson, 1961. 25s. (Anecdotes of remote areas in Australia's north and north-west.)  
 KEMP, A. M. D. Our Channel country: man and nature in south-west Queensland. Syd., Angus and Robertson, 1961. 28s. 6d.  
 MACKENZIE, JEANNE. Australian paradox. Melb., Cheshire, 1961. 30s. (The author, who is the wife of Norman MacKenzie of *New Statesman and Nation*, visited Australia in 1959–60 with her husband.)  
 MARCHINI, U. Australia: 2nd ed. Rome, Societa Tipografica Italia, 1960. (A general account of Australia in Italian for prospective migrants.)  
 MIELCHE, H. The land of the kangaroo: tr. from the Danish by M. A. Michael. Lond., H. Jenkins, 1961. 21s.  
 MOORE, T. INGLIS, ed. A book of Australia. Lond., Collins, 1961. 17s. 6d.  
 NEW SOUTH WALES—Premier's Department—Division of Industrial Development. New South Wales, Australia. Syd., 1960.  
 NUCOLORVUE PRODUCTIONS PTY. LIMITED. The Snowy Mountains of Australia. Melb., 1960. 7s. 6d.  
 PERTH. City Council. City of Perth, Western Australia: host for the Empire Games, November, 1962. Perth, 1961. 15s.  
 PRINGLE, J. M. D. Australian accent: drawings by George Molnar. Lond., Chatto and Windus, 1958. 18s.  
 REA, R. Canberra, A.C.T.: capital of the Commonwealth of Australia; photography by David Moore and the Commonwealth News and Information Bureau. Syd., Oswald Ziegler Publications, 1961. 30s.  
 SIMPSON, C. Australian image. Syd., Legend Press, 1961. 32s. 6d. (Illustrated with reproductions of the works of Australian landscape painters.)  
 SOUTH AUSTRALIA—Government Publicity and Tourist Bureau, South Australia: the friendly and progressive State; achievements and resources. Adel., 1959.  
 STRIZIC, M. Melbourne, a portrait: by Mark Strizic and David Saunders. Melb., Georgian House, 1960. 37s. 6d.  
 TURNBULL, C., ed. The Melbourne album: comprising a series of elegant, tinted, lithographic views of Melbourne and surrounding districts: lithographed, printed and published by Charles Troedel in 1863. Melb., Georgian House, 1961. 126s.  
 VICTORIA—Premier's Department—State development division. Victoria, Australia: a picture of prosperity. Melb., 1961. *Gratis*.  
 WHITE, MYRTLE R. From that day to this. Adel., Rigby Limited, 1961. 22s. 6d. (Reminiscences of outback station life western New South Wales.)  
 ZIEGLER, O. L. Snowy saga: produced by O. L. Ziegler for the Council of the Shire of Snowy River; 2nd ed. Syd., Oswald Ziegler Publications 1960.

## Travel Abroad.

## RECENT PUBLICATIONS OF INTEREST.

- DEANE, Shirley. The road to Andorra. Lond., Murray, 1960. 18s. (An account of life in an Andorran village and on the island of Ibiza.)
- HUGHES, R. The Chinese communes: a background book. Lond., Bodley Head, 1960.
- MITCHELL, L. M. M., ed. Pacific picture: scenes from Pacific lands. Syd., Angus and Robertson, 1961. 12s. 6d. (Extracts from the works of leading writers including the early explorers.)
- MOLNAR, G. Postcards. Syd., Angus and Robertson, 1961. 16s. 6d. (This work is largely pictorial, illustrating a trip abroad by the Australian cartoonist.)
- MOOREHEAD, A. The white Nile. N.Y., Harper, 1960. \$5.95. (An account of expeditions organized to explore the source of the Nile during the period 1856 to 1900.)
- NEW SOUTH WALES—*Official Secretary, London.* Australians in the British Isles. Lond., 1960. (A guide for Australians travelling in Great Britain.)
- RAYMOND, R. Black star in the wind. Lond., Macgibbon & Kee, 1960. 25s. (Impressions by an Australian writer of life in Ghana from 1953 to 1957 when the colony of the Gold Coast became independent.)
- ROWLEY, C. D. The lotus and the dynamo: a traveller in South-East Asia. Syd., Angus and Robertson, 1960. 30s.
- TREGONNING, K. G. North Borneo. Lond., H.M.S.O., 1960. (The author was born in Western Australia. This work is one of a series entitled the *Corona Library* which is sponsored by the Colonial Office and aims to illustrate the life and government in the dependent territories of the United Kingdom.)
- WARNER, Peggy. Asia is people. Melb., Cheshire, 1961. 27s. 6d. (The author is the wife of a leading Australian journalist and commentator on South-East Asian affairs.)

## Commonwealth Territories.

## STANDARD WORKS IN PRINT.

- AUSTRALIA—*Census and Statistics, Commonwealth Bureau of.* Northern Territory statistical summary. Canb., 1960 to date.
- Minister for Territories.* Papua and New Guinea: some recent statements of Australian policy on political advancement. Canb., 1960. *gratis.*
- Territories, Department of.* Australian Territories. Canb., 1960 to date. *gratis.*
- AUSTRALIAN INSTITUTE OF POLITICAL SCIENCE—*Summer School, 24th, Canberra, Jan., 1958.* New Guinea and Australia; (papers read at the Summer School: ed. by John Wilkes; introd. by D. M. Cleland). Syd., Angus and Robertson, 1958. 25s.
- AUSTRALIAN NATIONAL ANTARCTIC RESEARCH EXPEDITION, 1947–1949. Reports. Melb., Antarctic Division, Department of External Affairs, 1951 to date.
- HANDBOOK OF PAPUA AND NEW GUINEA, 1958: comp. and ed. by R. W. Robson; new ed. Syd., Pacific Publications, 1961. 15s.
- LAW, P. G. ANARE: Australia's Antarctic outposts: by Philip Law and John Bechervaise. Melb., Oxford Univ. Press, 1957. 60s.
- PAPUA AND NEW GUINEA, *Territory of—Laws, Statutes, &c.* Laws of the Territory of Papua-New Guinea, 1945–1949 (annotated) . . . together with supplements to the Laws of the Territory of Papua, 1888–1945 (annotated) and the laws of the Territory of New Guinea, 1921–1945 (annotated). Syd., Govt. Pr., 1952. 420s. per set.
- See also the Annual reports of the Commonwealth Department of Territories and the reports to the General Assembly of the United Nations on trusteeship territories, and the section headed *Ethnology* in this List.

## RECENT PUBLICATIONS OF INTEREST.

- ATTENBOROUGH, D. Quest in paradise . . . Lond., Lutterworth, 1960. 18s.
- AUSTRALIA—*Territories, Department of, Committee to inquire into prospects of agriculture in the Northern Territory.* Prospects of agriculture in the Northern Territory; report of the Forster Committee. Canb., 1961.
- AUSTRALIAN CAPITAL TERRITORY—*Laws, Statutes, etc.* Laws of the Australian Capital Territory in force on 1st January, 1960. Canb., Gov. Pr., 1960. 3 v.
- BARTLETT, R. A man like Bati: the Rev. Reginald Bartlett: the story of his missionary work in Papua and Samoa as told in his letters home. Lond., Independent Press, 1960. 8s. 6d.
- BECHERVAISE, J. The far south. Syd., Angus and Robertson, 1961. 21s. (The author was leader of the Australian National Antarctic Research Expedition's wintering parties for three terms. This account includes a history of Antarctic discovery, its physical features, natural history and the scientific work carried out there.)
- DEAN, BETH. Softly, wild drums: in New Guinea to-day with Beth Dean and Victor Carrell. Syd., Ure Smith, 1958. 10s. 6d.
- DEBENHAM, F. Antarctica: the story of a continent. Lond., H. Jenkins, 1959. 25s.
- ESSAI, B. Papua and New Guinea: a contemporary survey. Melb., Oxford Univ. Press, 1961. 37s. 6d.
- HUGHES, BRENDA. New Guinea folk tales. Lond., Harrap, 1959. 6s.
- LOCKWOOD, D. Fair dinkum. Lond., Cassell, 1960. 24s. (Anecdotal account of life in the Northern Territory.)
- NORTHERN TERRITORY SCIENTIFIC LIAISON CONFERENCE, Darwin, 6–8 Feb., 1961. Conference papers. Melb., C.S.I.R.O. 1961.
- POLISHUK, NANCY E. Life on the Daly River: by Nancy Polishuk with Douglas Lockwood. Lond., R. Hale, 1961. 18s.
- ROWLEY, C. D. The Australians in German New Guinea, 1914–1921. Melb., Melbourne Univ. Press, 1958. 52s. 6d.
- SWAN, R. A. Australia in the Antarctic: interest, activity and endeavour. Melb., Melbourne Univ. Press, 1961. 57s. 6d.

## History.

## STANDARD WORKS IN PRINT.

- CLARK, C. M. H., *ed.* Select documents in Australian history 1788-1900: selected and ed. by C. M. H. Clark with the assistance of L. S. Pryor. Syd., Angus and Robertson, 1950-1955, v. 1: 1788-1850; v. 2: 1851-1900. 112s.
- Sources of Australian history: selected and ed. by M. Clark. Lond., Oxford Univ. Press, 1957. 9s. 6d. (World's classics, 358.)
- CRAWFORD, R. M. Australia. Lond., Hutchinson's Univ. Library, 1952. 8s. 6d.
- FITZPATRICK, B. C. British Empire in Australia: an economic history 1834-1939 (2nd ed.). Melb., Melbourne Univ. Press, 1949. 17s. 6d.
- GREENWOOD, G., *ed.* Australia: a social and political history. Syd., Angus and Robertson, 1955. 45s.
- HANCOCK, SIR W. KEITH. Australia. Brisb., Jacaranda, 1961. 15s. 6d. (Australian University paperbacks, first published in 1930.)
- HISTORICAL RECORDS OF AUSTRALIA: (ed. by J. F. Watson). Syd., National Library of Australia, 1914 to 1925. 65s. *per v.*. 34 v. have so far appeared. (Publication has been suspended since 1925.)
- HISTORICAL STUDIES: Australia and New Zealand. Melb., Melbourne Univ. Press, 1940 to date. Semi-annual. 21s. *per annum.*
- MURTAGH, J. G. Australia: the Catholic chapter: (2nd ed.). Syd., Angus and Robertson, 1959. 35s.
- NADEL, G. H. Australia's colonial culture: ideas, men and institutions in mid-nineteenth century eastern Australia: foreword by C. Hartley Grattan. Melb., Cheshire, 1957. 30s.
- O'BRIEN, E. M. The foundation of Australia (1786-1800): a study in English criminal practice and penal colonization in the eighteenth century: (2nd ed.). Syd., Angus and Robertson, 1950. 25s.
- SCOTT, SIR ERNEST. A short history of Australia (8th ed.). Melb., Oxford Univ. Press, 1950. 17s. 6d.
- SHANN, E. O. G. An economic history of Australia. Melb., Georgian House, 1948. 18s.
- SHAW, A. G. L. Economic development of Australia (4th ed.). Melb., Longmans, Green, 1960. 18s. 9d.
- The story of Australia (new ed.). Lond., Faber, 1960. 21s.

## RECENT PUBLICATIONS OF INTEREST.

- AUSTRALIAN JOURNALISTS' ASSOCIATION—*Federal Council*. Crusade for journalism: official history of the Australian Journalists' Association: ed. by Geoff. Sparrow. Melb., 1960.
- BARNARD, MARJORIE. Macquarie's world: illus. and maps by Douglas Annand. Melb., Univ. Press, 1961. 7s. 6d. (Melbourne paperbacks.) (First published in 1941.)
- BATESON, C. The convict ships, 1787-1868. Glasgow, Brown, 1959. 36s.
- BLOOMFIELD, P. Edward Gibbon Wakefield: builder of the British Commonwealth. Lond., Longmans, 1961. 42s.
- BRODSKY, I. Hunters Hill, New South Wales, 1861-1961. Hunters Hill, N.S.W., Council of the Municipality of Hunters Hill, 1961. 25s.
- CILENTO, SIR RAPHAEL W., *ed.* Triumph in the tropics: an historical sketch of Queensland. Brisb., Smith and Paterson, 1959. 31s.
- COOK, J. The explorations of Captain James Cook in the Pacific as told by selections of his own journals, 1768-1779: ed. by A. Grenfell Price: illus. by Geoffrey C. Ingleton. Melb., Georgian House, 1958. 70s.
- CRAWFORD, R. M. An Australian perspective. Melb., Melbourne Univ. Press, 1960. 10s. 6d.
- CROWLEY, F. K. Australia's western third: a history of Western Australia from the first settlement to modern times. Lond., Macmillan, in association with the University of Western Australia Press, 1960. 42s.
- A short history of Western Australia. Melb., Macmillan, 1959. 10s. 6d.
- FITZPATRICK, KATHLEEN. Australian explorers: a selection from their writings with an introduction. Lond., Oxford Univ. Press, 1958. 9s. 6d. (World's classics, 359.)
- GREAVES, B., *ed.* The story of Bathurst: written by Bathurstians and edited by Bernard Greaves. Syd., Angus and Robertson, 1961. 42s.
- GREENWOOD, G., *ed.* Brisbane 1859-1959: a history of local government. Bris., Oswald L. Ziegler for the Council of the City of Brisbane, 1959. 140s.
- HAGAN, J., *ed.* World history since 1789: v. 1. Lond., Longmans, 1961. 22s. 6d. (The author is on the staff of the Sydney Teachers' College.)
- HANCOCK, SIR W. KEITH. Four studies of war and peace in this century. Camb., Univ. Press, 1961. (The author is professor of history at the Australian National University.)
- HASLUCK, ALEXANDRA. Unwilling emigrants: a study of the convict period in Western Australia. Melb., Oxford Univ. Press, 1959. 32s. 6d.
- JONES, DOROTHY. Cardwell Shire story. Brisb., Jacaranda, 1961. 27s. 6d. (A detailed history of the Shire from the discovery of the Queensland coast by Cook in 1770 to the present day.)
- KIDDLE, MARGARET. Men of yesterday: a social history of the Western District of Victoria, 1834-1890. Melb., Melbourne Univ. Press, 1961. 63s.
- LAUBENSTEIN, W. J. The emerald whaler. Lond., Deutsch, 1961. 22s. 6d. (An account of the escape of six Irish political prisoners, from Western Australia in 1869, in the whaler *Catalpa*.)
- LEARMONTH, N. F. The story of a port, Portland, Victoria. Portland, Portland Harbour Trust, 1960.
- LEROY, P. E. The emancipists from prison to freedom: the story of the Australian convicts and their descendants. Ann Arbor, Michigan, University Microfilms, 1961. (Processed.)
- MCKELLER, J. Tree by the creek: an account of suffering and adventure in Central Australia. Melb., Cheshire, 1961. 17s. 6d. (An account of the Burke and Wills Expedition, told through the lips of John King, the sole survivor.)
- MCMANNERS, J. French ecclesiastical society under the ancien régime: a study of Angers in the eighteenth century. Manchester, Univ. Press, 1960. 45s. (The author is professor of history in the University of Sydney.)
- MACMILLAN, D. S. The debior's war: Scottish capitalists and the economic crisis in Australia, 1841-1846. Melb., Cheshire, 1960. 8s. 6d. (An account of the usury issue during the Australian economic crisis of the 1840's based largely on material preserved in the archives of the Scottish Australian Company.)
- MUDIE, I. Riverboats. Adel., Rigby, 1961. 28s. 6d. (An account of the paddle-steamers which ran on the Murray and Darling Rivers in the latter part of the nineteenth century.)
- POWNALL, EVE. Mary of Maranoa: tales of Australian pioneer women. Syd., F. H. Johnston, 1959. 32s. 6d.

## History—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- SHAW, A. G. L. An introduction to Australian history: by A. G. L. Shaw and H. D. Nicholson. Syd., Angus and Robertson, 1959. 21s.  
 ———. Modern world history: social, political and economic development, 1780–1950. Melb., Cheshire, 1961. 32s. 6d.
- SMITH, P. R. The story of Australia: illus. by B. Biro. Lond., Benn, 1959. 15s.
- STUART, A. D. Letters to Scotland 1860: comp. from the letters and diaries and arranged and published at the Juniper Press, Burradoo: illus. engraved by Mary Quick from original drawings and prints. Burradoo, N.S.W., Juniper Press. 63s.
- TENCH, W. Sydney's first four years: being a reprint of *A narrative of the expedition to Botany Bay and A complete account of the settlement at Port Jackson*: with introd. and annotations by L. F. Fitzhardinge. Syd., Angus and Robertson in association with the Royal Australian Historical Society, 1961. 50s.
- VICTORIA. State Library. Catalogue of the manuscripts, letters, documents, &c. in the private collection of the State Library of Victoria. Melb., 1961.
- WARD, J. M. Earl Grey and the Australian colonies, 1846–1857: a study of self-government and self-interest. Melb., Melbourne Univ. Press, 1958. 63s.

## Military and Naval History.

## STANDARD WORKS IN PRINT.

- AUSTRALIA—Army, Department of—Public Relations Directorate. The Australian army at war: an official record of service in two hemispheres, 1939–45. Melb., 1947.
- AUSTRALIA IN THE WAR OF 1939–45: (ed. by Gavin Long). Canb., Australian War Memorial, 1952 to date. Various prices. (*Contents*: Series 1 (Army), 6 v. have so far appeared: Series 2 (Navy), 1 v. has so far appeared: Series 3 (Air), 2 v. have so far appeared: Series 4 (Civil), 3 v. have so far appeared: Series 5 (Medical), 4 v. have so far appeared.)
- AUSTRALIAN WAR MEMORIAL, *Canberra*. Pictorial history of Australia at war, 1939–45: ed. for the Board of Management by Norman Bartlett (and Charles Meeking). Canb., 1958. 210s. 5 v.
- AUSTRALIAN WAR MEMORIAL, *Canberra*. With the Australians in Korea: ed. . . . by Norman Bartlett. Canb., 1954. 25s.
- BEAN, C. E. W. Anzac to Amiens: a shorter history of the Australian fighting services in the first world war. Canb., Australian War Memorial, 1946. 30s.
- LEE, J. E. Duntroon: the Royal Military College of Australia 1911–1946. Canb., Australian War Memorial, 1952. 30s.
- OFFICIAL HISTORY OF AUSTRALIA IN THE WAR OF 1914–18: ed. by C. E. W. Bean. Canb., Australian War Memorial, 1921–1942. 21s. *per v.* v. 8, 9, 10, 11, 18s. 12 v. v. 1, 3, 12, *o.p.*
- OFFICIAL HISTORY OF THE AUSTRALIAN ARMY MEDICAL SERVICES IN THE WAR OF 1914–1918: ed. by Col. A. G. Butler. Canb., Australian War Memorial, 1930–43. 21s. *per v.* 3 v.

## RECENT PUBLICATIONS OF INTEREST.

- ATTIWILL, K. The Singapore story. Lond., Frederick Muller, 1959.
- DEXTER, D. ST. A. The New Guinea offensives. Canb., Australian War Memorial, 1961. 40s. (Australia in the war of 1939–1945: series 1 (Army) v. 6.)
- MCCARTHY, D. South-west Pacific area: first year. Canb., Australian War Memorial, 1959. 30s. (Australia in the war of 1939–45: series 1 (Army) v. 5.)
- MACFARLAN, G. Etched in green: the history of the 22nd Australian Infantry Battalion, 1939–1946. Melb., 22nd Australian Infantry Battalion Association, 1961. 30s.
- MCKIE, R. C. H. The heroes. Syd., Angus and Robertson, 1960. 25s. (An account of two marine raids by Australians on Japanese-held territory in 1943 and 1944.)
- MASEL, P. The second 28th: the story of a famous battalion of the Ninth Australian Division. Perth, 2/28th Battalion and 24th Anti-tank Company Association, 1961. 27s. 6d.
- OWEN, F. The fall of Singapore. Lond., Joseph, 1960. 21s.
- PAULL, R. A. Retreat from Kokoda. Melb., Heinemann, 1958. 30s.
- SLIM, SIR WILLIAM. Unofficial history. Lond., Cassell, 1959. 27s. 3d. (Personal reminiscences of the two world wars, by Field Marshal Sir William Slim, who was Governor-General of Australia from 1953 to 1960.)
- SOUTHALL, I. Softly tread the brave. Syd., Angus and Robertson, 1960. 27s. 6d. (An account of the exploits of two Australian bomb disposal officers during World War II.)
- TSUJI, M. Singapore, the Japanese version: with an introduction by Lieutenant-General H. Gordon Bennett. Syd., Ure Smith, 1960. 35s.

## Religion.

## RECENT PUBLICATIONS OF INTEREST.

- ALEXANDER, F., ed. Four bishops and their See, Perth, Western Australia, 1857–1957. Nedlands, W.A., Univ. of Western Australia Press, 1957. 22s. 6d.
- CRAGO, T. H. The story of F. W. Boreham. Lond., Marshall, Morgan & Scott, 1961. (Biography of the well-known preacher and writer.)
- HASLAM, J. The history of Wesleyan methodism in South Australia from its commencement to its jubilee. Adel., Doig & Buchanan, 1958.
- JEFFREYS, ETHNIE. The disturber: compiled by Ethnie Jeffreys and Ted Buckle. Canb., Parish of All Saints, 1960. 7s. 6d. (Written to commemorate the twenty-six years' episcopacy of Ernest Henry Burgmann, Bishop of Canberra and Goulburn.)
- JOHNSTON, H. A. Plain talks on the Catholic religion: (2nd ed.). Syd., Angus and Robertson, 1959. 17s. 6d.

## Religion—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- THE JOURNAL OF RELIGIOUS HISTORY. Syd., Association for the Journal of Religious History, 1960 to date. Half-yearly. 21s. *per annum*.
- LOANE, M. L. Makers of religious freedom in the seventeenth century: Henderson, Rutherford, Bunyan, Baxter. Grand Rapids, Michigan, Erdmans, 1961. \$4. (The author is Bishop-Coadjutor of Sydney.)
- NEILL, S. C. Christian faith and other faiths: the Christian dialogue with other religions. Lond., Oxford Univ. Press, 1961. 21s. (Moorhouse lectures, 1960). 34s. 9d.
- O'DONOGHUE, M. Xaverius. Beyond our dreams: a century of the works of Mercy in Queensland. Brisb., Jacaranda, 1961. 35s.
- ROWLAND, E. C. A short story of the Australian Church. Syd., Anglican Truth Society, 1960. 3s.
- The tropics for Christ: being a history of the Diocese of North Queensland. Townsville, Diocese of North Queensland, 1960. 27s. 6d.
- TAYLOR, D. M., ed. We were brought together: report of the National Conference of Australian Churches held at Melbourne University, February 2-11, 1960. Syd., Australian Council for the World Council of Churches, 1960. 23s.
- VICEDOM, G. F. Church and people in New Guinea. Lond., United Society for Christian Literature, 1961. 2s. 6d. (World Christian books: no. 38.)
- WALKER, A. Heritage without end: illus. by Frank Whitmore (2nd ed.). Melb., General Conference Literature and Publications Committee of the Methodist Church of Australasia, 1953. 3s. 6d. (An historical account of the Methodist Church in Australia. The author is the Superintendent of the Central Methodist Mission, Sydney, and is a leading figure in the Methodist Church in Australia.)
- A new mind for a new age. Lond., Epworth, 1959. 10s. 6d. (Essays on the role of a Christian in the modern world.)
- WOOD, A. H. The uniting church of Australia (Presbyterian-Congregational-Methodist). Melb., Methodist Publishing House, 1961. 3s. 6d.

## Biography.

## STANDARD WORKS IN PRINT.

- PALMER, E. VANCE. National portraits (3rd ed.). Melb., Melbourne Univ. Press, 1961. 7s. 6d.
- WHO'S WHO IN AUSTRALIA. Melb., Herald Press, 1906 to date. 105s. *per issue*. Latest issue: 16th, 1959; ed. by J. A. Alexander.
- See also biographical articles in the Australian Encyclopaedia.

## RECENT PUBLICATIONS OF INTEREST.

- BAINTON, HELEN. Remembered on waking: Edgar L. Bainton. Syd., Currawong, 1960. 21s. (Written by his daughter, this biography of the well-known Australian musician and former Director of Sydney Conservatorium traces his life from early childhood in England to his death in 1956.)
- BISSET, Sir JAMES G. P. Commodore: war, peace and big ships; written in collaboration with P. R. Stephenson. Syd., Angus and Robertson, 1961. 35s. (Reminiscences of the former Commodore of the Cunard Line, who now lives in retirement in Australia.)
- BROCKMAN, G. DRAKE. The turning wheel. Perth, Paterson Brokensha, 1960. 30s. (Personal record of a member of one of the best known Western Australian families. The author is a distinguished civil engineer and soldier of two World Wars.)
- BROOKES, Dame MABEL. St. Helena story. Lond., Heinemann, 1960. 30s. (An intimate study of Napoleon in his island exile. The author is a great grand-daughter of William Balcombe, agent for the East India Company at St. Helena during the period of Napoleon's residence there.)
- CHISHOLM, A. R. Men were my milestones: Australian portraits and sketches. Melb., Melbourne Univ. Press, 1958. 27s. 6d. (These reminiscences of the recently retired Professor of French at Melbourne University relate to the literary and educational scene in Australia.)
- COPLAND, Sir DOUGLAS B. Giblin: the scholar and the man; papers in memory of Lyndhurst Falkiner Giblin. Melb., Cheshire, 1960. 50s. (Includes essays on Giblin's life at Cambridge, in Canada, in World War I, and on his influence as an economist, together with extracts from his own writings.)
- CRISP, L. F. Ben Chifley: a biography. Adel., Longmans, 1961. 50s. (A comprehensive account of the life of Rt. Hon. J. B. Chifley, Prime Minister of Australia from 1945-1949.)
- DURACK, MARY. Kings in grass castles. Lond., Constable, 1959. 45s. (A family history of the Duracks, pioneers in the interior of Queensland and Western Australia.)
- DUTTON, G. P. H. Founder of a city: the life of Colonel William Light: first surveyor-general of the colony of South Australia; founder of Adelaide 1786-1839. Melb., Cheshire, 1960, 42s.
- FURNEAUX, R. Tobias Furneaux; circumnavigator. Lond., Cassell, 1960. 30s. (Furneaux accompanied Captain James Cook on his second voyage to the Pacific.)
- GRIERSON, J. Sir Hubert Wilkins: enigma of exploration. Lond., Hale, 1960. 21s. (Biography of the Australian explorer, well known for his attempt to navigate the submarine *Nautilus* under the North Pole in 1931.)
- HARRIS, A. The secrets of Alexander Harris: a frank autobiography by the author of *Settlers and convicts: with an introd. by his grandson Grant Carr-Harris and a preface by A. H. Chisholm*. Syd., Angus and Robertson, 1961. 30s. (This work establishes the fact that Alexander Harris was an emigrant to Australia, a matter which has been disputed, in recent years, by historians.)
- HENRY, H. M. E. In a dark glass: the story of Paul Edmond Strzelecki. Syd., Angus and Robertson, 1961. 45s. (Life of the Polish explorer and scientist, who spent from 1839 to 1843 in Australia.)
- HETHERINGTON, J. Australians: nine profiles. Melb., Cheshire, 1960. 30s. (Short biographies of some noteworthy Australians, the subjects being selected to illustrate national character.)
- HUXLEY, G. Lady Denman, G.B.E., 1884-1954. Lond., Chatto and Windus, 1961. 27s. (Includes an account of a period spent in Australia from 1911 to 1914, when Lord Denman was Governor-General of the Commonwealth.)
- IDRIESS, I. L. Flynn of the Inland (new ed.). Syd., Angus and Robertson, 1956. 25s. (Biography of the founder of the Australian Inland Mission and the Flying Doctor Service.)
- LA NAUZE, J. A. Alfred Deakin: two lectures. Brisb., Univ. of Queensland Press, 1960. 3s. (John Murtagh Macrossan memorial lectures, 1958.)



## Biography—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- LOANE, M. L. Archbishop Mowll: the biography of Howard West Kilvington Mowll, Archbishop of Sydney and Primate of Australia. Lond., Hodder, 1960. 21s.
- LOMAS, G. The will to win: the story of Sir Frank Beaurepaire. Melb., Heinemann, 1960. 30s. (Sir Frank Beaurepaire first distinguished himself as a swimmer of Olympic standard, and later as Lord Mayor of Melbourne, and as a member of the Victorian State Parliament.)
- MCKAY, C. E. F. This is the life: the autobiography of a newspaperman. Syd., Angus and Robertson, 1961. 30s. (The author was editor and part founder of *Smith's Weekly* and has had wide experience of the Australian newspaper world.)
- MARTIN, A. W. Members of the Legislative Assembly of New South Wales, 1856–1901; biographical notes by A. W. Martin and P. Wardle. Canb., Australian National University, 1959. 22s. 6d. (Australian National University. Social science monographs, 16.)
- MICKLE, A. D. My lady's life: a writer's story. Melb., Cheshire, 1960. 21s. (The author's published works cover many forms and subjects: essays, fiction, poetry, travel and humour.)
- MOOREHEAD, A. Churchill, a pictorial biography. Lond., Thames and Hudson, 1960. 25s.
- MURRAY, G. G. A. An unfinished autobiography with contributions by his friends: ed. by Jean Smith and Arnold Toynbee. Lond., Allen and Unwin, 1960. 41s. 6d. (This work deals with both the Australian classical scholar Gilbert Murray and his father Terence Murray.)
- NEWMAN, C. E. T. The spirit of Wharf House: Campbell enterprise from Calcutta to Canberra 1788–1930. Syd., Angus and Robertson, 1961. 42s. (A biography of Robert Campbell, pioneer merchant of Sydney and early settler in the Canberra district.)
- NICHOLSON, JOYCE. Man against mutiny: the story of Vice-Admiral William Bligh. Lond., Lutterworth, 1961. 6s.
- OLIVER, MARY. Mary Ward 1585–1645. Lond., Sheed and Ward, 1960. 18s. (Life story of the founder of the Institute of the Blessed Virgin Mary.)
- PAPPE, H. O. John Stuart Mill and the Harriet Taylor myth. Melb., Melbourne Univ. Press on behalf of the Australian National University, 1960. 9s. 6d.
- PEARL, C. Always morning: the life of Richard Henry ("Orion") Horne. Melb., Cheshire, 1960. 40s. (The colourful story of an English poet who settled in Australia during the gold rush period.)
- PORTER, J. A. Roll the summers back. Brisb., Jacaranda, 1961. 22s. 6d. (This book of reminiscences relates mainly to the pastoral areas of outback Queensland.)
- ROSS, SIR IAN C. Ian Clunies Ross: memoirs and papers: with some fragments of autobiography. Melb., Oxford Univ. Press, 1961. 40s. (The late Sir Ian Clunies Ross, first chairman of the Commonwealth Scientific and Industrial Research Organization, was a leading figure in science and contemporary affairs in Australia.)
- RUSSELL, W. B. There goes a man: the biography of Sir Stanley G. Savage. Melb., Longmans, 1959. 25s. (Savage was a soldier of both World Wars and a founder of the Legacy Club.)
- WHYTE, W. F. William Morris Hughes: his life and times. Syd., Angus and Robertson, 1957. 30s. (W. M. Hughes, one of the most widely known politicians in the history of the Australian Commonwealth, sat in the Federal Parliament from 1901 to his death in 1952. He was Prime Minister during World War I.)
- WRIGHT, JUDITH A. The generations of men: illus. by Alison Forbes. Melb., Oxford Univ. Press, 1959. 35s. (Family history of the well-known Australian poet.)
- WRIGHT, L. The Jack Davey story: foreword by Bob Dyer. Syd., Ure Smith, 1961. 30s. (This biography of one of Australia's best known radio personalities, who died in 1959, was written by his personal assistant.)

## Education.

## STANDARD WORKS IN PRINT.

- ALEXANDER, F. Adult education in Australia: an historian's point of view. Melb., Cheshire, 1959. 6s. 6d.
- AUSTRALIA—Commonwealth Office of Education. Higher education in Australia; a directory of courses (2nd ed.). Syd., 1959. gratis. (Processed.)
- AUSTRALIA—Universities Commission. Report on Australian universities, 1958–63. Canb., 1960.
- AUSTRALIAN COUNCIL FOR EDUCATIONAL RESEARCH. The early years: a summary of an enquiry into age of admission, classification and promotion practices in Australian primary schools. Melb., 1957. 1s.
- AUSTRALIAN LIBRARY JOURNAL. Syd., Library Association of Australia, 1951 to date. Quarterly. 20s. per annum.
- FOGARTY, R. Catholic education in Australia, 1806–1950. Melb., Melbourne Univ. Press, 1959. 100s. 2v.
- FRENCH, E. L. Melbourne studies in education. Melb., Melbourne Univ. Press, 1958 to date. 30s. per v.
- PRICE, A. G. The humanities in Australia: a survey with special reference to the universities. Syd., Angus and Robertson, for the Australian Humanities Research Council, 1959. 42s.
- RADFORD, W. C., comp. The non-government schools of Australia: a descriptive and statistical account. Melb., Melbourne Univ. Press for Australian Council for Educational Research, 1953. 21s.

## RECENT PUBLICATIONS OF INTEREST.

- ALLEN, G. Social studies in the primary school. Melb., Macmillan, 1960. 42s.
- AUSTIN, A. G. Australian education 1788–1900: church, state and public education in colonial Australia. Melb., Pitman, 1961. 32s. 6d.
- AUSTRALIA—Commonwealth Office of Education. Matriculation and after: a survey of pupils in Australia who, in the 1957 examinations, qualified to matriculate to Australian universities: prepared by the Commonwealth Office of Education and the Australian Council for Educational Research. Melb., The Council, 1961. (Processed.)
- Some opportunities for post-graduate study at Australian universities. Syd., 1961. (Information correct as at October, 1960.)
- AUSTRALIAN COLLEGE OF EDUCATION. The challenge to Australian education: by R. G. Menzies and others. Melb., Cheshire, 1961. 21s.

*Education—continued.*

## RECENT PUBLICATIONS OF INTEREST—continued.

- Founder's convention: 15th–18th May, 1959. Melb., Cheshire, 1960. 12s. 6d.
- Educational values in a democracy: papers delivered at the first annual meeting of the College, Sydney, 13th–16th May, 1960. Melb., Cheshire, 1960. 21s.
- BRIGGS, A. The map of learning: the first annual lecture of the Research Students' Association delivered at Canberra on 2nd November, 1960. Canb., Australian National University, 1961.
- CONNELL, W. F. The foundations of secondary education. Melb., Australian Council for Educational Research, 1961. 21s. (Monographs on secondary education; no. 1.)
- CUNNINGHAM, K. S. The Australian Council of Educational Research and library services in Australia. Melb., Australian Council for Education Research, 1961. 6s.
- HADNE, H. E. Classroom psychology. Brisb., Jacaranda. 1961. 42s.
- LIBRARY ASSOCIATION OF AUSTRALIA. Library resources for the nation: papers given at the eleventh conference of the Library Association of Australia, August 21st–25th, 1961. Melb., 1961.
- MACKENZIE, Janet. Life at Firbank, 1909–1959: by Janet Mackenzie and Iva Dickson. Melb., Firbank Old Grammarians' Association, 1960. 30s.
- MARSHALL, Mary J., ed. Union list of higher degree theses in Australian university libraries. Hobart University of Tasmania Library, 1959. 20s.
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- AUSTRALIAN ENCYCLOPAEDIA OF FORMS AND PRECEDENTS OTHER THAN COURT FORMS. Syd., Butterworth, 1955 to date. 97s. 6d. per v. 17 v. and five supplements have so far been issued.
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- , ed. Marriage and the family in Australia. Syd., Angus and Robertson, 1957. 12s. 6d.
- HUDSON, H. Flynn's flying doctors; an artist's journey through the outback and the story of the flying doctor service in Australia. Melb., Heinemann, 1956. 25s.
- IMMIGRATION REFORM GROUP. Control or colour bar? a proposal for change in Australia's immigration policy. Melb., 1960. 3s.
- MCAARTHUR, NORMA. Introducing population statistics. Melb., Oxford Univ. Press, 1961. 37s. 6d. (Published under the auspices of the South Pacific Commission and the Australian National University.)
- MACKAY, I. K. Broadcasting in Australia. Melb., Melbourne Univ. Press, 1957. 10s.
- STOLLER, A., ed. Growing old; problems of old age in the Australian community. Melb., Cheshire, 1960. 15s.
- ZUBRZYCKI, J. Immigrants in Australia; a demographic survey based upon the 1954 census. Melb., Melbourne Univ. Press on behalf of the Australian National University, 1960. 57s. 6d.
- Immigrants in Australia; statistical supplement. Canb. (Australian National University Social science monograph, 18.) 30s.

## Industries, Resources, Trade, and Communication.

## STANDARD WORKS IN PRINT.

- ANDREWS, J. Australia's resources and their utilization (4th ed.). Syd., Department of Tutorial Classes, University of Sydney, 1953. 2 pts. 3s. ea.
- AUSTRALASIAN INSTITUTE OF MINING AND METALLURGY. Proceedings; new series. Melb., 1912 to date. Quarterly. 63s. ea.
- AUSTRALASIAN MANUFACTURER INDUSTRIAL ANNUAL. Syd., Manufacturer Publishing Co., 1931 to date. 40s. per annum.
- AUSTRALIA—*Agricultural Economics, Bureau of.* Quarterly review of agricultural economics. Canb., 1948 to date. *gratis.*
- AUSTRALIA—*National Development, Department of.* Atlas of Australian resources, Canb., 1953-1960. Contents: Rainfall, Soils, Underground water, Temperatures, Mineral deposits, Climatic regions, Major developmental projects, Agricultural production, State and local government areas, Roads and aerodromes, Railways, Physical features, Population increase and decrease (1933-47), Forest resources, Population density and distribution, Power and fuel, Distribution of stock, Vegetation regions, Drainage systems, Conservation of surface water, Health services, Educational facilities, Ports and shipping, Dominant land use, Population increase and decrease (1947-1954), Immigration, Manufacturing Industry, Geology, Croplands, Mineral industry. 7s. 6d. ea., linen-stripped. 9s. 6d. ea. (These maps are accompanied by a commentary which is included in price.) Complete sets folded (in 3 boxes) £12 12s.; in loose leaf binder with commentaries in box £15 15s.
- The Supply and usage of energy in Australia. Canb., 1958. *gratis.*
- AUSTRALIA TO-DAY; special number of the Australian Traveller. Melb., United Commercial Travellers Association of Australia, 1905 to date. Annual. 8s. per issue.
- AUSTRALIAN MINERAL INDUSTRY REVIEW. Canb., Commonwealth Bureau of Mineral Resources, Geology and Geophysics, 1948 to date. Annual. 20s. ea.
- BEATTIE, W. A. A survey of the beef-cattle industry of Australia. Melb., C.S.I.R.O., 1956. (C.S.I.R.O. bulletin; No. 278.)
- CALLAGHAN, A. R. The wheat industry in Australia; by A. R. Callaghan and A. J. Millington. Syd., Angus and Robertson, 1956. 30s.
- DAVIDSON, F. G. The industrialization of Australia (2nd ed.). Melb., Melbourne Univ. Press, 1960. 5s. 6d.
- JAMES, W. Wine in Australia; a handbook (2nd ed.). Melb., Georgian House, 1955. 21s.
- MAJOR DEVELOPMENTAL PROJECTS; Australia. Canb., Department of National Development, 1954 to date. *gratis.*
- NEW SOUTH WALES—*Premier's Department* . . . Preliminary survey of resources (of various regions). Syd., Govt. Pr., 1945 to date. (This series aims at covering all regions of New South Wales. So far the following have been issued:—New England; Illawarra; Lachlan; Murrumbidgee; Macquarie; Central Murray; Upper Murray; Richmond-Tweed; Clarence; Southern Tablelands; Newcastle; Monaro-South Coast; Upper Hunter; Oxley, Mitchell.)
- PASTORAL REVIEW AND GRAZIERS' RECORD. Melb., Pastoral Review, 1891 to date. 55s. per annum.
- ROUGHLEY, T. C. Fish and fisheries of Australia (rev. ed.). Syd., Angus and Robertson, 1961, 5s. 6d.
- VICTORIA—*Central Planning Authority.* Resources survey. Melb., 1948 to date. Various prices. (Surveys for the following regions have so far been published:—Loddon; Mallee; Upper Goulburn; Upper Murray; Central Highlands; East Gippsland; and Corangamite.)
- WADHAM, Sir SAMUEL M. Land utilization in Australia; 3rd ed. by Sir Samuel Wadham, R. Kent Wilson and Joyce Wood. Melb., Univ. Press, 1957. 40s.

Industries, Resources, Trade and Communication—*continued.*

## RECENT PUBLICATIONS OF INTEREST.

- AIRD, W. V. The water supply, sewerage and drainage of Sydney; an account of the development and history of the water supply, sewerage and drainage systems of Sydney and the near South Coast from their beginnings with the first settlement to 1960. Syd., New South Wales Metropolitan Water, Sewerage and Drainage Board, 1961. 42s.
- ALLBUTT, G. A. A brief history of some of the features of public electricity supply in Australia and the formation and development of the Electricity Supply Association of Australia, 1918-1957. Melb., Electricity Supply Association of Australia, 1958. 45s.
- AUSTRALIA—*Primary Industry, Department of.* The Australian wheat-growing industry. Canb., 1960. *gratis.*
- Dairy Industry Committee of Enquiry.* Report. Canb., Govt. Pr., 1960.
- Trade, Department of.* Developments in Australian manufacturing industry. Melb., 1954-55 to date. *gratis.*
- AUSTRALIA AND NEW ZEALAND BANK LIMITED—*Economics and Statistical Department.* Establishment of industry in Australia for businessmen considering establishing or extending business in Australia. Melb., Australia and New Zealand Bank Limited (and) Australia and New Zealand Savings Bank Limited, 1958. *gratis.*
- AUSTRALIAN INDUSTRIES DEVELOPMENT ASSOCIATION. Development in Australia; a short review compiled for International Industrial Conference at San Francisco, U.S.A., 11th-15th September, 1961. Syd., 1961.
- BENWELL, W. S. Journey to wine in Victoria. Melb., Pitman, 1960. 30s. (An account of vineyards and vignerons in Victoria.)
- BROGDEN, S. The history of Australian aviation. Melb., Hawthorn Press, 1960. 35s.
- BROKEN HILL PROPRIETARY COMPANY LTD. B.H.P. 75 years. Melb., 1960.
- CHISLET, G. D'A. The Australian grazing industry; a review of factors influencing production in the sheep and wool industry. Syd., 1960. 10s.
- CONSOLIDATED ZINC PROPRIETARY LIMITED. Consolidated Zinc Corporation Limited. Melb., 1960. *gratis.*
- COURSE, A. G. Painted ports; the story of the ships of Devitt & Moore. Lond., Hollis & Carter, 1961. 30s. (Includes accounts of the Australian passenger trade in the days of sail.)
- DIESENDOERF, W., *ed.* The Snowy Mountains scheme; phase 1—The Upper Tumut projects. Syd., Horwitz Publications, 1961. 90s.
- DRANE, N. T. *ed.* The Australian dairy industry; an economic study (ed. N. T. Drane and H. R. Edwards). Melb., Cheshire, 1961. 84s.
- GRAY, K. M. A contribution towards a watershed management research programme for the Hunter Valley, New South Wales. Syd., Forestry Commission of New South Wales, 1959.
- HARDING, E. Uniform railway gauge. Melb., Lothian, 1958. 30s. (An account of the origin of the break of gauge in Australia, and the various projects to overcome it.)
- HEINTZ, A. The fabulous hill. Melb., Broken Hill Associated Smelters Pty. Ltd., 1960. (An account of the Broken Hill base metal industry.)
- INSTITUTE OF FUEL—*Australian Membership.* Oil fuels and their utilization; papers for the opening conference August 24th and 25th, 1961, at the University of New South Wales. Syd., 1961. 42s.
- LEECHMAN, F. The opal book. Syd., Ure Smith, 1961. 45s.
- MEAD, T. Killers of Eden; the story of the killer whales of Twofold Bay. Syd., Angus and Robertson, 1961. 28s. 6d.
- NATIONAL ASSOCIATION OF AUSTRALIAN STATE ROAD AUTHORITIES. Australian roads. Syd., 1961. *gratis.*
- NEW SOUTH WALES; University. The industrial development of Australia; papers presented at the symposium held at the University of New South Wales on 17th and 18th November, 1959. Syd., University of New South Wales, 1960. 12s. 6d.
- O'LOGHLEN, F., *ed.* Cattle country; an illustrated survey of the Australian beef cattle industry; a complete directory of the studs; ed. by F. O'Loghlen and F. H. Johnston. Syd., F. H. Johnston, 1960. 75s.
- PURVES, J. R. W. Victoria; the postage dues; background and foreground. Melb., Royal Philatelic Society of Victoria, 1961. 63s.
- REITSMA, A. J. Trade protection in Australia. Brisb., Univ. of Queensland Press, 1960.
- SIMPSON, C. Show me a mountain; the rise of an Australian company, Ampol. Syd., Angus and Robertson, 1961. 30s.
- WESTERN AUSTRALIA; industry—commerce—facts—figures; an account of conditions and opportunities in the western state of the Commonwealth. Perth, Paterson Brokensha, 1961. 25s.
- WILSON, R. Scotch made easy. Lond., Hutchinson, 1959. 25s. (Essays on the place of whisky in literature, history and national prosperity. The author is an Australian.)

## Science and Technology.

## STANDARD WORKS IN PRINT.

- AUSTRALIA—*Commonwealth Scientific and Industrial Research Organization.* A manual of Australian soils; by C. G. Stephens. Melb., 1953. 25s.
- AUSTRALIA—*Meteorology, Bureau of.* Climatological atlas of Australia. Melb., 1940. 10s. 6d.
- AUSTRALIAN ACCOUNTANCY PROGRESS. Syd., Butterworth, 1954 to date. Annual. 37s. 6d.
- AUSTRALIAN JOURNAL OF BIOLOGICAL SCIENCES. Melb., C.S.I.R.O., 1951 to date. Quarterly. 40s. *per annum.*
- AUSTRALIAN JOURNAL OF CHEMISTRY. Melb., C.S.I.R.O., 1951 to date. Quarterly. 40s. *per annum.*
- AUSTRALIAN JOURNAL OF EXPERIMENTAL BIOLOGY AND MEDICAL SCIENCE. Adel., Medical Sciences Club, University of Adelaide, 1924 to date. Bi-monthly. 60s. *per annum.*
- AUSTRALIAN JOURNAL OF PHYSICS. Melb., C.S.I.R.O., 1951 to date. Quarterly. 40s. *per annum.*
- AUSTRALIAN JOURNAL OF SCIENCE. Syd., Australian and New Zealand Association for the Advancement of Science, 1938 to date. Bi-monthly. 55s. *per annum.*
- AUSTRALIAN VETERINARY JOURNAL. Syd., Australian Veterinary Association. Monthly. 1925 to date. 80s. *per annum.*
- AUSTRALIAN ZOOLOGIST. Syd., Royal Zoological Society of N.S.W., 1914 to date. Irreg. 12s. 6d. *per issue.*
- BARRIE, D. M. The Australian Bloodhorse. Syd., Angus and Robertson, 1956. 126s.



## Science and Technology—continued.

## STANDARD WORKS IN PRINT—continued.

- BELSCHNER, H. G. Sheep management and diseases; (5th ed.). Syd., Angus and Robertson, 1957. 105s. (Agricultural and livestock series.)
- CLARK, J. The formicidae of Australia; v. 1. Melb., C.S.I.R.O., 1952. 25s.
- GANDEVIA, B. An annotated bibliography of the history of medicine in Australia. Syd., A'sian Medical Pub. Co., 1957. 35s. (British Medical Association in Australia—Federal Council Monographs 1.)
- HUNGERFORD, T. G. Diseases of livestock (4th ed.). Syd., Angus and Robertson, 1959. 80s.
- INSTITUTION OF ENGINEERS OF AUSTRALIA. Journal. Syd., 1929 to date. Eight issues a year. 105s. *per annum*.
- KELLEY, R. B. Principles and methods of animal-breeding; rev. ed. Syd., Angus and Robertson, 1960. 48s. (Agricultural and livestock series.)
- Sheep dogs; their breeding, maintenance and training; (3rd ed. reprint). Syd., Angus and Robertson, 1958. 25s. (Agricultural and livestock series.)
- LASERON, C. F. The face of Australia; the shaping of a continent; maps and sketches by the author (2nd ed.). Syd., Angus and Robertson, 1954. 25s.
- MCLUCKIE, J. Australian and New Zealand botany; by John McLuckie and H. S. McKee. Syd., Associated General Publications, 1962. 84s. (First published in 1954.)
- MEDICAL JOURNAL OF AUSTRALIA. Syd., A'sian Medical Pub. Co., 1856 to date. Weekly. 3s. *per issue*.
- MUELLERIA. Melb., National Herbarium, 1955 to date. Irreg.
- REHN, A. G. The grasshoppers and locusts (acripoidea) of Australia; v. 1-3. Canb., C.S.I.R.O., 1952-1957.
- ROBERTS, F. H. S. Insects affecting live-stock with special reference to important species occurring in Australia. Syd., Angus and Robertson, 1952. 45s.
- WHITTET, J. N., *comp.* Weeds. Syd., New South Wales Department of Agriculture, 1958. 42s. (Farmers' handbook series.)
- See also publications of Australian and New Zealand Association for the Advancement of Science, Australian Institute of Agricultural Science, Commonwealth Scientific and Industrial Research Organization, Commonwealth Bureau of Mineral Resources, Royal Australian Chemical Institute, the Royal Societies, the Universities, the scientific institutions, and works under the heading *Ethnology and Natural History* in this list.

## RECENT PUBLICATIONS OF INTEREST.

- AUSTRALIA—Commonwealth Scientific and Industrial Research Organization. C.S.I.R.O. and the wool-grower. Melb., 1960. *Gratis*.
- Wool research laboratories of C.S.I.R.O. Melb., 1960.
- AUSTRALIA—Meteorology, Bureau of. Seminar on rain, Sydney, August, 1960; report. Melb., 1960, 5 v.
- AUSTRALIA—Parliament—Senate. Select Committee . . . upon Road Safety. Report. Canb., 1960. 1s. 9d.
- AUSTRALIAN AUTOMOBILE ASSOCIATION. Road safety; statement of the Australian Automobile Association before the Select Committee on Road Safety. Melb., 1960.
- AUSTRALIAN JOURNAL OF EXPERIMENTAL AGRICULTURE AND ANIMAL HUSBANDRY. Melb., Australian Institute of Agricultural Science for the Australian Agricultural Council, 1961 to date. Quarterly, 100s. *per annum*.
- AUSTRALIAN SCIENTIST; monthly journal on research, development and application. Syd., Tasman Productions, 1961 to date. 9s. 6d. *per issue*.
- BROWN, D. Better fruit growing for Australian gardeners. Melb., Lansdowne, 1961, 50s.
- BURNET, Sir F. MACFARLANE. The viruses; biochemical, biological and bio-physical properties; ed. by F. M. Burnet and W. M. Stanley. N.Y., Academic Press, 1959. 211s. 2v. (The author shared the Nobel Prize for Medicine, 1960, for his research work on virus diseases.)
- Principles of animal virology; 2nd ed. N.Y., Academic Press, 1960. \$12.
- BUTLER, S. T., *ed.* Space and the atom; a course of lectures in physics and astronomy; ed. by S. T. Butler and H. Messel. Syd., Shakespeare Head Press, 1961. 84s. (The lectures were given to the Nuclear Research Foundation Summer School for Science Teachers at the University of Sydney, 9th-20th January, 1961.)
- DEBENHAM, F. Simple surveying for farmers. Syd., Angus and Robertson, 1961. 10s. 6d.
- HAZLEWOOD, W. G. Handbook on trees, shrubs and roses. Epping, N.S.W., Hazlewood Nurseries, 1961. 18s. 6d.
- HODGE, J. E. Green fields and pastures new; 3rd ed. Adel., Hodge & Sons, 1959. 20s. (An account of experiments in soil conservation and pasture improvement in South Australia.)
- HUTCHINSON, R. C. Food for longer living. Melb., Melbourne Univ. Press, 1960. 5s. 6d.
- INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY—Section of Organic Chemistry. The chemistry of natural products; special lectures presented at the International Symposium on the Chemistry of Natural Products held in Melbourne, Canberra and Sydney, Australia, August, 1960, and organized by the Australian Academy of Science. Lond., Butterworth, 1961.
- JORDAN, J. W. Practical sheep farming in Australia. Brisb., Jacaranda, 1961. 63s.
- LEEPER, G. W. Introduction to soil science; new ed. Melb., Univ. Press, 1961. 35s.
- LUKE, R. H. Bush fire control in Australia. Melb., Hodder and Stoughton, 1961. 15s.
- MCARDLE, A. A. Poultry management and production. Syd., Angus and Robertson, 1961. 105s. (Agricultural and livestock series.)
- MOLNAR, I., *ed.* A manual of Australian agriculture. Melb., Heinemann, 1961. 110s.
- PENFOLD, A. R. The eucalypts: botany, cultivation, chemistry, and utilization. Lond., Leonard Hill, 1961. 80s.
- SYMPOSIUM ON ANTARCTIC METEOROLOGY, Melbourne, 1959. Antarctic meteorology: proceedings. Oxford, Symposium Publications Division, Pergamon Press, for the Director of Meteorology, Melbourne, 1960. (The symposium was held under the auspices of the Australian Academy of Science with the endorsement of the Special Committee for the I.G.Y. (CSAGI) and the Special Committee for Antarctic Research (SCAR).)

## Science and Technology—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- THOMAS, A. S. Better roses: rose-growing for everyone: 3rd ed. Syd., Angus and Robertson, 1960. 35s.
- VICTORIAN EMPLOYERS' FEDERATION. The health of the executive in business, trade unions and the public service. Melb., 1961.
- WALKER, A. S. Medical services of the R.A.N. and R.A.A.F.: with a section on women in the Army Medical Services. Canb., Australian War Memorial, 1961. 35s. (Australia in the war of 1939-45: series 5 (Medical) v. 4.)

## Cookery.

## RECENT PUBLICATIONS OF INTEREST.

- COX, HELEN. Traditional English cooking: new ways with old dishes. Syd., Angus and Robertson, 1961. 29s. 6d.
- DONOVAN, MARIA K. Continental cookery in Australia: decorations by Edith Wall and the author: 2nd ed. Melb., Heinemann, 1960. 25s.
- The far eastern epicure. Melb., Heinemann, 1961. 25s.
- HARNEY, W. E. Bill Harney's cook book: in collaboration with Patricia Thompson. Melb., Lansdowne Press, 1960. 12s. 6d.
- WHYTE, H. M. The fats of life: the theory and practice of eating and cooking to avoid coronary heart disease. Syd., Ure Smith, 1961. 15s.
- WONG, ELLA-MEI. Chinese cookery. Syd., Angus and Robertson, 1961. 17s. 6d.

## Natural History.

## STANDARD WORKS IN PRINT.

- ALLAN, C. M. JOYCE. Australian shells. Melb., Georgian House, 1959. 84s. (First published in 1950.)
- AUSTRALIA—Commonwealth Forestry and Timber Bureau. Forest trees of Australia. Canb., 1957. 42s.
- AUSTRALIAN MUSEUM MAGAZINE. Syd., 1921 to date. Quarterly. 10s. per annum.
- BARRETT, C. L. Butterflies of Australia and New Guinea: by C. L. Barrett and A. N. Burns. Melb., Seward, 1952. 55s.
- Wild life of Australia and New Guinea. Melb., Heinemann, 1954. 18s. 6d.
- CAYLEY, N. W. What bird is that? a guide to the birds of Australia (2nd ed.). Syd., Angus and Robertson, 1958. 45s.
- DAKIN, W. J. Australian seashores: a guide for the beach-lover, the naturalist, the shore fisherman, and the student: by William J. Dakin, assisted by Isobel Bennett and Elizabeth Pope (new ed.). Syd., Angus and Robertson, 1960. 50s.
- GILLETT, K. The Great Barrier Reef and adjacent isles: a comprehensive survey for visitor, naturalist and photographer: by Keith Gillett and Frank McNeill. Syd., Coral Press, 1959. 70s.
- HARRIS, THISTLE Y. Wild flowers of Australia (4th ed.). Syd., Angus and Robertson, 1956. 42s. (First published in 1938.)
- , ed. Naturecraft in Australia: an introductory handbook to the fauna and flora and to the Australian environment for the use of the bushwalker, student, teacher, field naturalist and conservationist. Syd., Angus and Robertson, 1956. 25s.
- KINGHORN, J. R. The snakes of Australia: (new ed.). Syd., Angus and Robertson, 1956. 25s.
- LEACH, J. A. An Australian bird book: a complete guide to the birds of Australia: rev. and rewritten by Philip Crosbie Morrison: 9th ed. Melb., Whitcombe and Tombs, 1958. 32s. 6d.
- NICHOLLS, W. H. Orchids of Australia: drawn in natural colour by W. H. Nicholls with descriptive text: (introd. by S. T. White). Melb., Georgian House, 1951. 3 pts. 150s. each.
- ROUGHLEY, T. C. Wonders of the Great Barrier Reef: (2nd ed.). Syd., Angus and Robertson, 1951. 42s.
- TROUGHTON, E. LE G. Furred animals of Australia (3rd ed.). Syd., Angus and Robertson, 1951. 35s.
- WORRELL, E. Dangerous snakes of Australia: a handbook for bushmen, bushwalkers, mission workers, servicemen, boy scouts, New Australians and naturalists on the identification and venoms of Australian snakes with directions for first aid treatment of snake-bite. Syd., Angus and Robertson, 1956. 16s.

## RECENT PUBLICATIONS OF INTEREST.

- BELL, A. Some common Australian birds: by Allan and Shirley Bell. Melb., Oxford Univ. Press, 1956. 35s.
- BROOKS, A. E. Australian native plants for home gardens. Melb., Lothian, 1959. 45s.
- BURBIDGE, NANCY T. The wattles of the Australian Capital Territory. Canb., Verity Hewitt, 1961. 6s.
- CHISHOLM, A. H. The romance of the lyrebird. Syd., Angus and Robertson, 1960. 27s. 6d.
- FLEAY, D. Living with animals. Melb., Lansdowne Press, 1960. 16s.
- FRASER, F. C. A handbook of the dragonflies of Australasia. Syd., Royal Zoological Society of N.S.W., 1960.
- HYETT, J. A bushman's harvest. Melb., Cheshire, 1959. 32s. 6d.
- KEAST, J. A. Window to bushland. Syd., Educational Press, 1959. 21s.
- McMICHAEL, D. F. Some common shells of the Australian sea-shore. Brisb., Jacaranda, 1960. 12s. 6d. (Jacaranda pocket guides.)
- McPHEE, D. R. Some common snakes and lizards of Australia. Bris., Jacaranda, 1959. 12s. 6d. (Jacaranda pocket guides.)
- MORRISON, P. C. Along the track with Crosbie Morrison: a selection from his nature talks by Lucy Morrison: illus. by Anne Lissenden. Melb., Whitcombe and Tombs, 1961. 30s.
- PATTON, R. T. Know your own trees: a short introduction to the study of our common eucalypts: 3rd ed. Melb., Univ. Press, 1961. 5s. 6d. (Melbourne paperbacks.)
- SAMUEL, H. J. Wild flower hunter: the story of Ellis Rowan: illus. by Maie Casey. Lond., Constable, 1961. 21s. (This account of Mrs. Rowan's travels, in search of the subjects of her paintings, is illustrated by her niece, Lady Casey.)
- SCOTT, P. Faraway look one: by Peter and Philippa Scott. Lond., Cassell, 1960. 15s. (A well illustrated work on selected aspects of wild life in Australia.)

Natural History—*continued.*RECENT PUBLICATIONS OF INTEREST—*continued.*

- THE UNIQUE ANIMALS OF AUSTRALIA: photographs by L. Le Guay and others. Melb., Lansdowne Press, 1961.
- VICTORIA—*Fisheries and Wild Life Department.* Australian waterfowl: produced jointly by Fisheries and Wild Life Department, Victoria, and Imperial Chemical Industries of Australia and New Zealand Ltd., Melb., 1960.
- WHITLEY, G. Native freshwater fishes of Australia. Brisb., Jacaranda, 1960. 12s. 6d. (Jacaranda pocket guides.)

## Ethnology.

## STANDARD WORKS IN PRINT.

- AUSTRALIA—*Territories, Department of.* Our aborigines: prepared under the authority of the Minister for Territories, with the co-operation of the Ministers responsible for aboriginal welfare in the Australian States. Canb., Govt. Pr., 1957.
- Progress towards assimilation: aboriginal welfare in the Northern Territory. Canb., 1958.
- ELKIN, A. P. The Australian aborigines: how to understand them (3rd ed.). Syd., Angus and Robertson, 1954. 38s. 6d.
- HASLUCK, Hon. P. M. C. Native welfare in Australia: speeches and addresses. Perth, Paterson Brokensha, 1953. 5s. (The author is Minister for Territories in the Commonwealth Government.)
- MCCARTHY, F. D. Australia's aborigines: their life and culture. Melb., Colorgrave, 1957. 105s.
- MOUNTFORD, C. P. Records of the American—Australian scientific expedition to Arnhem Land: v. 1, Art, myth and symbolism. Melb., Univ. Press, 1956. 126s.
- OCEANIA: a journal devoted to the study of the native peoples of Australia, New Guinea, and the islands of the Pacific Ocean. Syd., University of Sydney, 1930 to date. Quarterly. 40s. *per annum.*
- PARKER, K. L. Australian legendary tales: collected by K. Langloh Parker: selected and edited by H. Drake-Brockman: illus. by Elizabeth Durack. Syd., Angus and Robertson, 1953. 25s.
- See also the anthropological reports of the Governments of Papua and New Guinea, and the publications of the South Pacific Commission.

## RECENT PUBLICATIONS OF INTEREST.

- ANELL, B. Hunting and trapping methods in Australia and Oceania. Lund, Haken Oblssons Boktryckeri, Printer, 1960. 60s. (Studia Ethnographica Upsaliensia XVIII.) (Studies in the methods used by Australian, New Zealand, New Guinea, Melanesian and Polynesian natives.)
- AUSTRALIA—*Territories, Department of.* Fringe dwellers. Canb., Govt. Pr., 1959. *gratis.*
- BÜHLER, A. Ozeanien und Australien: die Kunst der Südsee: von Alfred Bühler, Terry Barrow and Charles P. Mountford. Baden Baden, Holle Verlag, 1961.
- BURRIDGE, K. O. L. Mambu: a Melanesian millennium. Lond., Methuen, 1960. 62s. (A study of the "Cargo" cult in the Tangu and Manam Island communities.)
- DE GRYS, FRANCY. Cobba-cobba. Adel., Rigby, 1961. 27s. 6d. (Experiences of the author and her husband during some years in charge of the La Grange Native Depot, one hundred miles south of Broome, Western Australia.)
- FIRTH, R. Social change in Tikopia: re-study of a Polynesian community after a generation. Lond., Allen & Unwin, 1959. (Study undertaken while the author was Acting Director of the Research School of Pacific Studies, Australian National University.)
- GARDI, R. Tamberan: an encounter with cultures in decline in New Guinea. Lond., Constable, 1960. 30s.
- HARNEY, W. E. Tales from the aborigines. Lond., Hale, 1959. 18s.
- HOGBIN, H. I. Law and order in Polynesia: a study of primitive legal institutions. Hamden, Conn., Shoe String Press, 1961.
- LOMMEL, A. Die Kunst des funften Erdteils Australien: von Andreas und Katharina Lommel. München, Gebr. Giehrl, 1959. 85s. 6d. (An account of the art of the Australian aborigines.)
- MCCARTHY, F. D. Australian aboriginal rock art: foreword by A. P. Elkin. Syd., Australian Museum, 1958. 6s. 6d.
- MAHER, R. F. New men of Papua: a study in culture change. Madison, Univ. of Wisconsin Press, 1961. \$5.
- REAY, MARIE O. The Kuma: freedom and conformity in the New Guinea highlands. Melb., Univ. Press., 1959. 45s.
- ROBINSON, R. The feathered serpent: the mythological genesis and recreative ritual of the aboriginal tribes of the Northern Territory. Syd., Edwards & Shaw, 1956. 30s.
- ROSE, F. G. G. Classification of kin, age structure and marriage amongst the Groote Eylandt aborigines: a study in method and a theory of Australian kinship. Berlin, Akademie-Verlag, 1960.
- ROSE, LYNDON. People in the sun: the native people of Australia and the islands of the south-west Pacific: photographs by Ronald Rose. Syd., Angus and Robertson, 1961.
- STREHLOW, T. G. H. Nomads in no-man's land. Adel., 1961. 4s. (Address on the problems associated with assimilation of the aborigines, given at the Ninth Summer School, 1960, organized by the Adult Education Department, University of Adelaide.)
- WELLS, ANNIE E. Tales from Arnhem Land: illus. by Margaret Paice. Syd., Angus and Robertson, 1959. 16s. (Legends of the Australian aborigines.)

## Art, Architecture, Music and Theatre.

## STANDARD WORKS IN PRINT.

- ANDERSON, H. Australian song index, 1828–1956. Ferntree Gully, Vic., Rams Skull Press, 1957. 18s.
- BARNETT, P. N. Australian book-plates and book-plates of interest to Australia. Syd., Beacon Press, 1950. 252s.
- CATO, J. The story of the camera in Australia. Melb., Georgian House, 1955. 37s. 6d.
- GODDARD, R. H. Australian landscapes in miniature. Syd., Legend Press, 1952. 15s.
- HALL, H. B. Ballet in Australia from Pavlova to Rambert. Melb., Georgian House, 1948. 105s.
- HERMAN, M. E. The early Australian architects and their work: illus. and decorated by the author. Syd., Angus and Robertson, 1954. 84s.
- HOFF, URSULA. Masterpieces of the National Gallery of Victoria. Melb., Cheshire, 1949. 70s.
- ORCHARD, W. A. Music in Australia: more than 150 years of development. Melb., Georgian House, 1952. 7s. 6d.

Art, Architecture, Music and Theatre—*continued.*

## RECENT PUBLICATIONS OF INTEREST.

- ASHTON, Sir WILLIAM. Will Ashton: the life and work of artist Sir William Ashton . . . pref. by the Rt. Hon. R. G. Menzies and an artist's tribute by William Dargie. Syd., Legend Press, 1961. 210s.
- AUSTRALIAN THEATRE YEAR BOOK (ed. by the Australian Elizabethan Theatre Trust). Melb., Cheshire, 1958 to date. 20s.
- BARNARD, N. Bronze casting and bronze alloys in ancient China. Canb., Australian University and Monumenta Serica, 1961. 115s. (Monumenta serica monograph, 14.)
- BOYD, R. The Australian ugliness. Melb., Cheshire, 1960. 35s. (A commentary. by a leading Australian architect, on the attitude of Australians towards standards of design and taste in their urban surroundings.)
- Australia's home: its origins, builders and occupiers. Melb., Univ. Press, 1961. 8s. 6d. (Melbourne paperbacks.) (First published in 1952.)
- BRIGGS, A. Mass entertainment: the origins of a modern industry. Adel., Griffin Press for the Univ. of Adelaide, 1960. (Joseph Fisher lecture in commerce, No. 29.)
- CLEREHAN, N. Best Australian houses: recent houses built by members of the Royal Australian Institute of Architects. Melb., Cheshire, 1961. 40s.
- DRYSDALE, G. R. Russell Drysdale; a retrospective exhibition of paintings from 1937 to 1960, (arranged by the Art Gallery of New South Wales: introd., by Paul Haefliger. Syd., Ure Smith, 1960. 35s.
- FINEMORE, B. Painting. Melb., Longmans, 1961. 6s. (The arts in Australia.)
- HOOD, K. Pottery. Melb., Longmans, 1961. 6s. (The arts in Australia.)
- HUNT, H. The making of Australian theatre. Melb., Cheshire, 1960. 12s. 6d.
- KARDOSS, J. Theatre arts in Australia. Syd., Wentworth Press, 1960. 6s.
- LAURI, G. The Australian theatre story. Syd., Peerless Press, 1960. 75s.
- MORGAN, H. A. Architecture of the twentieth century: by H. A. Morgan and A. T. Price. Syd., Angus and Robertson, 1960. 21s.
- MOUNTFORD, C. P. Aboriginal art. Melb., Longmans, 1961. 6s. (The arts in Australia.)
- NOLAN, S. Sidney Nolan: introd. by Kenneth Clark, commentary by Colin MacInnes and Bryan Robertson. Lond., Thames and Hudson, 1961. 70s.
- PARR, L. Sculpture. Melb., Longmans, 1961. 6s. (The arts in Australia.)
- RIVETT, C. An artists guide to old Parramatta. Lidcombe, N.S.W., H. H. Dowling, print., 1961. 21s.
- ROBERTSON, E. G. Victorian heritage: ornamental cast iron in architecture. Melb., Georgian House, 1960. 210s.
- SEIDLER, H. Houses, interiors and projects. Syd., Associated General Publications, 1959. 84s. (First published in 1954.)
- SMITH, B. W. European vision and the South Pacific, 1768-1850: a study in the history of art and ideas. Oxf., Clarendon Press, 1960. 84s.
- SOUTH AUSTRALIAN INSTITUTE OF ARCHITECTS. Architecture in South Australia. Adel., 1960. 7s. 6d. (Illustrates the architectural history of the State from 1836 to the present day.)
- STEWART, H. F., jr. A net of fireflies: Japanese haiku and haiku paintings: with verse translations and an essay by Harold Stewart. Tokyo, Charles E. Tuttle, 1960. \$3.60. (Harold Stewart is well known as an Australian poet.)
- WHITECHAPEL ART GALLERY. Recent Australian painting 1961. Lond., 1961. (This catalogue of the exhibition of Australian art held in June and July, 1961, includes portraits and biographical notes of the artists represented.)

## Sport.

## STANDARD WORKS IN PRINT.

- CAVANOUGH, M. Cup day: the story of the Melbourne Cup 1861-1960: by Maurice Cavanough and Meurig Davies. Melb., Cheshire, 1960. 32s. 6d.
- EDWARDS, S. H. Shooting and shooting bushcraft (2nd ed.). Syd., Angus and Robertson, 1959. 15s.
- MCKAY, D. Behind the wheel. Syd., Ure Smith, 1960. 25s. (An account of motor sport and professional car racing in Australia.)
- MACLAREN, T. M. The Australian golfer's handbook (2nd ed.). Syd., Langside Pub. Co., 1960 (incorporating *Who's who in Australian golf*). 30s.
- MILLER'S SPORTING ANNUAL AND ATHLETIC RECORD. Melb., Herald and Weekly Times, 1918 to date. Annual. 5s. *per issue*.
- MISSINGHAM, H. Good fishing: a handy guide for Australia with illustrations of the most commonly caught fish. Syd., Dymock's, 1953. 10s. 6d.
- MOYES, A. G. Australian cricket: a history: by A. G. ("Johnnie") Moyes. Syd., Angus and Robertson, 1959. 50s.
- MULLEN, C. C. History of Australian rules football, 1858-1958. Carlton, Vic., 1959.

## RECENT PUBLICATIONS OF INTEREST.

- AUTOMOBILES—Australia: incorporating *Australian Motor Sports Review* 1959-60. Melb., Wylie Publishing Co., 1960 to date.
- BARRIE, D. M. Turf cavalcade: a review of the one hundred and fifty years of horse-racing in Australia, and of the Australian Jockey Club's hundred years at Randwick. Syd., Australian Jockey Club, 1960. 25s.
- BENAUD, R. Way of cricket. Lond., Hodder, 1961. 24s. 3d.
- BIRD, NANCY. Born to fly. Syd., Angus and Robertson, 1961. 25s.
- BLOOMFIELD, J. Know-how in the surf. Syd., Angus and Robertson, 1959. 25s.
- BRABHAM, J. Jack Brabham's motor racing book. Lond., Muller, 1960. 15s. (The Australian racing driver here recounts his triumphs in the international sphere.)
- BRADMAN, Sir DONALD G. The art of cricket. Lond., Hodder, 1958. 30s.
- BULL, J. The spiked shoe. Melb., National Press, 1959. 18s. 6d. (A history of professional running in Australia, with special reference to Victorian performances.)
- CAPLE, S. C. The ashes at stake: memoirs of Anglo-Australian cricket. Worcester, England, Littlebury, 1961. 25s.
- CERUTTY, P. W. Athletics: how to become a champion. Lond., Stanley Paul, 1960. 21s.
- DU CROS, E. Skindiving in Australia. Syd., Angus and Robertson, 1960. 25s. 6d.
- FINGLETON, J. H. The greatest test of all. Lond., Collins, 1961. 12s. 6d.
- Masters of cricket from Trumper to May: foreword by R. G. Menzies. Lond., Heinemann, 1958. 15s.

## Sport—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- GORDON, H. Young men in a hurry: the story of Australia's fastest decade. Melb., Lansdowne Press, 1961. 28s. 6d.
- HARRIS, R. S. Heroes of the surf: fifty years of Manly Life Saving Club. Manly, N.S.W., Manly Life Saving Club, 1961. 30s.
- HERALD AND WEEKLY TIMES LIMITED. Football today: 1961: Herald-Sun privilege book. Melb., 1961. 5s.
- HAINVILLE, F. D. Halfway to heaven. Syd., Angus and Robertson, 1960. 27s. 6d. (Recounts the experiences of the author in sky writing, gliding, and stunt flying. Hainville was killed in a glider crash in 1959.)
- HUNGERFORD, R. B. The anglers' omnibus: a condensation of best feature articles on salt-water fishing published in past issues of the *Anglers' Digest* magazine: 2nd ed. Syd., Afco Pty. Ltd., 1961. 12s. 6d.
- The shooters' omnibus. Syd., Afco, 1959. 20s.
- KILBURN, J. M. Cricket decade: England v. Australia, 1946–1956. Lond., Heinemann, 1959. 15s.
- MOCKRIDGE, R. My world on wheels: the posthumous autobiography . . . completed by John Burrowes. Lond., S. Paul, 1960. 26s.
- MOYES, A. G. With the West Indies in Australia 1960–61: a critical story of the tour: foreword by G. E. Gomez. Syd., Angus and Robertson, 1961. 25s.
- NICHOLSON, T. R. Five roads to danger: the adventure of transcontinental motoring 1919–1930. Lond., Cassell, 1960. 25s. (Includes descriptions of the first round Australia journeys by motorcar, and Francis Birtles' England–Australia run in 1927–28.)
- PATTERSON, G. H. Angling in the Andes: fishing for rainbow trout in the rivers of Chile and the Argentine. Syd., K. G. Murray, 1961. 18s. 6d.
- PEEBLES, I. Bowler's turn: a further ramble round the realm of cricket: foreword by the Rt. Hon. R. G. Menzies. Lond., Souvenir Press, 1960. 16s.
- POLLARD, J. Cricket the Australian way. Melb., Lansdowne Press, 1961. 29s. 6d.
- PURDY, C. J. S. A guide to good chess from first steps to fine points: 6th rev. ed. Syd., Horwitz, 1961. 15s. 6d.
- SCHOLES, D. Fly-fisher in Tasmania: an acquaintance with the trout of the rivers and lakes of Tasmania, Australia. Melb., Univ. Press, 1961. 37s. 6d.
- THE SECRETS OF AUSTRALIA'S GOLFING SUCCESS: by Kel Nagle and others. Melb., Lansdowne Press, 1961. 35s.
- SKI AUSTRALIA: Snow and water. Syd., K. G. Murray Publishing Co., 1961 to date. 2s. 6d. per issue. Incorporates *Schuss*.

## Literature and Language.

## \*CRITICISM, BIBLIOGRAPHY AND ANTHOLOGIES.

## STANDARD WORKS IN PRINT.

- AUSTRALIAN BROADCASTING COMMISSION—*Standing Committee on Spoken English*. A guide to the pronunciation of Australian place names. Syd., Angus and Robertson, 1957. 7s. 6d.
- AUSTRALIAN LETTERS. Adel, Mary Martin Bookshop, 1957 to date. Quarterly. 9s. 6d. per issue.
- AUSTRALIAN POETRY. Syd., Angus and Robertson, 1941 to date. Annual. 15s.
- COAST TO COAST: Australian stories. Syd., Angus and Robertson, 1943 to date. Annual. Various prices.
- CROWLEY, F. K. The records of Western Australia. Perth, Publications Committee of the University of Western Australia, 1953 to date. 84s. per v.
- FERGUSON, Sir JOHN A. Bibliography of Australia: v. 1–4; 1784–1850. Syd., Angus and Robertson, 1941 to date. v. 1–2 o.p., v. 3, 126s., v. 4, 210s., v. 5 and 6, 1851–1900 in preparation.
- GREEN, H. M., ed. Modern Australian poetry (2nd ed.). Melb., Univ. Press, 1952. 12s. 6d.
- MACKANESS, G., comp. An anthology of Australian verse (2nd ed.). Syd., Angus and Robertson, 1952. 25s.
- MEANJIN; Quarterly: A review of arts and letters in Australia. Melb., Univ. of Melbourne, 1940 to date. 10s. 6d. per issue, annual subscription 42s.
- MILLER, E. MORRIS. Australian literature: a bibliography to 1938; by E. Morris Miller: extended to 1950; (ed. with historical outline and descriptive commentaries by F. T. Macartney.). Syd., Angus and Robertson, 1956. 30s.
- MITCHELL, A. G. The pronunciation of English in Australia. Syd., Angus and Robertson, 1951. 14s. (First published in 1946.)
- MURDOCH, W. L. F. A book of Australian and New Zealand verse (4th ed.), chosen by Walter Murdoch and Alan Mulgan. Melb., Oxford Univ. Press, 1956. 14s.
- OVERLAND. Melb., S. Murray-Smith, 1954 to date. Quarterly. 2s. 6d. per issue.
- PHILLIPS, A. A. The Australian tradition: studies in a colonial culture. Melb., Cheshire, 1958. 19s. 6d.
- QUADRANT. Syd., Australian Assn. for Cultural Freedom, 1956 to date. Quarterly. 5s. per issue.
- RODERICK, C. An introduction to Australian fiction. Syd., Angus and Robertson, 1950, 12s. 6d.
- SOUTHERLY. Syd., Australian English Association, 1939 to date. Quarterly. 5s. per issue.
- STEWART, D. A., ed. Australian bush ballads: ed. by Douglas Stewart and Nancy Keesing. Syd., Angus and Robertson, 1959. 30s.
- Old bush songs and rhymes of colonial times: enlarged and revised from the collection of A. B. Paterson: by Douglas Stewart and Nancy Keesing. Syd., Angus and Robertson, 1957. 25s.
- THOMPSON, J., jr. ed. The Penguin book of Australian verse: selected and ed. by John Thompson, Kenneth Slessor and R. G. Howarth. Harmondsworth, Eng., Penguin Books, 1958. 3s.
- VERSE IN AUSTRALIA. Adel, Australian Letters, 1958 to date. Annual. 17s. 6d.
- WESTERLY. Nedlands, W.A., Arts Union, University of W.A., 1956 to date. Three issues a year 6s. per issue.

\* Excludes the works of individual authors, reference to which will be found in Miller, *Australian literature* and Green, *A history of Australian literature*.

## Literature and Language—continued.

## \*CRITICISM, BIBLIOGRAPHY AND ANTHOLOGIES—continued.

## RECENT PUBLICATIONS OF INTEREST.

- ARMSTRONG, D. M. Berkeley's theory of vision: a critical examination of Bishop Berkeley's *Essay towards a new theory of vision*. Melb., Univ. Press, 1960. 27s. 6d.
- BAKER, S. J. The drum: Australian character and slang. Syd., Currawong, 1959. 18s.
- BEAZLEY, J., comp. The tracks we travel: second collection including Mary Gilmore award stories. Syd., Australasian Book Society, 1961. 21s.
- DUTTON, G. P. H. Patrick White. Melb., Lansdowne Press, 1961. 8s. 6d. (Australian writers and their work.)
- EWERS, J. K. Creative writing in Australia: a selective survey: (3rd ed.). Melb., Georgian House, 1959. 10s. 6d.
- GREEN, H. M. A history of Australian literature. Syd., Angus and Robertson, 1961. 168s. 2v. v. 1: 1788-1922; v. 2: 1923-1950.
- HADGRAFT, C. H. Australian literature: a critical account to 1955. Lond., Heinemann, 1960. 25s.
- HAMILTON, K. G., ed. The poetry of wit and reason: a selection of poetry from Drayton to Cowper. Brisb., Jacaranda, 1961. 30s. (Australian university paperbacks.)
- HETHERINGTON, J. Norman Lindsay. Melb., Lansdowne Press, 1961. 8s. 6d. (Australian writers and their work.)
- JOHNSON, R. Y. Walter Pater: a study of his critical outlook and achievement. Melb., Univ. Press, 1961. 7s. 6d.
- LEVIS, K., ed. Caught from time: a selection of Australian prose. Syd., Angus and Robertson, 1961. 9s. 6d.
- MCLEOD, A. L., ed. The Commonwealth pen: an introduction to the literature of the British Commonwealth. Ithaca, Cornell Univ. Press, 1961. \$3.50. (The section on Australian literature is by H. J. Oliver and A. L. McLeod.)
- OSBORNE, C., ed. Australian stories of today. Lond., Faber, 1961. 20s.
- PARTIDGE, E. H. A charm of words: essays and papers on language. Lond., H. Hamilton, 1960. 15s. (This work by the well-known Australian born writer on the English language, includes a section on Australian English.)
- SCHULZ, J. Geschichte der Australischen Literatur. Munich, Hueber, 1960. (A survey of Australian literature, especially fiction and poetry, from the early nineteenth century to the present day.)
- SINCLAIR, K. Y. The Melbourne Livy: a study of Berville's translation based on the manuscript in the collection of the National Gallery of Victoria. Melb., Univ. Press on behalf of the Australian Humanities Research Council, 1961.
- SOUTHERN FESTIVAL: a collection of South Australian writing; compiled by the S.A. Fellowship of Australian Writers. Adel., Rigby, 1960. 25s.
- TASMANIAN FELLOWSHIP OF AUSTRALIAN WRITERS. Tasmanian dipstick: ten short stories selected by the Tasmanian Fellowship of Australian writers. Syd., Wentworth Press, 1961. 20s.
- THIELE, C. M., ed. Australian poets speak: ed. by Colin Thiele and Ian Mudie. Adel., Rigby, 1961. 19s. 6d.
- WANNAN, W. A treasury of Australian frontier tales. Melb., Lansdowne Press, 1961. 35s.
- WIGMORE, L. G., ed. Span: an adventure in Asian and Australian writing; ed. for the Canberra Fellowship of Australian Writers. Melb., Cheshire, 1958. 23s.
- WRIGHT, JUDITH A., comp. New land, new language: an anthology of Australian verse. Melb., Oxford Univ. Press, 1957. 12s. 6d.

## Fiction.

## RECENT PUBLICATIONS OF INTEREST.

- ATKINSON, H. Low company. Melb., Cheshire, 1961. 25s.
- BRAMHAM, NONI. The interloper. Lond., Heinemann, 1960. 20s.
- BROWNE, T. A. Robbery under arms: a story of life in the bush and in the goldfields of Australia: by Rolf Boldrewood. Lond., Macmillan, 1958. 6s. (First published in 1888.)
- CALTHORPE, MENA. The dyehouse. Syd., Ure Smith, 1961. 21s.
- CLOSE, R. S. With hooves of brass. Adel., Rigby, 1961. 18s. 9d.
- COOK, K. Wake in fright. Lond., Joseph, 1961. 10s. 6d.
- CUSACK, DYPHNA E. Heatwave in Berlin. Lond., Heinemann, 1961. 18s. 9d.
- DANVERS, J. The living come first. Lond., Heinemann, 1961. 17s. 6d.
- DAVIES, A. F. A Sunday kind of love and other stories: illus. by Jacqueline Gee. Melb., Cheshire, 1961. 20s.
- DAVIS, A. H. On our selection: and, Our new selection: by Steele Rudd, pseud. Syd., Angus and Robertson, 1961. 5s. 6d. (A reprinting of the author's two earliest publications which appeared in 1899 and 1903.)
- FLOWER, P. One rose less. Syd., Ure Smith, 1961. 16s.
- FOWLER, HELEN. The blazing straw. Syd., Angus and Robertson, 1961. 18s. 9d.
- FRANKLIN, STELLA MILES M. L. All that swagger: 2nd ed. Syd., Angus and Robertson, 1956. 25s.
- FURPHY, J. Such is life: being certain extracts from the diary of Tom Collins. Syd., Angus and Robertson, 1956. 25s. (First published in 1903.)
- GLASKIN, G. M. The Beach of Passionate Love: (Pantai Chinta Bèrahi). Lond., Barrie and Rockliff, 1961. 22s. 6d.
- A waltz through the hills. Lond., Barrie and Rockliff, 1961. 16s.
- GUNN, JEANNIE. We of the Never-never. Melb., Robertson & Mullens, 1954. 54s. (First published in 1908.)
- HERBERT, X. Soldiers' women. Syd., Angus and Robertson, 1961. 30s.
- JONES, P. M. La bora. Syd., Angus and Robertson, 1961. 18s. 9d.
- KATA, ELIZABETH. Be ready with bells & drums. Lond., M. Joseph, 1961. 15s.
- KELLAWAY, F. A straight furrow. Lond., Cassell, 1960. 16s.
- KEON, M. The durian tree. Lond., H. Hamilton, 1960. 16s.

\* Excludes the works of individual authors, reference to which will be found in Miller, *Australian literature* and Green, *A history of Australian literature*.

## Fiction—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- LINDSAY, H. A. *Janie McLachlan*. Lond., R. Hale, 1961. 12s. 6d.  
 LINDSAY, N. *Saturdee*: illus. by the author. Syd., Ure Smith, 1961. 21s. (First published in 1934.)  
 LLOYD, Y. H. *Don't tie me down*. Syd., Angus and Robertson, 1961. 18s. 9d.  
 MCGUIRE, F. M. *September comes in*. Lond., Heinemann, 1961. 18s.  
 MATHEW, R. F. *A bohemian affair: short stories*. Syd., Angus and Robertson, 1961. 17s. 6d.  
 PARK, RUTH. *The goodlooking women*. Syd., Angus and Robertson, 1961. 21s. 6d.  
 PRICHARD, KATHERINE S. *Working bullocks*. Syd., Angus and Robertson, 1956. 16s. (First published in 1926.)  
 RICHARDSON, H. H. *The fortunes of Richard Mahony*. Lond., Heinemann, 1961. 30s. First published in 1917.)  
 RONAN, T. *Only a short walk*. Lond., Cassell, 1961. 19s. 9d.  
 STIRLING, C. *The scarlet blossom*. Lond., Heinemann, 1961. 18s.  
 STUART, D. *The driven*. Melb., Georgian House, 1961. 18s.  
 TAYLOR, G. *The crop dusters; a novel*. Lond., P. Davies, 1960. 20s.  
 THIELE, C. M. *The sun on the stubble*. Adel., Rigby, 1961. 15s. 9d.  
 TURNER, G. R. *A stranger and afraid*. Lond., Cassell, 1961. 18s.  
 WATEN, J. *Time of conflict*. Syd., Australasian Book Society, 1961. 21s.  
 WEST, M. L. *Daughter of silence*. Lond., Heinemann, 1961.  
 WHITE, P. V. M. *Riders in the chariot: a novel*. Lond., Eyre & Spottiswoode, 1961. 21s.  
 YOUNGER, C. H. *Less than angel*. Lond., W. H. Allen, 1960. 18s. 9d.

## Poetry.

## RECENT PUBLICATIONS OF INTEREST.

- BRENNAN, C. J. *The verse of Christopher Brennan*: ed. by A. R. Chisholm and J. J. Quinn with a biographical introd. by A. R. Chisholm. Syd., Angus and Robertson, 1960. 30s.  
 BUCKLEY, V. *Masters in Israel: poems*. Syd., Angus and Robertson, 1961. 17s. 6d.  
 CUMFESTON, AMY. *Borrow the spring: poems*. Syd., Edwards & Shaw, 1961. 15s.  
 ERN MALLEY'S POEMS: with an introduction by Max Harris. Melb., Lansdowne Press, 1961. (These poems, which were the subject of a literary hoax, were first published in 1954. This reprinting is accompanied by comment from the publishers, authors, and others concerned with the exposure.)  
 HOPE, A. D. *Poems*. Lond., H. Hamilton, 1960. 15s.  
 MACARTNEY, F. T. *Selected poems*. Syd., Angus and Robertson, 1961. 17s. 6d.  
 MCCRAE, H. *The best poems of Hugh McCrae*: chosen and arranged by R. G. Howarth. Syd., Angus and Robertson, 1961. 25s.  
 MCCUAIG, R. *The ballad of bloodthirsty Bessie and other poems*. Syd., Angus and Robertson, 1961. 21s.  
 MACKENZIE, K. *Selected poems*. Syd., Angus and Robertson, 1961. 25s. (A selection made by Douglas Stewart.)  
 MANIFOLD, J. S. *Nightmares & sunhorses*. Melb., Overland, 1961. 15s.  
 MARTIN, D. *Spiegel the cat: a story-poem . . . based on a tale by Gottfried Keller*: illus. by Roderick Shaw. Melb., Cheshire, 1961. 30s.  
 MATHEW, R. F. *South of the equator*. Syd., Angus and Robertson, 1961. 17s. 6d.  
 PATERSON, A. B. *Collected verse*. Syd., Angus and Robertson, 1956. 18s. 6d.  
 RIDDELL, ELIZABETH R. *Forbears*. Syd., Angus and Robertson, 1961. 17s. 6d.  
 SHAPCOTT, T. W. *Time on fire: poems*. Brisb., Jacaranda, 1961. 21s.  
 SLESSOR, K. *Poems*: 2nd ed. Syd., Angus and Robertson, 1957. 16s.  
 STEWART, D. A., ed. *Voyager poems*. Brisb., Jacaranda, 1960. 12s. 6d.  
 VALLIS, V. *Dark wind blowing*. Brisb., Jacaranda, 1961. 19s. 6d.  
 WEBB, F. *Socrates and other poems*. Syd., Angus and Robertson, 1961. 16s.

## Drama and Essays.

## RECENT PUBLICATIONS OF INTEREST.

- BEYNON, R. *The shifting heart: a play in three acts*. Syd., Angus and Robertson, 1960. 15s.  
 CLARK, L. H. *Danaus the king: a play*. Melb., National Press, 1961. 18s. 6d.  
 JURY, C. R. *The sun in servitude and other plays: The administrator, The battle in the west . . .* Melb., Cheshire, 1961. 42s. (The late Charles Jury was Professor of English at Adelaide University from 1946 to 1950.)  
 LAWLER, R. E. *The Piccadilly bushman*. Lond., Angus and Robertson, 1961. 16s.  
 MACDONALD, A. *Don't frighten the horses*: introd. by "Nino Culotta". Melb., Lansdowne Press, 1961. 22s. 6d. (Humorous sketches by the Daily Telegraph columnist.)  
 STEWART, D. A. *Ned Kelly: school ed.* Syd., Angus and Robertson, 1961. 10s. 6d.  
 TYSON, R. *Philosophers note book*. Melb., Lansdowne Press, 1961. 29s. 6d. (The personal notebook of the well known radio announcer.)

## Children's Books.

## RECENT PUBLICATIONS OF INTEREST.

- ALDOUS, A. *Doctor with wings*. Leicester, Brockhampton Press, 1960. 12s. 6d.  
 ALLEN, GWENDA. *Lindy and James in London*: illus. by Evelyn Clouston. Syd., Angus and Robertson, 1961. 14s.  
 AUSTRALIAN JUNIOR ENCYCLOPAEDIA: (ed. Charles Barrett, rev. ed.) Syd., Australian Educational Foundation, 1961. 270s., 3 v.  
 BIXBY, W. *The race to the South Pole*. N.Y., Longmans, 1961. \$3.25.  
 CHAUNCY, NANCEN. *Tangara "let us set off again"*: illus. by Brian Wildsmith. Lond., Oxford Univ. Press, 1960. 10s. 6d.

## Children's Books—continued.

## RECENT PUBLICATIONS OF INTEREST—continued.

- CILENTO, RUTH. *Moreton Bay adventure*. Lond., M. Joseph, 1961. 12s. 6d.  
 CLARK, MAVIS T. *Pony from Tarella*. Melb., Heinemann, 1959. 15s.  
 CLARKE, MARJORIE E. H. *Sawdust and spangles*. Syd., Angus and Robertson, 1959. 17s. 6d.  
 COCHRANE, P. *Vagi and Varo: children of Papua*, Melb., Oxford Univ. Press, 1961. 5s. 6d.  
 COTTRELL, DOROTHY. *Wilderness orphan*. Syd., Ivan Novak, 1961. 15s.  
 DANIEL, ELIZABETH. *Molu on Mendi*. Melb., Oxford Univ. Press, 1961. 2s.  
 DANIELSSON, B. *Terry in Australia*; tr. from the Swedish by Reginald Spink. Lond., Allen and Unwin, 1961. 15s.  
 DARLING, L. *Kangaroos and other animals with pockets*. Lond., Angus and Robertson, 1960. 13s. 6d.  
 DAY, A. G. *All about Australia: illustrated by W. R. Lohse*. Lond., W. H. Allen, 1960. 17s. 3d.  
 DENNIS, C. J. *A book for kids (new ed.)*. Syd., Angus and Robertson, 1958. 15s.  
 DOWNING, BROWNIE. *Tinka and his friends: by Brownie Downing and John Mansfield*. Edinb., Nelson, 1960. 12s. 6d.  
 ERDOS, RENE, ed. *Australian landmarks*, Melb., 1961. (A series covering topics such as shipping, aviation, printing, architecture, trade, squatting and aborigines in the growth of Australia.)  
 EVERS, L. H. *The Racketty Street gang*. Lond., Hodder, 1961. 18s. 9d.  
 FENNER, RUTH. *The story house: illus. by Elizabeth Macintyre*. Syd., Angus and Robertson, 1960. 15s.  
 GIBSON, HELEN. *An Australian Christmas*. Melb., Lothian, 1961. 12s. 6d.  
 GUNN, JEANNIE. *The little black princess of the Never-never*. Melb., Robertson and Mullens, 1961. 12s. 6d. (First published in 1905.)  
 GUNN, J., ed. *Dangerous secret: by the girls and boys of the A.B.C. Children's Hour Argonaut's Club*. Syd., Australian Broadcasting Commission, 1960. 15s. 6d.  
 ———. *The humpy in the hills: illus. by Noela Young*. Lond., Lutterworth, 1960. 10s. 6d.  
 HALLARD, P. *Barrier Reef bandits*. N.Y., Criterion Books, 1961. 83.50  
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## DIARY OF PRINCIPAL ECONOMIC EVENTS, 1958-59 to 1961-62.

The principal economic events in earlier years were shown in the following issues:—

YEARS.			OFFICIAL YEAR BOOK NO.				PAGE.
1931 to 1938 .. ..	..	..	33	..	..	..	968-77
1939 to 1944 .. ..	..	..	36	..	..	..	1129-41
1945 to 1948 .. ..	..	..	37	..	..	..	1235-45
1949 to 1951 .. ..	..	..	39	..	..	..	1331-40
1952 to 1955 .. ..	..	..	42	..	..	..	1149-60
1956 to 1958 .. ..	..	..	46	..	..	..	1185-92

In this issue particulars are given on a financial year basis instead of a calendar year basis as in previous issues. To conserve space, some of the items originally shown for the years 1958-59 and 1959-60 have been omitted from this issue. Previous issues should be consulted for additional information for these years.

### 1958-59.

The average price of wool at auctions fell, during the year ended June, 1959, to 47½ per lb., the lowest level since 1948-49. Low opening prices were followed by even lower prices during the main selling season, but prices recovered later. Reduced returns from the wool clip were, however, largely offset by increased world meat prices. In particular, market conditions in the United States enabled Australian producers to ship low-grade beef at very profitable prices. World butter prices also increased steeply and there was a normal harvest following the poor harvest in the drought year 1957-58.

During the year, exports of merchandise were £807,000,000, only slightly below the previous year (£810,000,000). Imports of merchandise in 1958-59 were £794,000,000, £5,000,000 greater than in 1957-58. As a result of an improved capital inflow, international reserves fell by only £9,000,000 to £516,000,000.

The level of internal activity remained largely unaffected by the decline in economic activity overseas. Production, employment, and retail sales showed increases during the year.

The number of persons in civilian employment (excluding rural and female household domestic employees) increased by 50,000 during the year to 2,941,000, and retail sales rose from £579,000,000 in the June quarter, 1958, to £614,000,000 in the June quarter, 1959, an increase of over six per cent. The rate of investment also increased during the year. Registrations of new motor vehicles in June, 1959, were nearly 12 per cent. higher than in the previous June, and the number of new houses and flats commenced increased from 19,500 in the June quarter, 1958, to 21,000 in the June quarter, 1959.

Between the June quarter, 1958, and the June quarter, 1959, the consumer price index rose from 114.8 to 116.8 and the average weekly wage per male unit rose from £19.93 to £20.44.

*1st July.*—Commonwealth Bank at request of Commonwealth Government made available £10,000,000 credit to New Zealand at 4½ per cent.

*4th July.*—Netherlands Government raised loan of £1,354,000 from United States Government to help support co-operative housing project for Dutch migrants to Australia. Additional finance to be raised in Australia and Holland to total of £8,000,000 to £12,000,000 in next ten years.

*31st July.*—Minister for Trade announced easing of restrictions on imports of capital equipment from dollar areas and exemption from licensing on other items.

*5th August-2nd October.*—Commonwealth and State Budgets for 1958-59 introduced. (For details, see pp. 1191-2 of Official Year Book No. 46.)

*8th October.*—First issue of new "Special" Bonds of £10 units, with a limit of £5,000, bearing variable rates of interest and redemption bonuses according to the period held.

High Court ruled Queensland road transport levies valid.

*9th October.*—Victorian State Electricity Commission  $5\frac{1}{2}$  per cent. loan for 7, 10, or 25 years undersubscribed by £800,000 and Queensland S.E.C. loan of  $5\frac{1}{2}$  per cent. undersubscribed by £115,000.

*15th October.*—£Stg.15,000,000 loan floated in London, the first Australian loan floated in London for 19 years. At  $5\frac{1}{2}$  per cent., issued at £98 Stg., this loan was oversubscribed.

*1st November.*—Savings Bank interest raised  $\frac{1}{4}$  per cent. to 3 per cent. on balances up to £2,000.

*7th November.*—Work commenced on new £30,000,000 power station at Wangi, N.S.W. with a planned capacity of 60,000 kW.

*10th November.*—The full bench of the Industrial Commission granted marginal increases of 15–25 per cent. to steel workers.

*1st January.*—New South Wales Acts, Industrial Arbitration (Female Rates) Amendment Act 1958, providing for equal pay for male and female employees performing work of same or like nature, and Annual Holidays Act 1944–1958, providing for three weeks annual holidays for all New South Wales workers under State awards, became operative.

*19th January.*—Australian Exchange Control Regulations eased to allow of payment for imports in convertible sterling or any major non-sterling currencies instead of dollars and sterling, and other adjustments removing differences between remittances to dollar area and other non-sterling countries.

*24th January.*—Contracts let by Electricity Commission of New South Wales for construction of new £14,500,000 power station at Vales Point, Lake Macquarie.

*29th January.*—Export controls lifted on 25 items, including newsprint, copra, margarine and iron and steel products.

*7th February.*—Queensland Government lifted price controls on all items other than basic foods and groceries.

*18th February.*—Commonwealth Government maintained allocation for grants to States for works and housing at £210,000,000 but raised local government ceiling for borrowing from £16,500,000 to £20,500,000.

*25th February.*—Australia's first government-sponsored trade mission to North America left to examine and develop export markets.

*4th March.*—Premiers' Conference opened. Conference accepted Commonwealth plan for roads and bridges involving an expenditure of £720,000,000 over next five years, of which Commonwealth was to contribute £250,000,000.

*23rd March.*—Republic of China sent first trade mission to Australia.

*2nd April.*—Licensing restrictions on dollar imports removed from 330 items.

*6th April.*—First government-sponsored New Zealand trade mission visited Australia.

*23rd April.*—Royal assent given to Reserve Bank Act, Commonwealth Banks Act, Banking Act and Banking (Transitional Provisions) Act (*see p. 765.*)

Production of lead at Mt. Isa reduced by 25 per cent. to help world lead position. Corresponding increase in copper production.

*1st May.*—Commonwealth government decided to increase subsidy on oil search by £1,000,000 a year for each of next three years.

*4th May.*—T.1 underground power station, first major station of Snowy Mountains Scheme, commenced operation with output capacity of 160,000 kW.

*16th May.*—Indian railways mission visited Australia as guest of Commonwealth Government to arrange for purchase of wide range of railway equipment.

*20th May.*—New Zealand eased import restrictions. Market for Australian canned and dried fruits in New Zealand expected to increase by 16 per cent. as a result.

*5th June.*—Commonwealth Conciliation and Arbitration Commission, in majority decision on Basic Wage Inquiry, increased Federal basic wage by 15s. for males and 11s. 3d. for females from first pay period after 11th June. Federal awards higher than State awards for first time in 20 years.

*8th June.*—£10,000,000 blast furnace began production at Port Kembla with a capacity of 600,000 tons of pig iron a year, making a total of 3,000,000 tons for Australia.

**9th June.**—Working hours in State-owned coal mines in New South Wales reduced from 40 to 37½ a week.

**24th June.**—Premiers' Conference accepted Commonwealth proposal for new plan of tax reimbursements based on population and wage levels, grants to be increased from £225,750,000 to £244,500,000 for 1959–60.

Loan Council approved of borrowing programme for 1959–60 of £220,000,000 (£183,900,000 for States, £36,100,000 for Commonwealth–State Housing). Local and semi-governmental borrowing ceiling fixed at £100,000,000.

**26th June.**—Expert committee on coal formed to advise Government on all aspects of uses of coal.

**29th June.**—Australia's quota to International Monetary Fund increased from \$200,000,000 to \$300,000,000.

**30th June.**—Fourteen-mile, £19,000,000, Eucumbene–Tumut tunnel in Snowy Mountains Hydro-electric Scheme completed four months ahead of schedule.

#### 1959–60.

1959–60 opened with bright prospects for Australia's external trade. The wool price in September, 1959, was more than 20 per cent. higher than a year earlier. Profitable meat and butter exports seemed likely to continue and more wheat was available for export.

The Government felt that conditions were favourable for abandoning the import restrictions which had been imposed in March, 1952. Nearly all special restrictions on imports from the dollar area had been removed during 1958–59 and almost all the remaining restrictions on imports generally were abandoned in February, 1960 (*see* p. 471).

Compared with 1958–59 both exports and imports of merchandise increased, from £807,000,000 to £926,000,000 and from £794,000,000 to £925,000,000 respectively.

Internal activity intensified throughout the year. Following the increase in the basic wage in June, 1959, wage margins were increased in November, 1959, mostly by 28 per cent. Average weekly earnings per male unit rose from £20.44 in the June quarter, 1959, to £22.66 in the June quarter, 1960, a rise of more than 10 per cent. The number of persons in civilian employment (other than rural and female household domestic employees) increased from 2,941,000 to 3,047,000, the increase being more heavily concentrated in factories.

The rise in wages increased demand for most types of consumer goods, particularly consumer durables. The number of new motor cars registered rose from 13,700 during June, 1959, to 18,700 in June, 1960, and balances outstanding under hire purchase agreements rose from £355,000,000 to £422,000,000.

Between June quarter, 1959, and June quarter, 1960, private investment in building and construction rose by 22 per cent. and investment in other capital equipment (other than motor vehicles) rose by 20 per cent. The consumer price index rose from 116.8 to 121.1.

**2nd July.**—S.S. *Delfino* left Sydney with 30,000 live sheep for export to United States of America, the first significant shipment of this kind ever made.

First 707 jet-liner arrived in Sydney for Qantas, part of major re-equipment programme on overseas services and conversion to jet-planes of major internal air-lines in Australia.

**19th July.**—Remaining undistributed profits of Joint Organization marketing of wool (about £2,400,000) transferred to Wool Research Fund.

**1st August.**—Import restrictions further eased by about £50,000,000 annually (*see also* 2nd April) and licensing discrimination removed from almost all imports from dollar areas.

**11th August to 29th September.**—Commonwealth and State Budgets for 1959–60 introduced. (For details, *see* pp. 1184–5 of Official Year Book No. 47.)

**15th October.**—Approval of new import levels by Japanese government expected to increase Australia's wool exports substantially.

**16th October.**—New trade agreement with Germany provided for increases in exports of meat, grain, fruit, and wine.

**30th October.**—£15,000,000 special deposits (first for 2½ years) called in from Trading Banks by Commonwealth Bank; (further £20,000,000 called in 30th November, and more calls anticipated next year).

**16th November.**—Currency restrictions for Australians travelling abroad relaxed substantially. Limit £2,000 a year to any part of the world, an increase of 25 per cent. for sterling areas and 150 per cent. for all other areas.

*25th November.*—First issue of 3 per cent. seasonal Treasury Notes, totalling £12,100,000. Further issues to be made fortnightly until March, 1960.

*26th November.*—Full Bench of New South Wales State Industrial Commission, interpreting Industrial Arbitration (Female Rates) Amendment Act, 1958 (assented to 31st December, 1958), provided for 5 per cent. annual increase in female wages from 1st January, 1960, to 1st January, 1963.

*27th November.*—Commonwealth Conciliation and Arbitration Commission in judgment on Metal Trades case, granted increase of 28 per cent. in margins to fitters and other skilled metal trades employees. Followed by similar awards by other tribunals.

*9th December.*—Contracts let for construction of new £120,000,000 power station at Hazlewood (Vic.) planned to double amount of electricity available in Victoria.

*14th January.*—New exchange regulations placed dollar currencies on same basis as other non-sterling currencies. Money orders now able to be sent to dollar areas. Dollar earnings by Australians no longer subject to compulsory repatriation.

*16th January.*—Commonwealth Banks Act 1959 establishing Commonwealth Banking Corporation, Banking Act 1959 regulating banking in Australia, and Reserve Bank Act 1959 replacing Commonwealth Bank of Australia by Reserve Bank of Australia, proclaimed.

*19th January.*—New £17,000,000 catalytic cracking plant, primarily for the production of motor spirit, to be built at Clyde by group of oil companies as part of projects totalling £22,000,000.

*2nd February.*—Commonwealth Cash Loan of £45,000,000 opened, issued at £99½ to par, interest at from 4 to 5 per cent. Closed 17th February, undersubscribed by £4.7 million.

*10th February.*—Australian loan of £12,000,000 sterling opened in London, issued at £99, interest at 5½ per cent.; amount raised in full.

*13th February.*—Statutory reserve deposit ratio raised by Reserve Bank from 16½ to 17½ per cent. Australia and Canada signed a new trade Agreement replacing the 1931 agreement. The new agreement would give both countries additional concessions and the right to invoke anti-dumping legislation; a wide variety of Australian exports would receive increased preference.

*23rd February.*—Items comprising 90 per cent. of Australia's present imports exempted from import licensing provisions.

*9th March.*—New Zealand relaxed import restrictions affecting some 300 items of Australian exports to that country, making an increase of 15 to 20 per cent. in licences for Australian goods.

*14th March.*—Reserve Bank made a further call up of £5,300,000 of trading bank special accounts, making a total of £59,400,000, since call-ups began in October.

*16th March.*—Commonwealth negotiated loan in Switzerland of 60,000,000 Swiss francs (about £A.6,000,000) issued at 99 francs per 100, with interest at 4½ per cent.; fully subscribed.

*1st April.*—Three oil companies announced plans for the joint building of Australia's first major lubricating oil refinery at Kurnell, New South Wales, at a cost of about £13,000,000. Another company on 3rd May announced plans for a similar plant at Kwinana, Western Australia to cost £10,000,000.

*7th April.*—Broken Hill Pty. Ltd. announced the opening of new cold-rolling stainless steel mill at Unanderra, with a capacity of 15,000 tons a year.

Japanese import controls eased to allow of 50 per cent. increase in exports of wool, wheat and coal to Japan.

*8th April.*—Australia's subscription to the International Bank for Reconstruction and Development increased from \$400,000,000 to \$533,000,000, and to the International Monetary Fund from \$300,000,000 to \$400,000,000.

*19th April.*—Commonwealth floated \$25,000,000 loan in New York, issued at \$97½ with interest at 5½ per cent., fully subscribed.

*22nd April.*—Trade mission, consisting of 39 members, left for Canada and the United States.

*24th April.*—Government asked for parliamentary approval for Australia to become a foundation member of the International Development Association, an affiliate of the International Bank for Reconstruction and Development designed to assist industrial development of "less developed" countries. (Approving Act assented to 31st May.)

*4th May.*—Commonwealth Cash and Conversion loan opened, issued at £99½ to £100, with interest at from 4 to 5 per cent.; closed 24th May, with £25,000,000 cash portion under-subscribed by £4,400,000.

*17th May.*—First National Export Convention opened at Canberra as part of National Export Drive.

*1st June.*—All Trading Banks increased service and miscellaneous charges from to-day.

*24th June.*—Loan Council met in Canberra and approved of borrowing programme for 1960–61 of £230,000,000 (£192,800,000 for States, £37,200,000 for Commonwealth-State Housing). Local and semi-governmental borrowing ceiling fixed at £106,000,000. In addition, it approved borrowings by the Commonwealth in the United States of America of \$30,000,000 on behalf of Qantas Empire Airways Limited and of \$2,000,000 on behalf of Trans-Australia Airlines.

#### 1960-61.

During the months following the lifting of import restrictions in February, 1960, the level of imports increased steadily. By the beginning of 1960–61, the degree of inflation had strengthened and labour shortages and other symptoms of boom conditions appeared throughout the economy. In consequence, the Budget presented in August, 1960, was framed with the object of curbing demand and preventing further increases in prices and costs. It provided for an increase in income tax and a cash surplus of £15,500,000 for 1960–61. At the same time the Reserve Bank asked trading banks to restrict new lending and to reduce overdrafts. However, despite these restrictions outstanding advances rose by £65,000,000 between June and December, 1960. In the early months of the year, the consumer price index continued to rise, and share prices, car registrations, housing commencements and balances outstanding on hire purchase agreements all rose to record levels.

To protect Australia's international reserves, which had dropped to £413,000,000 by the end of October, a fall of £111,000,000 in twelve months, a further series of measures were introduced by the Government and the Reserve Bank in November providing for a further tightening of credit restrictions, an increase in the rate of sales tax on motor vehicles from 30 per cent. to 40 per cent., and an increase in the maximum interest rate on bank overdrafts to seven per cent.

Despite the fact that the Government took steps early in 1961 to increase employment on public works, the number of persons in receipt of unemployment benefit rose from 10,364 in October, 1960, to 54,254 in June, 1961, and the total number in civilian employment (other than rural workers and female private domestics) fell from 3,073,000 to 3,021,000.

Retail sales during the first six months of 1961 were less than two per cent. above those during the corresponding months of 1960 and the value of new buildings commenced fell from £145,000,000 in the June quarter, 1960, to £124,000,000 in the June quarter, 1961. Registrations of new motor vehicles during the first six months of 1961 were only 115,000, compared with 167,000 during the previous six months, although the sales tax rates on motor cars were restored to the former level in February, 1961.

Output fell in most secondary industries and the level of advances by trading banks and of balances outstanding on hire-purchase agreements also declined substantially in the second half of 1960–61.

The effect of the restrictions on the level of imports was more delayed. Imports, which exceeded £100,000,000 during October, 1960, were still as high as £90,000,000 in March, 1961, and international reserves had dropped a further £40,000,000 between October and February. A belief by some importers that import controls would be re-introduced was perhaps responsible for the sustained high level of imports, but the government adhered to its policy of freedom from controls and, instead, arranged for a drawing of £78,000,000 from the International Monetary Fund and further stand-by credit.

The year 1960–61 was below the previous year in pastoral production, but well above average in agricultural production. Wheat produced totalled 270,000,000 bushels, 50,000,000 bushels above the previous record. Wool prices were somewhat lower, but the overall gross value of rural production increased from £1,323,000,000 to £1,375,000,000.

Export incentives by way of tax concessions and the negotiation of wheat sales to Mainland China helped to promote exports and, although exports were at a lower level in the earlier months of 1960-61, from March, 1961, the level increased sharply. Total merchandise exported at £928,000,000 was slightly higher than in 1959-60.

*3rd July.*—Following the joining by the United Kingdom of the European Free Trade Association, United Kingdom preference guarantees were waived on nine products, including lead and zinc.

*22nd July.*—Oversea shipping rates on exports increased by 6 per cent. Import rates to rise by 7½ per cent. from 1st October.

*8th August.*—Reserve Bank asked banks to make immediate and significant cut in rate of new lending and guard against providing finance for "speculative activities".

*11th August.*—Oil refinery planned for Port Alma, Queensland, at cost of £15,000,000.

*13th August.*—Commonwealth Statistician issued new Consumer Price Index.

*16th August.*—Commonwealth Budget for 1960-61 introduced into House of Representatives.

In 1959-60, receipts of the Consolidated Revenue Fund (excluding self-balancing items) were £1,431,800,000. The expenditure (excluding self-balancing items and the payment of £41,400,000 to the Loan Consolidation and Industrial Reserve) amounted to £1,390,400,000. The main items of revenue (1958-59 receipts shown in parentheses) were: Income Taxes £671,300,000 (£608,700,000); Excise Duties £252,400,000 (£237,200,000); Customs Duties £84,400,000 (£71,700,000); and Sales Tax £164,200,000 (£143,600,000). The main items of expenditure were: Payments to or for the States £321,400,000 (£286,600,000); Social and Health Services £299,400,000 (£278,200,000); Defence Services (excluding £12,000,000 and £37,300,000 provided from Loan Fund in 1959-60 and 1958-59 respectively) £181,600,000 (£152,000,000); War and Repatriation Services £137,500,000 (£128,500,000), and Capital Works and Services £142,100,000 (£132,400,000).

The Budget for 1960-61 provided for an estimated expenditure of £1,670,800,000 of which £1,358,100,000 would be provided from the Consolidated Revenue Fund and £312,700,000 from the Loan Fund. In addition, it was expected that £125,700,000 would be available for payment to the Loan Consolidation and Investment Reserve.

*17th August.*—New Tariff Bills introduced in House of Representatives to give short-term assistance to industries by imposing temporary tariffs in an emergency. (Assented to 5th September.)

*19th August.*—Report of Committee on Decimal Coinage tabled in House of Representatives. Committee unanimously in favour of decimal system.

*26th August.*—Five-man delegation left for South America to survey trade prospects in eight American countries.

*1st September.*—Commonwealth Government accepted offer from Consolidated Zinc of £10,900,000 for Bell Bay aluminium works.

*6th September.*—1960-61 Budget introduced into South Australian House of Assembly. In 1959-60, revenue amounted to £80,300,000 and expenditure to £80,600,000, leaving a deficit of £300,000. For 1960-61, it was estimated that expenditure would be £85,500,000 and revenue £85,800,000, thus leaving a surplus of £300,000.

*7th September.*—Commonwealth £30,000,000 Cash Loan opened, issued at 98¼ to par, with interest at from 4½ to 5 per cent. Closed 22nd September, oversubscribed by £3,000,000.

*14th September.*—1960-61 Budget introduced into New South Wales Legislative Assembly. During 1959-60, the transactions of the Consolidated Revenue Fund, Railways, Metropolitan and Newcastle Transport Services and Sydney Harbour Services resulted in a surplus of £70,000. After providing for debt charges, there were deficits of £4,100,000 on the Railways and £2,300,000 on the Metropolitan and Newcastle Transport Services. The 1960-61 Budget provided for an overall surplus of £22,000. After meeting debt charges, it was estimated that there would be a deficit of £1,900,000 on the Railways and £3,000,000 on the Metropolitan and Newcastle Transport Services.

*15th September.*—1960-61 Budget introduced into Victorian Legislative Assembly. In 1959-60, revenue exceeded expenditure by £300,000. The deficit on the Railways was £4,600,000 and on the State Coal Mines £200,000. There was a surplus of £5,100,000 on General Account. The budget for 1960-61 provided for a total expenditure of £181,400,000.

It was estimated that revenue would be £181,500,000 leaving a surplus of £100,000. It was estimated that the deficit on the railways would be £4,200,000 after providing for debt charges.

*20th September.*—1960-61 Budget introduced into Tasmanian House of Assembly. The transactions of the Consolidated Revenue Fund in 1959-60 resulted in a deficit of £1,000,000. Receipts of the Consolidated Revenue Fund totalled £24,300,000 and expenditure £25,300,000. For 1960-61, it was estimated that expenditure would be £27,200,000 and revenue £26,800,000 leaving a deficit of £400,000.

*22nd September.*—1960-61 Budget introduced into Western Australian Legislative Assembly. Financial transactions for the year 1959-60 resulted in a deficit of £1,400,000. For 1960-61, it was estimated that expenditure would be £69,800,000 and revenue £69,000,000 resulting in a deficit of £800,000.

*27th September.*—Commonwealth floated \$25,000,000 (about £A.11,000,000) loan in New York, issued at 98, with interest at 5½ per cent.,; fully subscribed.

*29th September.*—1960-61 Budget introduced into Queensland Legislative Assembly. In 1959-60, receipts of the Consolidated Revenue Fund were £103,100,000. Expenditure was £103,300,000 leaving a deficit of £200,000. For 1960-61, it was estimated that expenditure would amount to £110,100,000 and revenue to £109,900,000 leaving a deficit of £200,000.

*7th October.*—Navigation charges to airlines for use of airport facilities raised.

*10th November.*—New South Wales Government introduced Company Law Amendment Bill, the first of a series to provide for a uniform Company Law throughout Australia.

*16th November.*—New economic measures introduced, designed to reduce excessive internal demand and safeguard Australia's overseas funds position. Credit restrictions were tightened, sales tax on cars raised to 40 per cent., bank overdraft rate raised to 7 per cent., and tax deductions of interest paid on borrowed money abolished. It was also proposed that life assurance companies, superannuation funds, etc., should be required to have at least 30 per cent. of their investments in government securities.

*24th November.*—Reserve Bank issued a statement on policy of the Bank and advice to trading banks on selective restriction of advances.

*5th December.*—Japanese trade ship berthed in Sydney.

*10th December.*—Rise to 3¼ per cent. in Savings Bank interest rates announced.

*12th December.*—Graziers supported proposal to introduce reserve price for wool at auction sales.

*20th December.*—New South Wales Industrial Commission granted industry allowance of 15s. a week to building workers.

*5th January.*—Industrial dispute at Newcastle Steelworks involving 1,700 of the 8,500 workers. (Settled 27th January.)

*7th January.*—Australia joined Customs Co-operation Council with headquarters in Brussels. Plans for deepening and development of Port Hedland, Western Australia, to provide outlet for iron ore and pastoral industry estimated to cost £3,900,000.

*16th January.*—£101,000,000 sponge iron industry with capacity of 1 million tons a year planned for Scott River, south-east of Perth. Products to be exported mainly to Japan and West Germany.

*18th January.*—Japanese firm contracted to buy 1 million tons of Burraborang coal over five-year period.

*29th January.*—Minister for Social Services announced introduction of new "merged means test", allowing more liberal pensions to persons with property (*see pp. 700 and 710*).

*9th February.*—Special Loan Council meeting called to consider Commonwealth financial measures agreed to raising of Bond Rate to 5½ per cent.

*21st February.*—Premiers of New South Wales, Victoria and South Australia agreed to co-operate in building a dam of 4,750,000 acre feet on Murray River in South Australia (Chowilla Dam).

*22nd February.*—£7,000,000 plan to expand Nowra paper mill for production of special fine and superfine paper announced by New South Wales Premier. Increased sales tax on motor vehicles (*see 16th November, 1960*) removed. Commonwealth Cash Loan of £35,000,000 opened, issued at 98 15s. to par, interest at 5¼ to 5½ per cent. (closed 9th March, total subscription £34,914,000).

*14th March.*—International Wool Secretariat member countries agreed to constitution giving Australia a majority on board of directors.

*15th March.*—Income tax and pay-roll tax concessions designed to promote Australian exports announced by Acting Prime Minister (the Minister for Trade). Commonwealth negotiated loan in Switzerland of 60,000,000 Swiss francs issued at par with interest at 4½ per cent., fully subscribed.

*22nd March.*—Commonwealth negotiated loan in Canada of 20,000,000 Canadian dollars issued at 98½ dollars per 100 with interest at 5½ per cent., fully subscribed.

*3rd April.*—Export of 200,000 tons of iron ore from field near Grafton (N.S.W.) to Japan approved by Commonwealth Government.

*19th April.*—Forest Research Institute to extend and strengthen the work of the research sections of Forestry and Timber Bureau, established by Commonwealth Government to try and reduce Australian timber losses from borers, insects, fires, etc., totalling about £25,000,000 a year.

*20th April.*—"C" Series Retail Price Index discontinued after being used for 40 years.

*27th April.*—Commonwealth Government drew £78,000,000 from International Monetary Fund and got approval for further stand-by credit of £45,000,000.

*1st May.*—Oil discovered at Tara, Queensland (*see also* 3rd December, 1961).

*3rd May.*—Australia exhibited at British Columbia International Trade Fair as part of export promotion campaign.

*10th May.*—Commonwealth Cash and Conversion Loan opened, issued at £98 15s. to par, interest at 5¼ to 5¾ per cent. Closed 25th May, cash portion of £25,000,000, over-subscribed by £14,500,000.

*12th May.*—Australian Wheat Board contracted to sell 750,000 tons of wheat to Mainland China to be shipped between July and November and paid for in instalments extending over one year. Trading Banks introduced annual service fee to be charged on overdraft limit in addition to interest.

*15th to 19th May.*—Assent given to legislation passed by Commonwealth Parliament providing for Pay-roll and Income Tax relief to companies as incentives to promote increased exports.

*16th May.*—Commonwealth announced details of proposed expenditure of £2,500,000, including Commonwealth grant of £650,000, on provision of all-weather road from Julia Creek to Normanton, Queensland, for stock transport.

*20th May.*—War Service Homes Division acquired land at Mount Druitt for construction of 450 home project. New South Wales State Housing Commission planned joint development, as start of satellite city for Sydney.

*23rd May.*—Electricity charges in Sydney increased by 5.3 per cent. Price of petrol fell in three States.

*29th May.*—Italian Trade Mission of 20 visited Australia.

*9th June.*—Victorian tobacco growers prices at sales greatly below expectations.

*10th June.*—Imperial Chemical Industries announced plans for £6,000,000 ammonia-methanol plant to be built at Botany, to replace company plants at Villawood, New South Wales and Deer Park, Victoria.

*15th June.*—New company formed to mine bauxite in Western Australia and manufacture aluminium in new smelter at Geelong. Professional engineers received substantial rise in minimum salaries after legal proceedings extending over five years. Loan Council approved borrowing programme for 1961–62 of £240,000,000 (£197,100,000 for States, £42,900,000 for Commonwealth-State Housing); local and semi-governmental borrowing ceiling fixed at £111,000,000.

*29th June.*—Australian Census count began.

*30th June.*—Reserve Bank released £17,200,000 of frozen funds of trading banks and restored greater discretion to trading banks in allocation of loans. Savings bank interest rates raised by ¼ per cent. and limit on deposits raised to £3,000. Trading bank fixed deposit rates reduced by ¼ per cent.



## 1961-62.

Exports, especially of wheat, continued at the high level of the closing months of 1960-61 and improved further as the year proceeded. The total of merchandise exported for 1961-62 was £1,069,000,000 as against £928,000,000 for 1960-61. This was largely a result of the disposal of all accumulated wheat stocks available for export, of improved wool prices and of increases in the export of steel and some other non-primary products.

Overall primary production was approximately at the same level as in 1960-61. In quantity, the wool clip was somewhat higher, but other pastoral production and grain crops were somewhat lower. The wheat crop at 247,000,000 bushels was 10 per cent. below 1960-61.

Imports, on the other hand, were affected by the reduced internal activity which had followed the "credit squeeze" initiated in November, 1960. By the beginning of 1961-62, imports had dropped to a level of about £70,000,000 monthly and remained at about that level until December. During the first half of 1962, they showed a rising tendency partly as a result of rising internal activity. In total, imports of merchandise were £883,000,000 in 1961-62 compared with £1,085,000,000 in 1960-61, and there was a favourable trade balance of £186,000,000 in 1961-62, compared with a trade deficit of £157,000,000 in 1960-61.

This improved trade position was reflected in an increase in Australia's international reserves. The drawing of £78,000,000 made from the International Monetary Fund in April, 1961, was repaid in April, 1962. Nevertheless, reserves in June, 1962, at £561,000,000 were £10,000,000 higher than in June, 1961.

The favourable external picture was in contrast with the internal one. Already in June, 1961, it had become apparent that the effect of the restrictive measures of November, 1960, had been stronger than anticipated, as shown by a drop in employment and bank advances, and a level of unemployment higher than for some years. The whole of 1961-62 was therefore characterized by a series of measures to stimulate the economy. In June, 1962, the Reserve Bank had announced an easing of credit and in October all restrictions were removed from bank lending. The Commonwealth Budget introduced in August provided for a deficit of £16,500,000. A small increase in civilian employment occurred between June and December, but as this was regarded as insufficient, the Government in February, 1961, announced a series of further financial measures designed to increase employment and business confidence—an additional grant of £25,000,000 to the States for 1961-62, a 20 per cent. investment allowance for taxation purposes on purchases of plant for manufacturing industry, a rebate of income tax of 5 per cent. retrospective for the whole of 1961-62, and a further reduction in the sales tax rate for motor vehicles. A more rapid rate of recovery took place from March onwards, but by June production in many fields had still not reached the level of two years earlier.

Registration of new motor cars and station wagons increased by 39 per cent. and the value of buildings approved by 11 per cent. from June quarter, 1961, to June quarter, 1962. Employment in June, 1962, was 2 per cent. greater than in the previous June, and the average weekly earnings per male unit in the June quarter was 3½ per cent. higher than in the June quarter, 1961.

Balances outstanding in instalment credit for retail sales fell until the third quarter of the year. Bank liquidity was high, bank advances in June, 1962, being only 1 per cent. higher than in June, 1961. Public loans were oversubscribed and savings deposits showed large increases.

The consumer price index fell by nearly one per cent. between the June quarters, 1961 and 1962. This was largely due to a fall in food prices.

Of significance in Australia's long-term prospects were the discovery of oil at Tara, South Queensland, and the commencement of regular rail services on the new standard gauge railway between Sydney and Melbourne.

*1st July.*—Commonwealth negotiated loan in United States of \$25,000,000 issued at \$97 for \$100, interest at 5½ per cent., fully subscribed. Australia's exports to Mainland of China more than doubled in past year (from £A. f.o.b. 16,000,000 to £A. f.o.b. 40,000,000).

*4th July.*—Commonwealth Arbitration Commission granted 12s. a week increase in Federal basic wage, but rejected unions' request for restoration of automatic quarterly cost of living adjustments. Ford Motor Co. announced plans for £15,500,000 expansion of its Geelong, Melbourne and Sydney plants in next two years. New South Wales Government adopted Consumer Price Index as basis for wage fixation in place of "C" Series Index.

*7th July.*—British Secretary for Commonwealth Relations visited Australia for vital talks on matters concerning trade and Britain's possible entry into the European Economic Community (the "Common Market").

*12th July.*—New paper and pulp mill near Mount Gambier, South Australia, planned, at cost of £13,500,000, with expected capacity of 60,000 tons of brown paper annually. Reserve Bank reduced statutory reserve deposits by 1 per cent., making a further £17,000,000 available to trading banks for advances.

*13th July.*—Legislation introduced in New South Wales to provide for five-day working week for banks.

*14th July.*—Sale of "Manoora", the last Australian coastal passenger vessel, marked end of coastal trade, and existing restrictions on overseas passenger ships were lifted (9th August).

*16th July.*—Cabinet deferred change to decimal currency recommended by Committee (see 19th August, 1960).

*18th July.*—New South Wales Government approved extension of secondary school course to six years commencing in 1962 in accordance with Wyndham report. Feeder roads planned for development of Northern Territory cattle industry at cost of £7,000,000.

*21st July.*—Mount Isa Mines (Queensland) announced that new £3,500,000 copper smelter, designed to give total annual output of 75,000 tons, would be in production by November.

*25th July.*—Australia sold shares in Tasman Empire Airways Ltd. to New Zealand.

*31st July.*—Department of Trade announced that Australian trade exhibition in Malta had established new markets for Australian exports.

*1st August.*—Australia's first international trade fair opened in Sydney.

*3rd August.*—Contract signed for supply and export of 2,500,000 million board feet of softwood to Japan.

*6th August.*—Contracts for £4,000,000 let for construction of generating plant at Station M.1. in second stage of Snowy Mountains Hydro-electric Scheme.

*8th August.*—Chinese trade mission arrived in Melbourne from Hong Kong seeking to improve trade between Hong Kong and Australia.

*15th August.*—Commonwealth Budget for 1961–62 introduced into House of Representatives. In 1960–61, receipts of the Consolidated Revenue Fund were £1,638,000,000. Expenditure (excluding the payment of £142,600,000 to the Loan Consolidation and Investment Reserve) amounted to £1,495,700,000. The main items of revenue (1959–60 figures shown in parentheses) were:—Income Taxes, £807,300,000 (£671,300,000); Excise Duties, £257,400,000 (£252,400,000); Customs Duties, £101,800,000 (£84,400,000); Sales Tax, £173,000,000 (£164,200,000) and Pay-roll Tax, £61,300,000 (£55,200,000). The main items of expenditure were:—Payments to or for the States, £352,900,000 (£321,400,000); Social and Health Services, £330,600,000 (£299,400,000); Defence Services (excluding £12,000,000 provided from Loan Fund in 1959–60), £198,200,000 (£181,600,000); War and Repatriation Services, £149,300,000 (£137,500,000); and Capital Works and Services £140,700,000 (£142,100,000).

The Budget for 1961–62 provided for an estimated expenditure of £1,935,200,000 of which £1,613,900,000 would be provided from the Consolidated Revenue Fund and £321,300,000 from the Loan Fund. In addition, it was expected that £83,300,000 would be available for payment to the Loan Consolidation and Investment Reserve.

*25th August.*—Commonwealth Cash Loan of £40,000,000 issued at par, interest rate 5½ per cent., closed 22nd September, oversubscribed by £33,500,000.

*28th August.*—E. S. and A. Savings Bank established.

*31st August.*—Prime Minister announced plans for Commonwealth subsidy of £2,650,000 towards cost of installing new coal-loading facilities at Newcastle, Port Kembla and Balmain, New South Wales.

*1st September.*—Prime Minister announced that Commonwealth would advance £5,000,000 for cattle roads in Queensland (see 16th May) and further advances of up to £20,000,000 for reconstruction of the Mount Isa—Collinsville Railway. Australian Fisheries Council established by joint Commonwealth and State conference of Ministers responsible for fisheries, to promote the welfare and development of fishing industries.

*2nd September.*—Uniform companies legislation drafted by committee of Commonwealth and State Ministers.

*4th September.*—Approval given for export of a further 200,000 tons of iron ore to Japan (see 3rd April).

*5th September.*—Treasurer announced cancellation of £45,000,000 stand-by credit with International Monetary Fund. 1961–62 Budget introduced into South Australian House of Assembly. In 1960–61, revenue amounted to £86,300,000 and expenditure to £85,100,000 leaving a surplus of £1,200,000. For 1961–62, it was estimated that revenue would be £91,500,000 and expenditure also £91,500,000.

*6th September.*—Commonwealth Cash Loan of £40,000,000 opened, issued at par, with interest at  $4\frac{1}{2}$  per cent. to  $5\frac{3}{8}$  per cent. (Closed 21st September, oversubscribed by £33,499,000.)

*13th September.*—Contracts for £4,800,000 let for construction of 120,000 kW. power station at Muja open cut mine near Collie, Western Australia.

*18th September.*—Number of registered persons seeking employment fell during August by 2,738 to 110,701. This was the first fall since October, 1960.

*19th September.*—1961–62 Budget introduced into Tasmanian House of Assembly. The transactions of the Consolidated Revenue Fund in 1960–61 resulted in a deficit of £200,000. Receipts of the Consolidated Revenue Fund totalled £26,900,000 and expenditure £27,100,000. For 1961–62, it was estimated that expenditure would be £29,900,000 and revenue £29,500,000 leaving a deficit of £400,000.

*20th September.*—1961–62 Budget introduced into New South Wales Legislative Assembly. During 1960–61, the transactions of the Consolidated Revenue Fund, Railways, Metropolitan and Newcastle Transport Services and Sydney Harbour Services resulted in a deficit of £300,000. After providing for debt charges, there were deficits of £200,000 on the Railways and £2,900,000 on the Metropolitan and Newcastle Transport Services. The 1961–62 Budget provided for an overall deficit of £1,800,000. After meeting debt charges, it was estimated that there would be a deficit of £1,500,000 on the Railways and £3,100,000 on the Metropolitan and Newcastle Transport Services.

*21st September.*—Orders received from Japan for further 274,000 tons of steaming coal from Northern Coalfield of New South Wales for delivery in January, 1962. Secretary, Department of Trade, led delegation to present to United Kingdom Departments Commonwealth claims in regard to Britain's proposed joining of European Economic Community.

*22nd September.*—1961–62 Budget introduced into Western Australian Legislative Assembly. Financial transactions for the year 1960–61 resulted in a deficit of £1,200,000. For 1961–62, it was estimated that expenditure would be £75,100,000 and revenue £73,900,000, resulting in a deficit of £1,200,000. First specialist trade mission left for Canada and United States of America for promotion of sale of wool and woollen goods.

*26th September.*—1961–62 Budget introduced into Victorian Legislative Assembly. In 1960–61, revenue exceeded expenditure by £200,000. The surplus on the Railways was £900,000. The Budget for 1961–62 provided for a total expenditure and revenue of £194,200,000. It was estimated that the deficit on the Railways would be £200,000 after providing for debt charges.

*28th September.*—1961–62 Budget introduced into Queensland Legislative Assembly. In 1960–61, receipts of the Consolidated Revenue Fund were £108,800,000. Expenditure was £109,400,000 leaving a deficit of £600,000. For 1960–61, it was estimated that expenditure would amount to £115,000,000 and revenue to £114,400,000 leaving a deficit of £600,000.

*5th October.*—Prime Minister announced that Commonwealth would contribute a quarter of the cost of new dam on Murray River, Australia's largest (see 21st February).

*11th October.*—Broken Hill South announced plans to spend £5,500,000 in next five years on development of old copper workings at Cobar, with estimated reserves of 18,000,000 tons of low to medium grade ore.

*15th October.*—Contracts for £20,000,000 let for tunnelling works for first stage of Snowy-Murray development of Snowy Mountains Hydro-electric Scheme.

*24th October.*—Act assented to amending International Finance Corporation Act 1955 to allow the I.F.C. to make equity investments in Australian companies and to grant immunity from taxes and charges on equity investments.

*27th October.*—Reserve Bank announced that all specific restrictions had been removed from lending by trading banks.

*28th October.*—State Electricity Commission of Queensland announced plans for coal-burning power station with capacity of 360,000 kW. to be built near Ipswich at cost of £33,000,000.

*7th November.*—New South Wales State Electricity Commission purchased two 350,000 kW. generators for Munmorah power station at cost of £5,000,000.

*9th November.*—Commonwealth negotiated £4,900,000 loan, in Netherlands, issued at par, interest rate 5 per cent.; fully subscribed.

*12th November.*—Iron ore deposits, estimated at 1,800 million tons, discovered at Pilbara, Western Australia.

*17th November.*—Victorian Premier opened first units of £27,000,000 petro-chemical complex at Altona, Victoria.

*3rd December.*—Discovery of oil at Moonie (Queensland) showing prospects for commercial development.

*14th December.*—International Sugar Conference announced that from 1st January, 1962, the quota system would be abandoned and production and sales would be on a "free for all" basis. Work began on construction of £44,000,000 aluminium project near Geelong, Victoria (see 15th June).

*3rd January.*—Regular goods service commenced on new direct standard gauge railway between Sydney and Melbourne. Contract for £2,000,000 let for deepening of Newcastle Harbour to allow passage of ships of up to 35,000 tons, primarily Japanese coal ships.

*4th January.*—Further contracts for £19,000,000 let for final stage of Snowy Mountains Hydro-electric Scheme.

*18th January.*—Joint Australian-American company formed to develop Kianga and Moura coalfields in central Queensland at cost of £15,000,000 during next 6 years, to produce 2,000,000 tons of coal annually. National shipping line began construction of new "drive-on" ship for Sydney-Hobart run, to cost £3,500,000.

*24th January.*—New South Wales Government decided to spend £16,000,000 on first section of a Sydney-Newcastle toll road. World Bank lent Australia £44,600,000 for 25 years at 5½ per cent. to finance next stage of Snowy Mountains Scheme. Loan floated in New York for £13,400,000 issued at 98¼ per 100, with interest at 5½ per cent., repayable 1982.

*26th January.*—National Bank of Australasia formed £10,000,000 subsidiary to conduct Savings Bank business.

*6th February.*—Prime Minister announced details of supplementary Budget. States to be offered £10,000,000 for "employment-giving activities" and an extra £5,000,000 for housing; five per cent. rebate on personal income tax restored; sales tax on motor cars, etc., reduced from 30 per cent. to 22½ per cent.; 20 per cent. tax allowance on industrial plant; and maximum advance for War Service Homes increased to £3,500.

*7th February.*—Commonwealth Cash Loan of £55,000,000 opened, issued at £99 12s. 6d. to par, with interest at 4½ per cent. to 5 per cent.; closed 22nd February, oversubscribed by £35,700,000.

*9th February.*—Tariff Board transferred to Canberra.

*12th February.*—Special Advisory Authority appointed to advise on emergency tariff and import controls.

*15th February.*—Loan Council Meeting. Revised programme announced for 1961–62, Government £247,500,000, Local and Semi-Government £104,000,000; States to receive additional allocation of £25,000,000, and Local authorities each to be permitted to borrow up to further £100,000 during remainder of financial year.

*23rd February.*—Commonwealth Bank increased ceiling for housing loans to £2,750 Australian Wheat Board contracted to sell 24,000,000 bushels of wheat valued at between £16,000,000 and £17,000,000 to Mainland China on terms over one year (see 12th May, 1961).

*4th March.*—Contracts announced with Japan for exports of sugar totalling 210,000 tons in 1961–62.

*11th March.*—Lake George Mines ceased operations at Captains Flat after 25 years activity.

**14th March.**—Canadian Trade Mission began trade talks at Canberra with Prime Minister and other Ministers. Australian Trade Mission ship on visit to south-east Asia, began trade promotion with call to Karachi.

**15th March.**—Minister for Trade announced that New Zealand's import licensing for 1962-63 would curtail Australia's exports thereto.

**19th March.**—Agreement reached between shipowners and exporters that freight on exports would be revised in respect of the life of vessels employed in Australian trade, and interest rates which determine return to shipping companies; freights not to increase by more than 5 per cent. between 1961-62 and 1963-64.

**20th March.**—New South Wales government announced details of £6,000,000 plan for flood mitigation on coastal rivers.

**23rd March.**—Work commenced on standardization of railway gauge between Kwinana and Kalgoorlie (Western Australia).

**29th March.**—Victorian Railways adopted scheme of transferring bodies of rolling stock to new bogies at break of gauge points to complement Sydney-Melbourne direct route.

**1st April.**—High grade phosphate deposits discovered near Rum Jungle (Northern Territory).

**6th April.**—Agreement signed with India for supply of 270,000 tons of wheat.

**9th April.**—Commercial Bank of Australia established Savings Bank.

**11th April.**—Bill introduced in Commonwealth Parliament providing for bounty of £2 a ton on production of sulphate of ammonia during three years ending March, 1965. (Assented to 21st May.)

**12th April.**—Treasurer announced agreement between Treasury, Reserve Bank, and Trading Banks for creation of "term lending fund" of £55,000,000 to enable banks to play bigger part in financing general economic expansion and to increase medium and long-term lending to rural and export industries. Contracts signed for supply of further 1,050,000 tons of Burratorang (N.S.W.) coal to Japan.

**8th May.**—United States Secretary of State, in Australia for ANZUS Council meeting, said that United States opposed granting of special terms for sale of Australian produce to European Economic Community.

**10th May.**—Bank of Adelaide formed Savings Bank subsidiary. All major trading banks now operating Savings Bank business. Commonwealth Cash Loan of £40,000,000 issued at £99 10s. to par, with interest from 4½ per cent. to 5 per cent.; closed 24th May, under-subscribed by £1,400,000.

**30th May.**—Approval given for export of 3,000,000 to 4,000,000 tons of iron ore from Geraldton area of Western Australia during next seven to ten years.

**10th June.**—Trade mission arrived in Australia from United Arab Republic.

**14th June.**—Minister for Territories opened £2,000,000 power house in Darwin to double previous capacity.

**20th June.**—Loan floated for \$30,000,000 in New York opening at 97½ per 100 at 5½ per cent. United States House of Representatives passed bill allowing, *inter alia*, Australia's sugar quota to increase from 50,000 tons, to be dependent on purchase of United States agricultural produce by Australia.

**27th June.**—Loan Council met in Canberra and approved of borrowing programme for 1962-63 of £250,000,000 (£204,100,000 for States, £45,900,000 for Commonwealth-State Housing). Local and semi-government borrowing ceiling fixed at £105,155,000 for authorities with programmes in excess of £100,000 in 1962-63, but no overall limit placed in that year on such authorities borrowing under State approval not more than £100,000. A programme of £1,595,000 for Commonwealth authorities in the Territories was also approved by the Loan Council.

## CHRONOLOGICAL TABLE.

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### CHRONOLOGICAL TABLE OF CHIEF EVENTS SINCE THE ESTABLISHMENT OF SETTLEMENT IN AUSTRALIA.

NOTES.—For each earlier year, this Table rarely contains more than two or three items; for recent years, however, in order to provide a wide cover of events, etc., it includes a much greater number. Both the nature of the Table and considerations of space render necessary a continual reduction in these items, and for more information the reader should therefore consult earlier issues.

The Government was centralized in Sydney, New South Wales, up to 1825, when Tasmania (Van Diemen's Land) was made a separate colony. In the Table, the names now borne by the States serve to indicate the localities.

**Year.**

- 1788 N.S.W.—Arrival of "First Fleet", under Captain Arthur Phillip, at Botany Bay. Land in vicinity being found unsuitable for settlement, the expedition moved to Sydney Cove, and formal possession of the colony was taken on 26th January. Formal proclamation of colony and establishment of regular government on 7th February.
- 1789 N.S.W.—First wheat harvested at Parramatta, near Sydney. Discovery of Hawkesbury River.
- 1790 N.S.W.—"Second Fleet" reached Port Jackson. Landing of the New South Wales Corps.
- 1791 N.S.W.—Arrival of "Third Fleet". Territorial seal brought by Governor King.
- 1792 N.S.W.—Visit of *Philadelphia*, first foreign trading vessel.
- 1793 N.S.W.—First free immigrants arrived in *Bellona*. First Australian church opened at Sydney. Tas.—D'Entrecasteaux discovered the Derwent River.
- 1794 N.S.W.—Establishment of settlement at Hawkesbury River.
- 1795 N.S.W.—Erection of the first printing press at Sydney. Descendants of strayed cattle discovered at Cowpastures, Nepean River, a locality destined to become an important centre of the dairying industry.
- 1796 N.S.W.—First Australian theatre opened at Sydney. Coal discovered by fishermen at Newcastle.
- 1797 N.S.W.—Introduction of merino sheep from Cape of Good Hope.
- 1798 Tas.—Insularity of Tasmania proved by voyage of Bass and Flinders.
- 1800 N.S.W.—Hunter River coal-mines worked. First customs house in Australia established at Sydney.
- 1802 Vic.—Discovery of Port Phillip by Lieut. Murray. Qld.—Discovery of Port Curtis and Port Bowen by Flinders. S.A.—Discovery of Spencer and St. Vincent Gulfs by Flinders.
- 1803 N.S.W.—First Australian wool taken to England by Captain Macarthur. Issue of *The Sydney Gazette*, first Australian newspaper. Vic.—Attempted settlement at Port Phillip by Collins. Discovery of Yarra by Grimes. Tas.—First settlement formed at Risdon by Lieut. Bowen.
- 1804 Vic.—Abandonment of settlement at Port Phillip. Tas.—Foundation of settlement at Hobart by Collins.
- 1805 N.S.W.—First extensive sheep farm established at Camden by Captain Macarthur.
- 1806 Tas.—Settlement at Launceston.
- 1807 N.S.W.—First shipment of merchantable wool (245 lb.) to England.
- 1808 N.S.W.—Deposition of Governor Bligh.
- 1809 N.S.W.—Free school established.
- 1810 N.S.W.—Post Office officially established at Sydney.
- 1813 N.S.W.—Passage across Blue Mountains discovered by Blaxland, Lawson and Wentworth. Macquarie River discovered by Evans.

## Year.

- 1814 N.S.W.—Flinders suggested the name “Australia” instead of “New Holland”. Creation of Civil Courts.
- 1815 N.S.W.—Lachlan River discovered by Evans. Tas.—Arrival of first immigrant ship with free settlers.
- 1816 N.S.W.—Sydney Hospital opened.
- 1817 N.S.W.—Oxley’s first exploration inland. Discovery of Lakes George and Bathurst and the Goulburn Plains by Meehan and Hume. First bank in Australia—Bank of New South Wales—opened at Sydney.
- 1818 N.S.W.—Liverpool Plains and the Peel, Hastings and Manning Rivers discovered by Oxley, and Port Essington (N.T.) by Captain King.
- 1819 N.S.W.—First savings bank in Australia opened at Sydney.
- 1820 N.S.W.—District of future Australian National Capital (Canberra) first visited by white men.
- 1821 Tas.—Establishment of penal settlement at Macquarie Harbour.
- 1822 N.S.W.—Formation of Agricultural Society of New South Wales.
- 1823 N.S.W.—New South Wales Judicature Act passed. Discovery of gold at Fish River by Assistant Surveyor McBrien. Qld.—Brisbane River discovered by Oxley.
- 1824 N.S.W.—Constituted a Crown colony. Executive Council formed. Establishment of Supreme Court at Sydney, and introduction of trial by jury. First Australian Enactment (Currency Bill) passed by the Legislative Council. First manufacture of sugar. Vic.—Hume and Hovell, journeying overland from Sydney, arrived at Corio Bay. Qld.—Penal settlement founded at Moreton Bay (Brisbane). Fort Dundas settlement formed at Melville Island, N.T.
- 1825 Tas.—Van Diemen’s Land (Tasmania) proclaimed a separate colony. Qld.—Major Lockyer explored Brisbane River to its source and discovered coal.
- 1826 N.S.W.—Settlement in Illawarra district. Vic.—Settlement at Corinella, Western Port, formed by Captain Wright.
- 1827 Qld.—Darling Downs and the Condamine River discovered by Allan Cunningham. W.A.—Military settlement founded at King George Sound by Major Lockyer. First official claim of British sovereignty over all Australia.
- 1828 N.S.W.—Second Constitution. First census. Sturt’s expedition down Darling River. Richmond and Clarence Rivers discovered by Captain Rous. Vic.—Abandonment of settlement at Western Port. Qld.—Cunningham discovered a route from Brisbane to the Darling Downs and explored Brisbane River.
- 1829 N.S.W.—Sturt’s expedition down Murrumbidgee River. W.A.—Foundation of settlement at Swan River. Foundation of Perth.
- 1830 N.S.W.—Sturt, voyaging down Murrumbidgee and Murray Rivers, arrived at Lake Alexandrina. Tas.—Black line organized to force aborigines into Tasman’s Peninsula, but failed. Small remnant subsequently (1830 to 1835) persuaded to settle on Flinders Island.
- 1831 N.S.W.—Mitchell’s explorations north of Liverpool Plains. SS. *Surprise*, first steamship built in Australia, launched at Sydney. First coal shipped from Australian Agricultural Company’s workings at Newcastle, N.S.W. First assisted immigration to N.S.W. S.A.—Wakefield’s first colonization committee. W.A.—Appointment of Executive and Legislative Councils.
- 1832 N.S.W.—State Savings Bank established.
- 1833 N.S.W.—First school of arts established at Sydney.
- 1834 N.S.W.—First settlement at Twofold Bay. Vic.—Settlement formed at Portland Bay by Henty Brothers. S.A.—Formation of the South Australian Association. W.A.—Severe reprisals against Murray River natives at Pinjarra for continued attacks on settlers.
- 1835 Vic.—John Batman arrived at Port Phillip; foundation of Melbourne.

## Year.

- 1836 N.S.W.—*Mitchell's overland journey from Sydney to Cape Northumberland (S.A.)*. Vic.—Proclamation of Port Phillip district as open for settlement. S.A.—Settlement founded at Adelaide under Governor Hindmarsh.
- 1837 N.S.W.—Appointment in London of Select Committee on Transportation. Vic.—First overlanders from Sydney arrived at Port Phillip.
- 1838 N.S.W.—Discontinuance of assignment of convicts. Qld.—Settlement of German missionaries at Brisbane—first free colonists. S.A.—“Overlanding” of cattle from Sydney to Adelaide along the Murray route by Hawden and Bonney. Settlement at Port Essington, Northern Territory, formed by Captain Bremer.
- 1839 N.S.W.—Gold found at Vale of Clwydd by Count Strzelecki. S.A.—Lake Torrens discovered by Eyre. Port Darwin discovered by Captain Stokes. W.A.—Murchison River discovered by Captain Grey.
- 1840 N.S.W.—Abolition of transportation to New South Wales. Vic.—Determination of northern boundary. Qld.—Penal settlement broken up and Moreton Bay district thrown open. S.A.—Eyre began his overland journey from Adelaide to King George Sound.
- 1841 N.S.W.—Gold found near Hartley. W.A.—Completion of Eyre's overland journey from Adelaide to King George Sound. New Zealand proclaimed a separate colony.
- 1842 N.S.W.—Incorporation of Sydney. Vic.—Incorporation of Melbourne. S.A.—Discovery of copper at Kapunda.
- 1843 N.S.W.—First Representative Constitution (under Act of 1842). Qld.—Moreton Bay granted legislative representation as a distinct electoral division.
- 1844 Qld.—Leichhardt's expedition to Port Essington (N.T.). S.A.—Sturt's last expedition inland.
- 1845 N.S.W.—*Mitchell's explorations on the Barcoo*. Qld.—Explorations by Mitchell and Kennedy. S.A.—Discovery of the Burra copper deposits. Sturt discovered Cooper's Creek.
- 1846 N.S.W.—Initiation of meat-preserving. Qld.—Foundation of settlement at Port Curtis. S.A.—*Proclamation of North Australia*.
- 1847 N.S.W.—Iron-smelting commenced near Berrima. Overland mail established between Sydney and Adelaide. Qld.—Explorations by Leichhardt, Burnett and Kennedy.
- 1848 N.S.W.—National and Denominational School Boards established. Qld.—Leichhardt's last journey. Chinese brought in as shepherds.
- 1849 N.S.W.—Indignation of colonists at arrival of convict ship *Hashemy*. Exodus of population to gold-fields of California. Vic.—*Randolph* prevented from landing convicts. Qld.—Assignment of *Hashemy* convicts to squatters on Darling Downs. W.A.—Commencement of transportation to Western Australia.
- 1850 N.S.W.—Final abolition of transportation. Sydney University founded. Vic.—Gold discovered at Clunes. Representative government granted. S.A.—Representative government granted. W.A.—Pearl oysters found by Lieut. Helpman at Saturday Island Shoal. Tas.—Representative government granted.
- 1851 N.S.W.—Payable gold discovered by Hargreaves at Lewis Ponds and Summerhill Creek. Vic.—Port Phillip created an independent colony under the name of Victoria. Discovery of gold in various localities. W.A.—Proclamation of Legislative Council Act.
- 1852 N.S.W.—Arrival of *Chusan*, first P. and O. mail steamer from England. Tas.—Meeting of first elective Council protested against transportation. Payable gold discovered at The Nook, near Fingal, and at Nine Mile Springs.
- 1853 Tas.—Abolition of transportation. Vic.—Melbourne University founded.
- 1854 Vic.—Opening of first Australian railway—Flinders Street to Port Melbourne. Riots on Ballarat gold-fields. Storming of the Eureka Stockade, 3rd Dec. Telegraph first used.



## Year.

- 1855 N.S.W.—Opening of railway—Sydney to Parramatta. Mint opened.
- 1856 N.S.W.—Pitcairn Islanders placed on Norfolk Island. W.A.—A. C. Gregory's expedition in search of Leichhardt.  
Responsible Governments in N.S.W., Vic., S.A. and Tas. (Act of 1855).
- 1857 N.S.W.—Select Committee on Federation. Vic.—Manhood suffrage and vote by ballot. S.A.—Passage of Torrens' Real Property Act.
- 1858 N.S.W.—Establishment of manhood suffrage and vote by ballot. Telegraphic communication between Sydney, Melbourne and Adelaide. Qld.—Canoono gold rush.  
Population of Australia reached 1,000,000.
- 1859 Qld.—Proclamation of Queensland as separate colony. Tas.—First submarine cable, via Circular Head and King Island to Cape Otway.
- 1860 Vic.—Burke and Wills left Melbourne and crossed to Gulf of Carpentaria. S.A.—Copper discoveries at Wallaroo and Moonta. McDouall Stuart reached centre of continent.
- 1861 N.S.W.—Anti-Chinese riots at Lambing Flat and Burrangong gold-fields. Opening of first tramway in Sydney. Regulation of Chinese immigration. Vic.—Burke and Wills perished at Cooper's Creek, near Innamincka, S.A.
- 1862 N.S.W.—Abolition of State aid to religion. Real Property (Torrens) Act passed. S.A.—Stuart crossed the continent from south to north. W.A.—First export of pearl-shell.
- 1863 Vic.—Intercolonial Conference at Melbourne. S.A.—Northern Territory taken over. W.A.—Initiation of settlement in the north-west district. Henry Maxwell Lefroy discovered and traversed area now comprised in the Coolgardie-Kalgoorlie gold-field.
- 1864 Qld.—First sugar made from Queensland cane.
- 1866 N.S.W.—Passage of Public Schools Act of (Sir) Henry Parkes.
- 1867 Vic.—Imposition of protective tariff. Qld.—Discovery of gold at Gympie.
- 1868 W.A.—Arrival of *Hougomont*, last convict ship.
- 1869 Vic.—Record gold nugget "Welcome Stranger" 2,284 oz. found near Dunolly. W.A.—First telegraph line opened from Perth to Fremantle.
- 1870 N.S.W.—Intercolonial Exhibition opened at Sydney. Imperial troops withdrawn. Vic.—Intercolonial Congress at Melbourne. S.A.—Commencement of transcontinental telegraph.
- 1871 N.S.W.—Permanent military force raised. W.A.—Forrest's explorations. Tas.—Discovery of tin at Mount Bischoff.
- 1872 Vic.—Mint opened. S.A.—Cable from Java to Port Darwin. Completion of transcontinental telegraph line.
- 1873 N.S.W.—Intercolonial Conference at Sydney. First volunteer encampment. Inauguration of mail service with San Francisco.
- 1874 N.S.W.—Triennial Parliaments Act passed. Intercolonial Conference. S.A.—University of Adelaide founded. W.A.—John and Alexander Forrest arrived at Overland Telegraph from Murchison.
- 1875 Qld.—Transfer of Port Albany Settlement to Thursday Island.
- 1876 N.S.W.—Completion of cable—Sydney to Wellington. W.A.—Giles crossed colony from east to west.
- 1877 W.A.—Opening of telegraphic communication with South Australia.  
Population of Australia reached 2,000,000.
- 1878 Qld.—Restriction of Chinese immigration.  
Introduction of telephone into Australia.
- 1879 N.S.W.—First artesian bore at Kallara Station, near Bourke. First steam tramway. W.A.—A. Forrest's explorations in the Kimberley district, and discovery of the Fitzroy pastoral country.

- Year.
- 1880 N.S.W.—Public Instruction Act passed. Vic.—First Australian Telephone Exchange opened in Melbourne.  
Federal Conference at Melbourne and Sydney.
- 1881 N.S.W.—Further restrictions on Chinese immigration.  
First Australia-wide censuses on same date taken.
- 1882 W.A.—Nugget of gold found between Roebourne and Cossack.
- 1883 N.S.W.—Discovery of silver at Broken Hill. Completion of railway between New South Wales and Victoria. Qld.—Annexation of New Guinea—repudiated by Imperial authorities.  
Federal Conference held at Sydney. Federal Council created.
- 1884 Federation Bill passed in Victoria and rejected in New South Wales. British protectorate declared over New Guinea.
- 1885 N.S.W.—Military contingent sent to the Sudan. Opening of the Broken Hill Proprietary Silver Mines. W.A.—Gold found by prospectors on the Margaret and Ord Rivers in the Kimberley district. Tas.—Silver-lead discovered at Mount Zeehan.
- 1886 Tas.—Discovery of gold and copper at Mount Lyell.  
First session of Federal Council held at Hobart on 26th January.
- 1887 W.A.—Gold discovered at Southern Cross.  
First “Colonial” Conference in London. Australasian Naval Defence Force Act passed.
- 1888 N.S.W.—Restrictive legislation against Chinese, imposing poll-tax of £100. Qld.—Railway communication opened between Sydney and Brisbane.  
Conference of Australian Ministers at Sydney to consider question of Chinese immigration. First meeting of the Australasian Association for the Advancement of Science held in Sydney.
- 1889 S.A.—Railway communication established between Melbourne and Adelaide.  
W.A.—Framing of new Constitution.  
Population of Australia reached 3,000,000.
- 1890 W.A.—Responsible Government granted. Tas.—University of Tasmania founded.  
Meeting at Melbourne of Australasian Federation Conference.
- 1891 N.S.W.—Arrival of Australian Auxiliary Squadron. Cessation of assisted immigration. W.A.—Discovery of gold on the Murchison.  
First Federal Convention in Sydney, draft bill framed and adopted.
- 1892 W.A.—Discovery of gold at Coolgardie.
- 1893 Financial crisis, chiefly affecting the eastern States.
- 1894 S.A.—Women’s suffrage granted—first State to do so.
- 1895 N.S.W.—Free-trade tariff. Land and income taxes introduced.  
Conference of Premiers on Federation at Hobart.
- 1896 N.S.W.—People’s Federal Convention at Bathurst. Vic.—Wages Board system established by Act of Parliament.
- 1897–8 Sessions of Federal Convention at Adelaide, Sydney and Melbourne.
- 1898 Draft Federal Constitution Bill submitted to electors in Victoria, New South Wales, South Australia and Tasmania. Requisite statutory number of votes not obtained in New South Wales.
- 1899 First contingent of Australian troops sent to South Africa. Conference of Premiers in Melbourne to consider amendments to Federal Constitution Bill. Referendum—Bill accepted by New South Wales, Victoria, Queensland, South Australia and Tasmania. First Labour Government (Queensland).
- 1900 N.S.W.—Old-age pensions instituted.  
Contingents of naval troops sent to China. Commonwealth Constitution Act received Royal Assent, 9th July. Proclamation of Commonwealth signed 17th September. Sir Edmund Barton formed first Federal Ministry.
- 1901 Proclamation of the Commonwealth at Sydney. First Commonwealth Parliament opened at Melbourne by the Duke of Cornwall and York. Interstate free-trade established.

## Year.

- 1902 Completion of Pacific Cable (all-British). First Commonwealth Tariff.
- 1903 Coolgardie and Kalgoorlie Water Supply Scheme completed. Inauguration of the Federal High Court.
- 1904 Commonwealth Conciliation and Arbitration Act.
- 1905 Population of Australia reached 4,000,000. Re-introduction of assisted immigration in New South Wales.
- 1906 Wireless telegraphy installed between Queenscliffe, Vic., and Devonport, Tas. Papua taken over by Commonwealth.
- 1907 First telephone trunk line service between capital cities, i.e., Sydney and Melbourne. Imperial Conference in London. Declaration of first basic wage in "Harvester Judgment".
- 1908 Canberra chosen as site of Australian Capital.
- 1909 Imperial Defence Conference in London. Visit of Lord Kitchener to report and advise on Australian military defence. Queensland University founded. Establishment of Commonwealth Age Pension Scheme.
- 1910 Penny Postage. Arrival of *Yarra* and *Parramatta*, first vessels built for the Royal Australian Navy. Australian Notes Act passed and first Commonwealth notes issued. Admiral Sir R. Henderson visited Australia to advise on naval defence.
- 1911 First Commonwealth Census. Transfer of Australian Capital Territory and Northern Territory to Commonwealth. Introduction of compulsory military training.
- 1912 Opening of Commonwealth Bank. First payments of Maternity Bonus. First sod of Trans-Australian Railway turned at Port Augusta. University of Western Australia founded.
- 1913 Australian Capital named Canberra and foundation stone laid. Appointment of Interstate Commission.
- 1914 Visit of General Sir Ian Hamilton to report on military defence scheme. Double dissolution of Commonwealth Parliament. Transfer of Norfolk Island to Commonwealth.  
European War declared 4th August. German possessions in South West Pacific seized by Australian Naval and Military Expeditionary Force. German cruiser *Emden* destroyed by H.M.A.S. *Sydney* at Cocos Islands, 9th November. Australian and New Zealand Army Corps (ANZAC) formed under Sir William Birdwood.
- 1915 Opening of Broken Hill Proprietary's Ironworks at Newcastle, N.S.W.  
Australian and New Zealand troops landed at Gallipoli, 25th April. Evacuation, 18th-20th December. Australian warships with Grand Fleet.
- 1916 Purchase of steamships by the Commonwealth.  
Australian and New Zealand mounted troops in Egypt, Palestine and Syria. Other troops transferred to France. First proposal for compulsory military service overseas defeated by referendum.
- 1917 National Ministry formed under Rt. Hon. W. M. Hughes. Transcontinental (Kalgoorlie-Port Augusta) Railway completed.  
Australian Flying Corps operating with R.F.C. in Palestine and France. Second proposal for compulsory military service overseas defeated by referendum.
- 1918 Population of Australia reached 5,000,000. Australia House (Strand, London) opened by King George V.  
Armistice with Germany, 11th November. Repatriation Commission created.
- 1919 Peace Conference. England to Australia flight by Capt. (Sir) Ross Smith and Lieut. (Sir) Keith Smith. Peace Treaty signed at Versailles, 28th June.
- 1920 Visit to Australia of H.R.H. the Prince of Wales. Imperial Statistical Conference in London.
- 1921 Mandate over Territory of New Guinea given to Australia. First direct wireless press message, England to Australia. Second Commonwealth Census.
- 1922 First lock on River Murray opened at Blanchetown, South Australia. Queensland Legislative Council abolished.

- Year.
- 1923 First sod turned on the site of Commonwealth Parliament House at Canberra.
- 1924 Directorate of Commonwealth Bank appointed. Australian Loan Council formed.
- 1925 Population of Australia reached 6,000,000.
- 1926 Council for Scientific and Industrial Research established. Imperial Conference. Dominion Status defined.
- 1927 Transfer of Seat of Commonwealth Government from Melbourne to Canberra. Beam wireless established. Financial agreement between Commonwealth and States.
- 1928 State Debts referendum carried.
- 1929 Commonwealth Bank empowered to mobilize gold reserve. Abolition of peacetime compulsory military training in favour of voluntary system.
- 1930 Effects of world-wide severe economic depression felt throughout Australia. Brisbane-Grafton (N.S.W.) railway, first step towards uniform gauge railway communication between capitals of mainland States, opened. First Australian—Rt. Hon. Sir Isaac Alfred Isaacs—appointed Governor-General of Australia.
- 1931 Depression continued. Initiation of Premiers' Conference plan to meet the financial situation. Commonwealth Bank Act amended to provide for temporary lower reserve against notes. England departed from gold standard. Commonwealth Bank assumed control of exchange rate and lowered it to 125 (previously 130).
- 1932 Sydney Harbour Bridge opened. Australian Broadcasting Commission established. Imperial Economic Conference at Ottawa.
- 1933 World Economic Conference in London. Antarctica and Ashmore and Cartier Islands taken over by the Commonwealth. Third Commonwealth Census.
- 1934 Inauguration of England-Australia Air Mail Service.
- 1935 Empire Statistical Conference at Ottawa.
- 1936 Joint Commonwealth and State Marketing Schemes invalidated by decision of the Privy Council in the James case. Tasmania linked with mainland by submarine telephone cable.
- 1937 Imperial Conference in London. Report of the Royal Commission on Monetary and Banking Systems in Australia.
- 1938 New Defence Programme involving expenditure of £63,000,000 over three years. New Trade Treaty with Japan.
- 1939 Population of Australia reached 7,000,000.  
War declared on Germany, 3rd September. Advance party of Australians embarked for Middle East, 15th December.
- 1940 Exchange of Ministers between Australia and United States of America marked Australia's entry into field of direct diplomatic representation with countries other than the United Kingdom.  
First Australian convoy (6th Australian Division) sailed for Middle East. Cruiser *Sydney* crippled Italian cruiser *Bartolomeo Colleoni*.
- 1941 Establishment of Commonwealth Child Endowment Scheme. United States Congress passed Lend-Lease Bill.  
Arrival of units of Eighth Australian Division in Malaya. R.A.A.F. in defence of Britain, in Middle East and at Singapore. Australian forces engaged in Middle East, Greece, Crete and Syria. Japanese attack on Pearl Harbour. Australia declared war on Japan, 9th December.
- 1942 Federal uniform taxation adopted. Commonwealth widows' pensions introduced. Rationing of commodities.  
Japanese landed at Rabaul. Fall of Singapore. Darwin bombed. United States armed forces arrived in Australia and headquarters of South-West Pacific Command set up by General Douglas MacArthur in Melbourne. Coral Sea Battle. Japanese midget submarines in Sydney Harbour. Owen Stanley Ranges offensive. Ninth Australian Division at El Alamein (North Africa).

## Year.

- 1943 Price Stabilization Scheme. Mortgage Bank Department of Commonwealth Bank opened. National Works Council formed.  
Australian forces combined with American forces to recapture many places in New Guinea.
- 1944 Pay-as-you-earn taxation operated from 1st July. Referendum refused Commonwealth Government increased powers in post-war period.  
Australian advances in northern New Guinea. Allied invasion of France. Australians took over from Americans in Solomon Islands and New Guinea.
- 1945 Captain Cook Dock opened, Sydney. Re-establishment and Employment Act. Banking Act to regulate banking and to protect the currency and public credit. Australia ratified United Nations Charter.  
Cessation of hostilities in Europe, 8th May. Cessation of hostilities against Japan, 15th August.
- 1946 Act to establish National University at Canberra. Commonwealth and State agreement on housing. Constitution Alteration Referendum granted powers in respect of social services to Commonwealth.
- 1947 Census of Australia—first since 1933. Australian National Antarctic Research Expedition to establish scientific research station at Heard Island. First "displaced persons" reached Australia.
- 1948 Forty-hour week effective throughout Australia. Membership of Commonwealth Parliament increased.
- 1949 Nationality and Citizenship Act operative. Broadcasting Control Board came into operation. Commencement of Snowy Mountains Hydro-electric Power Scheme. Australia's population reached 8,000,000.
- 1950 United Nations members engaged in military operations to assist South Korea, and Australian forces in vicinity of Korea were placed at disposal of United Nations. Adult franchise for Victorian Legislative Council replaced existing franchise dependent on property qualifications.
- 1951 Transfer of Heard Island and Macdonald Islands to Australia. Double dissolution of Commonwealth Parliament, second in history of the Commonwealth (*see* 1914). Security Treaty between United States of America, Australia and New Zealand for action in the event of an armed attack in the Pacific. Third Conference of Government Statisticians of the British Commonwealth held in Canberra. Opening of new Legislative Council of Papua and New Guinea, including representatives of the native peoples.
- 1952 High-grade uranium deposits discovered at Rum Jungle, Northern Territory, and Radium Hill, South Australia. Severe restrictions imposed on imports from all sources and on amounts available for Australians travelling overseas.
- 1953 Atomic Energy Act 1953 established Atomic Energy Commission. Britain and Australia signed agreement for reciprocity in social services benefits. Commonwealth Court of Conciliation and Arbitration granted employers' applications for abandonment of the system of automatic adjustment of the basic wage in accordance with retail price index numbers.
- 1954 Her Majesty Queen Elizabeth the Second, with H.R.H. the Duke of Edinburgh, made first tour of Australia by reigning sovereign. Australian National Antarctic Research Expedition established station at Mawson to conduct meteorological and other research. Australian population census taken. At Manila Conference, Australia signed treaty pledging collective defence against aggression in South-East Asia and South-West Pacific.
- 1955 First power generated from Snowy Mountains fed into New South Wales Electricity system. Australian population reached 9,000,000. Salk polio vaccine made at Melbourne. Cocos (Keeling) Islands became Territory under authority of Commonwealth.
- 1956 Amendment to Conciliation and Arbitration Act altered structure of arbitration machinery by separating the judicial functions from the conciliation and arbitration functions. Bilateral agreement signed between Australia and U.S.A. for peaceful uses of atomic energy. Dispute over control of Suez Canal. Regular television transmissions commenced in Australia. Australia and United Kingdom agreed on comprehensive trade pact to replace 24-year-old Ottawa Agreement. Olympic games held in Melbourne.

## Year.

- 1957 Commonwealth Government representatives and chiefs of private trading banks met in Canberra to discuss changes in the banking system. International Geophysical Year commenced; over 250 Australian scientists participated. High Court ruled that interstate vehicles could not be compelled to register in New South Wales, but upheld validity of a Victorian tax on commercial vehicles, including those engaged in interstate trade, imposed solely for the maintenance of roads. Commonwealth established National Capital Development Commission to co-ordinate the expansion of Canberra as the centre of Commonwealth administration.
- 1958 Prime Minister officially opened Australia's first nuclear reactor at Lucas Heights, near Sydney. Adamnaby Dam, in Snowy Mountains Hydro-electric Scheme, completed. Tumut Ponds Dam opened by Prime Minister. Integration of Commonwealth and State statistical services completed. Christmas Island (Indian Ocean) transferred to Australian Administration. New South Wales Act passed providing for equal pay for male and female workers performing similar tasks.
- 1959 Annual Holidays Act, 1944-1958, of New South Wales, provided for three weeks annual holidays for all New South Wales workers. British Commonwealth Defence conference opened in Canberra. Australia took over custody of Wilkes Antarctic station from United States of America. International Antarctic Analysis Centre set up at Melbourne within Commonwealth Bureau of Meteorology. Commonwealth plan for expenditure of £720,000,000 on roads and bridges accepted by Premiers' Conference. Population reached 10,000,000. T1. underground power station, first major station of Snowy Mountains Scheme, commenced operation. New Immigration Act, abolishing Dictation Test, and making a number of other changes, became operative. Fourteen mile, £19,000,000 Eucumbene-Tumut tunnel, in Snowy Mountains, completed. Australian Universities Commission constituted. Commonwealth Conciliation and Arbitration Commission granted increase of 28 per cent. in margins of metal trades employees. Australia signed Antarctic Treaty at Washington relating to activities in and the use of Antarctica.
- 1960 Provision made for Social Service benefits to be paid to Australian aboriginals. Commonwealth Banks Act and Reserve Bank Act proclaimed, establishing separate Commonwealth Development Bank, Commonwealth Trading Bank, and Reserve Bank of Australia. Australia and Canada signed new trading agreement, giving increased tariff preference to a wide variety of Australian exports. Goods comprising 90 per cent. of Australia's present imports exempted from licensing provisions. Commonwealth Prime Minister's Conference in London. Severe floods in Derwent Valley (Tasmania). Australia joined International Development Association as foundation member (*see* Diary of Economic Events, 24th April). Telephonic Communications (Interception) Bill passed, prohibiting any interception of telephone messages except in interests of national security. National Service training ended. National Export Drive Campaign and Convention. Report of Committee on Decimal Coinage, unanimously in favour, tabled in House of Representatives. Aluminium works sold to private company by Commonwealth Government. Changes made in Constitution of Papua and New Guinea providing for an increase in number of native members of Legislative Council to eleven, including six elected by natives. Warragamba and Keepit Dams opened by Premier of New South Wales. Approval given for thirteen country areas to have television stations, one commercial, one national in each. New South Wales Government introduced Company Law Amendment Bill, the first of a series designed to provide for uniform Company Law throughout Australia. Government announced special economic measures (restriction of bank and hire purchase credit, increased sales tax on cars, etc.) designed to counter inflationary trend and to safeguard overseas funds.
- 1961 Australia's first guided missile base established at Williamstown (New South Wales). Western Australia announced plans for £10,000,000 iron industry to produce iron for export. Three timber towns in Western Australia destroyed by bushfires. Commonwealth Matrimonial Causes Act, unifying State Acts, became operative (*see* p. 648). Governor-General, Lord Dunrossil, died in office. Bank interest rates rose by about 1 per cent. Australia and United Arab Republic diplomatic

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cont.

missions raised to Embassy status. Residents fled from Carnarvon (Western Australia) to escape exceptional flood. Earl Mountbatten visited Australia for defence talks in Canberra. Last tram service in Sydney stopped running. Monash University (Melbourne) opened. Commonwealth Government announced tax concessions to exporters for promotional expenses in developing oversea export markets. Two women (one native) appointed to Legislative Council of Papua and New Guinea. Australian legation opened at Stockholm. New King Street Bridge opened in Melbourne. International Council of Nurses held conference at Melbourne, attended by 2,000 nurses from 46 countries. New £800,000 radio-telescope, second largest in world, brought into operation at Parkes (New South Wales) for tracking of space probes and radio-astronomy research. Cessation of "C" Series Retail Price Index after being used for 40 years. Tenders let for first works of Snowy-Murray section of Snowy Mountains Scheme. Arrangements made with International Monetary Fund for drawings by Commonwealth Government of £78,000,000 and stand-by credit of £45,000,000. Prime Minister launched appeal for £1,500,000 for National Heart Foundation. Referendum in New South Wales on proposal to abolish Legislative Council defeated (*see* p. 69). Oil discovered in south-west Queensland showing potential for development. Severe earth tremors cause extensive damage in eastern New South Wales. Diplomatic relations established with Argentina at Embassy level. Professional engineers given salary rises, ranging from £2 to £12 a week, by Arbitration Commission. Diplomatic relations established with Switzerland at Embassy level. Contract let for construction of dam at Sirinumu Falls in New Guinea, first of a scheme to develop the hydro-electric potential of the Laloki River. New moving footway opened in Sydney. First non-stop flight from England to Richmond (New South Wales) made in 20 hours by R.A.F. Vulcan jet bomber. New P. and O. ship *Canberra* arrived in Australia, the largest ever to visit Australia on regular service. Cracks appeared in Wyangala Dam (New South Wales), and dam is to be rebuilt by State at cost of £14,000,000. Australian population census taken, population 10,508,186. Inaugural Qantas service to Johannesburg. British Secretary for Commonwealth Relations visited Australia for talks on trade and Britain's possible entry to the European Economic Community (the "Common Market"). Reserve Bank reduced statutory reserve deposits by 1 per cent. to 12½ per cent. First meeting of Antarctic Treaty countries held in Canberra. New South Wales introduced legislation providing for a five-day working week for banks. Sale of *Manoora* ended Australian coastal passenger trade, and existing restrictions on oversea passenger ships engaging therein lifted. New South Wales Government approved plans for implementing Wyndham Report, by extending secondary school course to six years from 1962, with additional bursary assistance. Australia sold interest in Tasman Empire Airways Ltd. to New Zealand. Viscount De L'Isle appointed Governor-General. Japanese collier loaded 20,400 tons of coal, first shipment of total order of 102,000 tons. Treasurer announced cancellation of stand-by credit of £45,000,000 arranged with International Monetary Fund. Sales tax on household furniture, furnishings and appliances reduced from 8½ per cent. to 2½ per cent. Plans made for building of Australia's largest dam (Chowilla Dam) on River Murray in South Australia. International Finance Corporation Act 1955 amended to allow the I.F.C. to make equity investments in Australian companies and to grant immunity from taxes and charges on equity investments. Television licenses granted for major provincial and rural areas. Diplomatic relations established with Korea at Embassy level. Iron ore deposits estimated at 1,800,000,000 tons discovered at Pilbara (Western Australia). Victorian Premier opened first units of £27,000,000 petro-chemical complex at Altona (Victoria). Airliner crashed at Sydney with loss of 15 lives. Menzies Government returned at general elections with majority reduced from 32 to 2.

1962 (to 30th June) Regular goods service commenced on new standard gauge railway between Melbourne and Sydney. New 32,250 ton tanker, largest ship built so far in Australia, launched at Whyalla. Severe bushfires in Victoria, 300 homes destroyed and 8 deaths, with widespread devastation of forests, farms and orchards. National Shipping Line began construction of new "drive-on" ship for Sydney-Hobart run, to cost £3,500,000. Five-day week for banks introduced in all States except Victoria. Australian Mission to European Economic Community

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cont.

raised to Embassy status. Minister for External Affairs announced that Australia would take up \$4,000,000 of United Nations Bonds. Redistribution of electoral boundaries as result of Census count resulted in reduction of one seat each in New South Wales, Queensland and Western Australia, and an increase of one seat in Victoria. Contract signed for construction of New National Gallery and Cultural Centre in Melbourne at cost of £4,250,000. Western Australian Premier signed agreement with American companies for 21-year lease to extract and export up to 15 million tons of iron ore from Pilbara deposits. Minister for Trade went overseas for talks with Britain, United States, France and Germany concerning Britain's proposed joining of European Economic Community. Commonwealth Electoral Act amended to provide for votes for aboriginals. Subscriber trunk dialling service introduced between Canberra and Sydney. New South Wales Government announced details of £6,000,000 plan for flood mitigation on coastal rivers. United States Government through its National Science Foundation provided for grants of £333,000 over 5 years to assist in building of Sydney University's radio telescope near Canberra. Work began on standardization of rail gauge from Kwinana to Kalgoorlie (Western Australia). New Trade Commissioner posts opened at Caracas (Venezuela) and Athens. United Nations trusteeship mission visited Canberra for talks on Nauru and New Guinea. Aeronautical scientists from Commonwealth countries met at Melbourne under auspices of Commonwealth Advisory Aeronautical Research Council to discuss problems concerning aeronautical research. Site chosen for University college to be established at Port Moresby (Papua). Co-axial telephone link opened between Melbourne, Canberra and Sydney. Commonwealth Government abolished need for tax clearances for persons leaving Australia for travel overseas. First through passenger train on standard gauge left Sydney for Melbourne. Work commenced on building of Nurses' Training College in New Guinea, to cost £348,250, which will accommodate 300 native trainees. Queensland Government approved raising of school leaving age and extension of secondary school course to five years. C.S.I.R.O. received grant of £245,000 from Ford Foundation for construction of radio-heliograph to investigate solar phenomena. Commonwealth provided £1,765,000 grants to States for assistance to Universities in development of training facilities for medical students in teaching hospitals. Prime Minister opened 280,000 kW T2 power station in Snowy Mountains area. ANZUS Council meeting held in Canberra. New Australian Embassy opened in Seoul, Korea. New South Wales passed legislation allowing foreign doctors to register without further examination. R.A.A.F. squadron sent for service in Thailand.



## STATISTICAL SUMMARY: AUSTRALIA.

NOTE.—(1) In most cases where figures are available back to 1861, these were shown in Official Year Book No. 39, pp. xxviii-xxix.

(2) The statistics in this summary relate in general to the periods shown in the table headings; where the statistics relate to other periods, this is indicated in the footnotes.

Item.	Year ended 30th June—								
	1892.	1902.	1912.	1922.	1932.	1942.	1952.	1962.	
<b>DEMOGRAPHY(a)—</b>									
Population(b)	{ '000 Males ..	1,737	2,005	2,382	2,799	3,333	3,599	4,311	5,355
	{ '000 Females..	1,504	1,820	2,192	2,712	3,220	3,545	4,217	5,249
	{ '000 Persons..	3,241	3,825	4,574	5,511	6,553	7,144	8,528	10,604
Natural Increase	'000	62.8	56.6	74.3	82.1	61.9	63.3	111.5	151.0
Net Oversea Migration	'000	26.9	3.0	74.4	17.5	-10.1	5.2	111.4	61.5
Marriages	'000	24	28	39	47	39	75	77	77
	Rate(c)	7.5	7.3	8.8	8.6	6.0	10.6	9.2	7.3
Divorces(d) and Judicial Separations	'000	194	398	509	1,490	1,969	3,351	7,330	6,711
	Rate(c)	110	103	122	136	119	135	193	240
Births	'000	34.5	27.2	27.2	25.0	18.2	18.9	23.0	22.9
	Rate(c)	47	46	48	54	57	71	82	89
Deaths	'000	14.8	12.2	10.7	9.9	8.7	10.0	9.7	8.5
	Rate(c)	12.7	10.7	8.4	9.0	5.0	5.3	4.9	4.7
Infant Deaths	'000	115.3	103.6	68.5	65.7	42.1	39.7	25.2	19.5
	Rate(e)								
<b>WAGES (ADULT MALES)(b)—</b>									
Minimum Weekly Wage Rate Index Numbers(f)		(g)	(g)	(g)	(g)	(g)	38.5	85.8	129.5
<b>PRODUCTION—</b>									
<b>Agricultural(h)—</b>									
Wheat	{ Area mill. acs.	3.3	5.1	7.4	9.7	14.7	12.0	10.4	13.4
	{ Yield mill. bus.	26	39	72	129	191	167	160	274
	{ Av. Yield bus.	7.7	7.5	9.6	13.3	12.9	13.9	15.4	20.4
	{ Area '000 acs.	246	461	617	733	1,085	1,460	2,365	3,637
Oats	{ Yield mill. bus.	5.7	9.8	9.6	12.1	15.2	22.3	34.5	76.1
	{ Av. Yield bus.	23.3	21.2	15.5	16.6	14.0	15.3	14.6	21.0
	{ Area '000 acs.	68	75	116	299	342	784	1,118	2,830
Barley	{ Yield mill. bus.	1.2	1.5	2.1	6.1	6.3	18.0	21.9	68.0
	{ Av. Yield bus.	17.3	20.4	17.7	20.4	18.4	23.0	19.6	24.0
	{ Area '000 acs.	284	295	340	305	269	301	170	185
Maize	{ Yield mill. bus.	9.3	7.0	8.9	7.8	7.1	7.4	4.0	6.2
	{ Av. Yield bus.	32.6	23.9	26.3	25.7	26.2	24.7	23.7	34.8
	{ Area '000 acs.	942	1,688	2,518	2,995	2,635	2,758	1,549	2,973
Hay	{ Yield '000 tons	1,067	2,025	2,868	3,902	3,167	3,575	2,345	5,079
	{ Av. Yield tons	1.13	1.20	1.14	1.30	1.20	1.30	1.51	1.71
	{ Area '000 acs.	113	110	130	149	145	99	118	92
Potatoes	{ Yield '000 tons	380	323	301	388	397	333	509	451
	{ Av. Yield tons	3.37	2.94	2.31	2.60	2.74	3.35	4.31	4.91
	{ Area (i) '000 acs.	45	87	101	128	242	255	282	341
Sugar-cane	{ Yield '000 tons	738	1,368	1,682	2,437	4,213	5,154	5,327	9,166
	{ Av. Yield tons	16.2	15.7	16.7	19.0	17.4	20.3	18.9	26.9
	{ Area '000 acs.	49	64	61	92	113	130	136	131
Vineyards	{ Wine mill. gals.	3.4	5.3	5.0	8.5	14.2	16.0	35.3	30.3
	{ Area '000 acs.	5.4	8.4	12.1	15.4	21.2	20.5	19.7	29.6
<b>Pastoral, Dairying, etc.—</b>									
Livestock(j)	{ Horses mill.	1.6	1.6	2.3	2.4	1.8	1.6	0.9	0.6
	{ Cattle "	11.1	8.5	11.8	14.4	12.3	13.6	14.9	18.1
	{ Sheep "	106	72	97	86	111	125	118	158
	{ Pigs "	0.9	0.9	1.1	1.0	1.2	1.5	1.0	1.7
Wool(k)	{ mill. lb.	(a) 634	(a) 539	(a) 798	(a) 723	1,007	1,167	1,080	1,700
Butter	{ '000 tons	(a) 19	(a) 46	(a) 95	(a) 119	175	168	135	200
Cheese	{ " "	(a) 4.5	(a) 5.3	(a) 7.1	(a) 14.6	14.0	30.1	40.6	55.4
<b>Meat(l)—</b>									
Beef and Veal	{ " "					339	350	534	587
Mutton and Lamb	{ " "					218	307	372	587
Pigmeat..	{ " "					51	70	121	85
Total Meat	{ " "					608	727	1,027	1,493

(a) Year ended previous December. (b) At 31st December of previous year. (c) Number per 1,000 of mean population. (d) Decreases made absolute, including decreases for nullity of marriage. (e) Number per 1,000 live births. (f) New Series. Base: Year 1954=100. Excludes Rural Industry. (g) Not available. (h) Season ended in year shown. Latest figures relate to the season ended in 1961. (i) Cane cut for crushing. (j) As at 31st December of previous year for years to 1942, as at 31st March of year shown thereafter. (k) In terms of greasy. (l) Carcass weight in terms of fresh meat.

STATISTICAL SUMMARY: AUSTRALIA—continued.

NOTE.—See headnotes on page 1212.

Item.	Year ended 30th June—							
	1892.	1902.	1912.	1922.	1932.	1942.	1952.	1962.
<b>PRODUCTION—continued.</b>								
<b>Mineral(a)(b)—</b>								
Copper(c) .. '000 tons	(d)	(d)	(d)	(d)	13.5	20.9	18.1	94.6
Gold(c) .. '000 fine oz.	1,243	3,300	2,484	758	595	1,497	896	1,068
Lead(c) .. '000 tons	3.5	11.8	22.2	57.7	162.6	275.5	212.0	269.8
Zinc(c) .. '000 tons	(e)	(e)	190.3	20.7	97.5	170.0	189.2	288.2
Black Coal .. Mill. tons	4.4	6.9	10.6	12.8	8.4	14.2	17.6	24.1
Brown Coal .. " "	..	..	(e)	0.1	2.2	4.6	7.8	16.3
<b>Forestry—</b>								
Sawn output of native timber mill. sup. ft.	(d)	(a) 452	(a) 605	590	237	914	1,393	(f) 1,419
<b>Factories—</b>								
Number of factories '000								(f)
Persons employed .. " "	(g)	(g)	{ 14.5	18.0	21.7	27.0	45.8	57.8
Salaries and wages paid .. £m.			{ 312	379	337	725	978	1,145
			{ 28	68	56	180	612	1,144
Net value of production(h)—								
Chemicals, etc. .. " "			{ 1.1	3.2	7.9	24.8	63.7	183.1
Industrial metals, etc. .. " "			{ 12.0	23.6	22.8	119.9	413.1	892.0
Textiles, etc. .. " "	(d)	(d)	{ 7.5	19.2	{ 6.9	21.0	56.6	106.2
Clothing .. " "					{ 11.1	23.6	81.1	123.6
Food, etc. .. " "			{ 11.8	27.2	28.7	53.2	141.1	269.6
Paper, etc. .. " "			{ 4.2	9.0	9.6	17.1	68.2	159.3
All groups .. " "	23.3	29.1	{ 47.5	112.5	111.0	316.5	1,024.9	2,164.2
Value of land and buildings .. " "	(d)	(d)	{ 32.5	67.3	106.6	156.3	360.2	1,193.5
Value of plant and machinery .. " "			{ 31.4	78.1	121.5	169.2	412.5	1,391.5
<b>Net value of production(i)—</b>								
Agriculture .. £m.	17.0	23.8	38.8	81.9	49.7	64.0	246.7	(f) 391.8
Pastoral .. " "	31.3	27.2	52.7	75.1	43.0	85.4	400.5	458.2
Dairying .. " "	6.0	7.6	16.1	35.3	22.6	34.3	103.8	142.1
Poultry .. " "	1.9	2.0	4.0	9.0	5.7	6.5	31.5	33.7
Bee-farming .. " "	0.1	0.1	0.1	0.1	0.1	0.4	0.8	1.5
Total Rural .. " "	56.3	60.7	111.7	201.4	121.1	190.6	783.3	1,027.3
Trapping .. " "	(d)	(d)	(d)	(d)	1.5	5.0	6.7	6.6
Forestry .. " "	4.4	2.8	{ 4.8	9.1	3.9	10.2	37.9	52.1
Fishing and Whaling .. " "			{ 1.1	1.4	1.4	1.8	5.7	12.8
Mining and Quarrying(j) .. " "	12.1	22.0	23.3	20.0	13.5	33.4	97.2	138.7
Total, Non-Rural .. " "	16.5	24.8	29.2	30.5	20.3	50.4	147.5	210.2
Total, Primary .. " "	72.8	85.5	140.9	231.9	141.4	241.0	930.8	1,237.5
Factories(h) .. " "	23.3	29.1	47.5	112.5	111.0	316.5	1,024.9	2,164.2
Total, All Industries .. " "	96.1	114.6	188.4	344.4	252.4	557.5	1,955.7	3,401.7
<b>OVERSEA TRADE—</b>								
Imports .. £m. f.o.b.	(a) 34	(a) 38	(a) 61	94	52	174	1,053	885
Exports .. " "	36	50	79	128	108	169	675	1,078
<b>Principal Exports(k)—</b>								
Wool .. { Mill. lb.(l) .. 641	529	734	946	903	938	1,036	1,460	
.. { £m. f.o.b. .. 20	15	26	48	32	58	323	373	
Wheat .. { '000 tons .. 258	543	1,477	2,677	3,413	598	1,685	5,443	
.. { £m. f.o.b. .. 1.9	2.8	9.6	28.6	19.2	4.6	55.3	142.4	
Flour .. { '000 short tons .. 33	97	176	360	611	414	789	579	
.. { £m. f.o.b. .. 0.3	0.6	1.4	5.5	3.8	4.2	33.0	17.4	
Butter .. { mill. lb. .. 4	35	102	127	202	130	25	176	
.. { £m. f.o.b. .. 0.2	1.4	4.6	8.0	10.3	8.1	4.6	23.5	

(a) Year ended previous December. (b) Breaks in the continuity of the series occurred in 1931 and 1951. (c) Mine production, i.e., metal content of minerals produced. (d) Not available. (e) Less than .05. (f) Year ended 30th June, 1961. (g) Owing to variation in classification effective comparison is impossible. (h) For definition see page 158. (i) Gross value from 1891 to 1921—22. Prior to 1922, figures are for years ended previous December. For definitions of gross and net value see page 1137. (j) Incomplete. (k) Australian produce except gold, which includes re-exports. (l) In terms of greasy.

## STATISTICAL SUMMARY: AUSTRALIA—continued.

NOTE.—See headnotes on page 1212.

Item.	Year ended 30th June—							
	1892.	1902.	1912.	1922.	1932.	1942.	1952.	1962.
<b>OVERSEA TRADE—continued.</b>	(a)	(a)	(a)					
Principal Exports(b)—continued.								
Hides and Skins .. £m. f.o.b.	0.9	1.3	3.2	3.1	2.3	6.0	17.1	32.3
Meats .. .. .	0.5	2.6	4.3	5.5	6.4	14.1	35.5	89.7
Fruit(c) .. .. .	..	0.2	0.5	3.0	4.8	4.0	19.5	36.0
Sugar .. .. .	..	(d)	(d)	(d)	2.5	2.6	6.9	33.9
Gold .. .. .	5.7	14.3	12.0	3.5	11.9	9.2	7.0	9.0
Silver and Lead(e) ..	1.9	2.3	3.2	2.7	2.9	7.4	32.1	23.5
Ores and Concentrates(f) ..	..	(d)	3.7	0.8	0.2	1.3	17.0	20.2
Principal Imports—		(a)	(a)					
Vegetable foodstuffs, etc. ..		3.6	3.7	4.0	2.6	6.1	25.0	27.9
Apparel, etc. .. .. .		10.9	16.2	31.0	15.4	32.7	203.6	104.2
Oil, etc. .. .. .	(g)	1.2	1.6	4.7	5.5	16.2	87.5	109.9
Metals, etc. .. .. .		7.8	14.0	22.8	7.4	71.8	393.4	315.3
Rubber, etc. .. .. .		0.5	1.4	1.7	0.8	3.2	34.0	17.8
Paper, etc. .. .. .		1.6	2.6	4.4	4.4	4.3	68.8	57.9
<b>TRANSPORT AND COMMUNICATION—</b>								
Shipping—	(a)	(a)	(a)					
Oversea Vessels } No. ..	3,778	4,028	4,174	3,111	3,057	2,544	4,136	7,210
Entrances and } mill. tons	4.7	6.5	10.0	9.1	11.4	10.8	18.2	37.7
Clearances .. .. .								
Oversea Cargo—								
Discharged .. mill. tons(h)			(g)	2.4	3.0	5.5	14.4	20.3
Shipped .. .. .			(g)	5.8	6.7	4.2	5.7	18.7
Interstate Vessels } No. ..	(g)	(g)	9,605	9,782	7,957	9,100	7,524	(i) 9,745
Entrances and } mill. tons			13.1	12.8	11.1	12.9	15.8	(i) 19.2
Clearances .. .. .								
Interstate Cargo Shipped } mill. tons(h)			(g)	5.5	4.0	10.0	9.0	14.8
Government Railways—	(j)	(j)	(j)					
Route-miles .. .. .	10.4	12.8	16.8	23.5	27.0	27.2	26.8	(i) 26.1
Passenger-journeys .. mill.	84	115	228	335	303	475	501	(i) 445
Goods and livestock carried .. mill. tons	9.4	15.5	25.5	31.5	26.1	38.9	44.3	(i) 55.4
Train-miles run .. .. .	29.7	38.2	55.2	56.1	63.8	88.5	93.4	(i) 93.0
Tramways and Omnibuses—								
Passenger-journeys—								
Trams and Trolleybuses mill. Omnibuses(k) ..	(g)	(g)	{ 360	569	589	874	663	(i) 285
Cars .. .. .			(g)	(g)	(g)	193	356	(i) 441
Motor vehicles on the register—								
Cars .. .. .			(g)	102	{ 420	451	1,026	2,185
Commercial vehicles ..					96	251	585	869
Civil Aviation (Internal)—								
Plane-miles flown .. mill.	..	..	..	..	2.5	7.8	41.8	(i) 43.3
Passengers carried .. '000	..	..	..	..	57	152	1,829	(i) 2,639
Passenger-miles .. mill.	..	..	..	..	(g)	76	722	(i) 1,110
Freight car- '000 short tons	..	..	..	..	0.1	1.2	57.5	(i) 75.0
ried .. .. .	..	..	..	..	(g)	0.9	26.7	(i) 28.2
Postal—	(a)	(a)	(a)					
Postal matter dealt with(l) .. mill. articles	286	365	680	778	887	1,124	1,482	(i) 2,048
Telegrams and cablegrams mill.	10.0	9.9	13.3	16.8	13.9	26.1	29.8	(i) 21.8
Telephones—								
Instruments .. .. .	7	29	103	259	485	739	1,301	(i) 2,266
Lines .. .. .	(g)	25	85	196	364	531	928	(i) 1,631
Calls—Trunk .. .. .	(g)	(g)	(g)	14.0	28.9	45.3	69.4	(i) 75.0
Local .. .. .	(g)	(g)	(g)	221	369	664	968	(i) 1,625
Broadcast Listeners' Licences '000	..	..	..	(m) 36	369	1,320	1,961	(i) 2,220
<b>PUBLIC FINANCE—</b>								
Commonwealth—								
Consolidated Revenue Fund—		(j)	(j)					
Revenue .. .. .	..	11	21	64	72	210	1,017	1,642
Expenditure .. .. .	..	4	15	64	72	210	1,017	1,642
Net loan fund expenditure ..	..	..	1	5	4	213	55	91
Taxation collections .. .. .	..	9	16	50	54	180	934	1,425

(a) Year ended previous December. (b) Australian produce except gold, which includes re-exports. (c) Excludes fruit juices. (d) Less than .05. (e) Includes concentrates. (f) Excludes Lead and Silver-lead ores and concentrates. (g) Not available. (h) Tons weight plus tons measurement. (i) Year ended 30th June, 1961. (j) Year ended 30th June. (k) Government and municipal only. (l) Letters, post-cards, lettercards, newspapers, packets, parcels and registered articles. (m) Year 1923-24.

STATISTICAL SUMMARY: AUSTRALIA—continued.

NOTE.—See headnotes on page 1212.

Item.	Year ended 30th June—							
	1892.	1902.	1912.	1922.	1932.	1942.	1952.	1962.
<b>PUBLIC FINANCE—continued.</b>								
<b>State—</b>								
Consolidated Revenue Funds—								
Revenue .. £m.	(a)	28	41	85	100	152	388	755
Expenditure .. "	(a)	29	41	87	121	149	392	756
Net loan expenditure(b) .. "	(a)	9	16	34	6	8	198	192
Taxation collections .. "	(a)	3	5	18	33	57	63	168
Govt. Securities on Issue(c)—						(d)	(d)	(d)
Commonwealth .. £m.	..	..	6	354	319	670	1,919	1,560
State .. "	(e)	155	213	279	519	789	1,019	2,981
Total .. "	(e)	155	213	285	873	1,108	1,689	3,415
Overseas .. "	(a)	(a)	194	412	522	656	556	712
In Australia .. "	(a)	(a)	91	461	586	1,033	2,859	3,829
<b>PRIVATE FINANCE—</b>								
Commonwealth Note Issue(f)£m.	..	..	8	54	51	103	303	428
<b>All cheque-paying banks—</b>								
Advances(g) .. "	125	94	109	183	261	324	817	1,132
Deposits(g) .. "	98	91	143	289	319	483	1,353	1,941
Bank clearings(e) .. "	(a)	338	662	1,702	1,581	2,828	12,160	25,119
Savings bank deposits(h) .. "	(e)	15	31	59	154	198	274	892
<b>Life Insurance(e)(i)—</b>								
<b>Ordinary—</b>								
Policies .. '000			414	484	730	871	1,340	2,553
Sum assured .. £m.			108	109	181	285	463	1,212
<b>Industrial—</b>								
Policies .. '000	(a)	236	467	973	1,550	2,780	3,843	3,340
Sum assured .. £m.		5	10	30	67	127	254	343
<b>Total—</b>								
Policies .. '000		650	951	1,703	2,421	4,120	6,396	7,450
Sum assured .. £m.		113	119	211	352	590	1,466	4,187
<b>SOCIAL STATISTICS—</b>								
<b>Commonwealth Social Services—</b>								
Age and Invalid .. '000(c)	..	..	90	144	256	336	420	691
Pensions .. £m.	..	..	2.2	5.4	11.1	19.3	59.8	180.2
Child Endowment .. '000(c)	..	..	..	..	..	910	2,518	3,395
Children Endowed .. £m.	..	..	..	..	..	11.3	46.6	66.4
Total Commonwealth Health and Social Services(k) £m.	..	..	2.2	6.1	11.5	30.9	137.6	365.2
War Pensions .. '000(c)	..	..	..	225	274	220	525	670
.. £m.	..	..	..	7.0	7.4	7.5	31.8	61.9
Service Pensions .. '000(c)	..	..	..	..	..	14	17	58
.. £m.	..	..	..	..	..	0.6	1.8	9.7
<b>State Social Services(l)—</b>								
<b>Education(e)—</b>								
<b>Government Schools—</b>								
Schools .. '000	6.2	7.0	8.0	9.4	10.1	9.5	7.6	7.9
Staff .. "	12.6	14.5	17.0	26.1	33.8	32.1	36.7	59.8
Students .. "	561	638	639	819	937	887	1,013	1,663
<b>Non-government Schools—</b>								
Schools .. '000	2.0	2.5	1.9	1.7	1.8	1.9	1.9	2.1
Staff .. "	6.0	8.3	7.8	8.8	10.0	11.4	13.3	18.2
Students .. "	125	149	161	199	221	257	326	527
<b>Universities—</b>								
Number .. "	4	4	5	6	6	8	10	10
Staff(m) .. "	(a)	(a)	249	482	703	1,416	3,132	4,091
Students .. '000	1.6	1.8	3.4	8.0	9.8	13.9	31.7	57.7
<b>Public Hospitals—</b>								
Number .. (e)	(e)	285	355	404	513	566	675	737
Staff—Medical .. '000	(a)	(a)	1.1	1.5	3.2	3.9	6.9	10.4
Nursing .. "	(a)	(a)	5.1	6.8	9.3	15.4	24.6	37.6
In-patients, cases treated .. (n)(o)54	(o)91	134	215	371	595	896	1,225	
<b>POLICE AND PRISONS(e)—</b>								
Police .. '000	5.3	5.8	6.4	6.9	8.6	9.7	12.3	15.9
Prisons .. (a)	(a)	104	91	85	70	69	75	75
Prisoners .. '000	(a)	4.3	3.1	2.9	4.2	3.2	4.8	7.2
<b>PRICES(e)—</b>								
Retail Price Index numbers(p) ..	..	..	100	168	145	167	313	471

(a) Not available. (b) Loan expenditure on works, services, etc. (c) At 30th June.  
 (d) Revised, expressed in Australian currency equivalents at ruling rates of exchange, see p. 864.  
 (e) Year ended previous December. (f) At end of June. (g) Figures for 1892 are averages of weekly balances for the December quarter; the remainder are for the June quarter. (h) 1891 at 31st December, thereafter at 30th June. (i) Existing business in Australia. (j) Latest available figures as at 31st December, 1960. (k) Excludes war and service pensions. (l) Includes Northern Territory and Australian Capital Territory. (m) Teaching and research staff. Includes part-time until 1952, thereafter full-time only. (n) Year 1891-92 for Victoria. (o) South Australia includes Adelaide Hospital only. (p) Base: 1911=100.

## APPENDIX.

(Some recent information which has come to hand since the various chapters were sent to press is given hereunder in summarized form. For further or more detailed information, and for the latest available statistics, reference should be made to other publications issued by this Bureau (see p. 1160), notably the *Monthly Review of Business Statistics*, the *Quarterly Summary of Australian Statistics* and the *Digest of Current Economic Statistics*.)

## CHAPTER II.—PHYSIOGRAPHY.

## § 2. Climate and Meteorology of Australia.

**Rainfall: Australian Capital Cities, p. 48.**—Rainfall recorded in Australian capital cities during 1960 was as follows:—Perth, 32.27 ins.; Darwin, 44.09 ins.; Adelaide, 14.91 ins.; Brisbane, 42.36 ins.; Sydney, 57.08 ins.; Canberra, 32.34 ins.; Melbourne, 22.05 ins.; Hobart, 18.03 ins.

## CHAPTER III.—GENERAL GOVERNMENT.

## § 2. Parliaments and Elections.

**Commonwealth Parliaments and Elections, p. 66.**—The second last paragraph on page 66 should be amended to read as follows:—

“The population as disclosed by the Census taken on 30th June, 1961, necessitated further representational changes, New South Wales representation becoming 45, Victoria 34, Queensland 17, and Western Australia 8. The necessary redistribution of boundaries to bring these into effect has not yet been made.”

**State Elections, p. 69.**—Elections for the Legislative Assembly were held in New South Wales and Western Australia during 1962. Particulars of the voting were as follows:—

Particulars.	New South Wales.	Western Australia.
Electors enrolled—		
Males .. .. .	1,060,658	189,517
Females .. .. .	1,113,110	192,288
Total .. .. .	2,173,768	381,805
Electors who voted, Contested Electorates—		
Males .. .. .	960,514	157,390
Females .. .. .	996,894	162,204
Total .. .. .	1,957,408	319,594

## § 3. Administration and Legislation.

**Administrators, p. 74.**—From 5th June, 1962, to 28th September, 1962:—General Sir Reginald Alexander Dallas Brooks, K.C.B., K.C.M.G., K.C.V.O., D.S.O., K.St.J.

**Commonwealth Ministries, p. 75.**—The Hon. L. H. E. Bury resigned the portfolio of Minister for Air on 27th July, 1962, and was succeeded by the Hon. D. E. Fairbairn, D.F.C., M.P. (N.S.W.).

**Governors and State Ministers, pp. 76-78.**—(i) *Victoria*—The Hon. H. R. Petty, M.P., relinquished the portfolio of Minister of Immigration in March, 1962, retaining his other ministerial duties, and the Hon. E. R. Meagher, M.B.E., E.D., M.P., formerly Minister without Portfolio, was appointed in his stead. Later in the year, the Hon. Sir Arthur Warner resigned as Minister of Transport and Mr. Meagher assumed that portfolio, being succeeded as Minister of Immigration by the Hon. R. J. Hamer, E.D., M.L.C.

(ii) *Tasmania—**Ministry (from 19th September, 1961).*

<i>Premier, Treasurer and Minister for Mines—</i> THE HON. E. E. REECE, M.H.A.	<i>Chief Secretary—</i> THE HON. J. B. CONNOLLY, M.L.C.
<i>Deputy Premier and Attorney-General—</i> THE HON. R. F. FAGAN, M.H.A.	<i>Minister for Forests and Housing—</i> THE HON. S. V. WARD, M.H.A.
<i>Minister for Agriculture—</i> THE HON. A. C. ATKINS, M.H.A.	<i>Minister for Health—</i> THE HON. W. D. MCNEIL, M.H.A.
<i>Minister for Lands and Works—</i> THE HON. D. A. CASHION, M.H.A.	<i>Minister for Transport, Licensing and Police—</i> THE HON. H. J. MCLOUGHLIN, M.H.A.
<i>Minister for Education—</i> THE HON. W. A. NELSON, M.H.A.	

## § 5. Cost of Parliamentary Government, p. 87.

The cost of Parliamentary Government, Commonwealth and individual States, for the year 1960–61 was as follows:—

Commonwealth, £3,240,180 (6s. 3d. per head); New South Wales, £1,082,508 (5s. 7d.); Victoria, £748,491 (5s. 2d.); Queensland, £582,588 (7s. 9d.); South Australia, £418,241 (8s. 9d.); Western Australia, £522,687 (14s. 4d.); Tasmania, £280,394 (16s. 0d.); and total, £6,875,089 (13s. 3d.).

## CHAPTER VI.—MANUFACTURING INDUSTRY.

**Summary, p. 160.**—The following table gives a summary of operations in manufacturing industries during 1960–61.

## FACTORIES: SUMMARY, 1960-61.

Particulars.		N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
Factories .. .. .	No.	23,585	17,173	5,882	5,042	4,334	1,766	57,782
Persons employed(a) .. .. .		472,061	387,430	104,462	99,955	50,666	30,158	1,144,732
Salaries and wages paid (b) £'000		490,016	387,221	92,159	98,983	45,127	30,330	1,143,836
Value of power, fuel, light, etc., used .. .. .	"	92,262	49,201	15,544	15,183	10,616	6,438	189,244
.. materials used .. .. .	"	1,238,284	896,740	305,677	216,382	133,323	70,067	2,860,473
.. production(c) .. .. .	"	964,956	700,511	170,627	170,062	96,631	61,446	2,164,233
.. output .. .. .	"	2,295,502	1,646,452	491,848	401,627	240,570	137,951	5,213,950
.. land and buildings .. .. .	"	501,658	400,751	84,158	87,729	45,610	73,549	1,193,455
.. plant and machinery .. .. .	"	607,281	417,918	132,569	113,100	64,306	56,316	1,391,490

(a) Average over whole year; includes working proprietors. (b) Excludes amounts drawn by working proprietors. (c) Value added in process of manufacture (i.e., value of output less value of materials and fuel used).

**Value of Production in Classes of Industry, p. 183.**—The values of production in Australia for the various classes of industry in 1960–61 were as follows, (£'000):—

Class I., 59,385; Class II., 46,769; Class III., 183,050; Class IV., 891,997; Class V., 8,185; Class VI., 106,244; Class VII., 18,031; Class VIII., 123,611; Class IX., 269,585; Class X., 97,998; Class XI., 33,781; Class XII., 159,320; Class XIII., 34,925; Class XIV., 1,930; Class XV., 42,917; Class XVI., 86,505; Total all Classes, 2,164,233.

## CHAPTER IX.—POPULATION.

## § 2. The Census.

2. Population recorded at Censuses, p. 286.—Final figures for the population in States and Territories as recorded at the Census of 30th June, 1961, are as follows.

## POPULATION IN STATES AND TERRITORIES, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

State or Territory.	Males.	Females.	Persons.
New South Wales	1,972,909	1,944,104	3,917,013
Victoria .. .. .	1,474,395	1,455,718	2,930,113
Queensland .. .. .	774,579	744,249	1,518,828
South Australia .. .. .	490,225	479,115	969,340
Western Australia .. .. .	375,452	361,177	736,629
Tasmania .. .. .	177,628	172,712	350,340
Northern Territory .. .. .	16,206	10,889	27,095
Australian Capital Territory .. .. .	30,858	27,970	58,828
<b>Australia .. .. .</b>	<b>5,312,252</b>	<b>5,195,934</b>	<b>10,508,186</b>

## § 3. Growth and Distribution of Population; § 4. Mean Population.

1. Growth of Population, p. 287; 3. Mean Population, p. 292.—Revised figures for the population at 31st December, 1961, and the mean population for the year ended 31st December, 1961, are as follows.

## ESTIMATED POPULATION, 31st DECEMBER, 1961, AND MEAN POPULATION, YEAR ENDED 31st DECEMBER, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

(REVISED.)

State or Territory.	Estimated Population at 31st December, 1961.			Mean Population Year Ended 31st December, 1961.		
	Males.	Females.	Persons.	Males.	Females.	Persons.
New South Wales .. .. .	1,985,113	1,966,522	3,951,635	1,971,023	1,944,363	3,915,386
Victoria .. .. .	1,482,130	1,467,224	2,949,354	1,473,303	1,453,884	2,927,187
Queensland .. .. .	777,982	746,802	1,524,784	772,863	742,378	1,515,241
South Australia .. .. .	495,075	484,717	979,792	4,90298	479,106	969,404
Western Australia .. .. .	380,420	365,754	746,174	375,768	361,602	737,370
Tasmania .. .. .	185,661	178,473	364,134	178,860	174,753	353,613
Northern Territory .. .. .	15,590	10,377	25,967	15,834	10,597	26,431
Australian Capital Territory .. .. .	32,588	29,503	62,091	30,904	27,888	58,792
<b>Australia .. .. .</b>	<b>5,354,559</b>	<b>5,249,372</b>	<b>10,603,931</b>	<b>5,308,853</b>	<b>5,194,571</b>	<b>10,503,424</b>

The estimated mean population of Australia for the year ended 30th June, 1962, was as follows: Males, 5,356,498; Females, 5,249,606; Persons, 10,606,104.

4. Urban and Rural Distribution, p. 289.—Particulars of the distribution of the population among metropolitan urban, other urban, and rural areas in each State and Territory, as recorded at the 1961 Census, are shown in the following table.

URBAN AND RURAL POPULATION: CENSUS, 30th JUNE, 1961.  
(EXCLUDING FULL-BLOOD ABORIGINALS).

Particulars.	Urban.		Rural.	Migratory.	Total.
	Metro- politan.	Other.			
NEW SOUTH WALES.					
Males .. .. .	1,077,978	577,925	308,511	8,495	1,972,909
Females .. .. .	1,105,410	573,974	262,624	2,096	1,944,104
Persons .. .. .	2,183,388	1,151,899	571,135	10,591	3,917,013
Proportion of Total Population of State (%) .. .. .	55.74	29.41	14.58	0.27	100.00
VICTORIA.					
Males .. .. .	949,719	286,049	234,867	3,760	1,474,395
Females .. .. .	962,176	287,580	205,113	849	1,455,718
Persons .. .. .	1,911,895	573,629	439,980	4,609	2,930,113
Proportion of Total Population of State (%) .. .. .	65.25	19.58	15.01	0.16	100.00
QUEENSLAND.					
Males .. .. .	304,871	269,062	199,026	1,620	774,579
Females .. .. .	316,679	267,834	159,368	368	744,249
Persons .. .. .	621,550	536,896	358,394	1,988	1,518,828
Proportion of Total Population of State (%) .. .. .	40.92	35.35	23.60	0.13	100.00
SOUTH AUSTRALIA.					
Males .. .. .	289,467	91,240	106,315	3,203	490,225
Females .. .. .	298,490	86,140	93,750	735	479,115
Persons .. .. .	587,957	177,380	200,065	3,938	969,340
Proportion of Total Population of State (%) .. .. .	60.66	18.30	20.64	0.40	100.00
WESTERN AUSTRALIA.					
Males .. .. .	205,107	63,893	103,923	2,529	375,452
Females .. .. .	215,026	61,841	83,822	488	361,177
Persons .. .. .	420,133	125,734	187,745	3,017	736,629
Proportion of Total Population of State (%) .. .. .	57.03	17.07	25.49	0.41	100.00
TASMANIA.					
Males .. .. .	57,337	64,986	54,547	758	177,628
Females .. .. .	58,595	65,617	48,379	121	172,712
Persons .. .. .	115,932	130,603	102,926	879	350,340
Proportion of Total Population of State (%) .. .. .	33.09	37.28	29.38	0.25	100.00
NORTHERN TERRITORY.					
Males .. .. .	..	9,464	6,507	235	16,206
Females .. .. .	..	7,510	3,350	29	10,889
Persons .. .. .	..	16,974	9,857	264	27,095
Proportion of Total Population of State (%) .. .. .	..	62.65	36.38	0.97	100.00



URBAN AND RURAL POPULATION: CENSUS 30th JUNE, 1961—*continued*.  
(EXCLUDING FULL-BLOOD ABORIGINALS).

Particulars.	Urban.		Rural.	Migratory.	Total.
	Metro- politan.	Other.			
AUSTRALIAN CAPITAL TERRITORY.					
Males .. .. .	29,463	..	1,395	..	30,858
Females .. .. .	26,986	..	984	..	27,970
Persons .. .. .	56,449	..	2,379	..	58,828
Proportion of Total Population of State (%) .. .. .	95.96	..	4.04	..	100.00

## AUSTRALIA.

Males .. .. .	2,913,942	1,362,619	1,015,091	20,600	5,312,252
Females .. .. .	2,983,362	1,350,496	857,390	4,686	5,195,934
Persons .. .. .	5,897,304	2,713,115	1,872,481	25,286	10,508,186
Proportion of Total Population of Australia (%) .. .. .	56.12	25.82	17.82	0.24	100.00

7. Urban Areas Outside Metropolitan Areas, p. 290.—The aggregate population at the 1961 Census of all cities and towns outside the metropolitan area of each State with 2,000 or more and 3,000 or more inhabitants, irrespective of whether such centres were incorporated separately or not, together with the proportion of the aggregate population of these cities and towns to the total population of the State, is shown in the following table.

AGGREGATE POPULATION OF NON-METROPOLITAN CITIES AND TOWNS OF  
SPECIFIED SIZE: CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

State or Territory.	Cities and Towns outside Metropolitan Area with Population of—					
	2,000 and over.			3,000 and over.		
	Number.	Population.	Proportion of Total Population.	Number.	Population.	Proportion of Total Population.
			%			%
New South Wales(a) ..	101	1,074,922	27.44	71	1,002,344	25.59
Victoria .. .. .	60	518,429	17.69	42	474,584	16.20
Queensland .. .. .	53	498,871	32.85	33	451,148	29.70
South Australia .. .. .	21	142,669	14.72	15	128,927	13.30
Western Australia .. .. .	16	102,145	13.87	12	92,443	12.55
Tasmania .. .. .	11	112,821	32.20	7	103,119	29.43
Northern Territory .. .. .	2	16,974	62.65	2	16,974	62.65
Australian Capital Territory(b) .. .. .	..	..	..	..	..	..
<b>Total .. .. .</b>	<b>264</b>	<b>2,466,831</b>	<b>23.48</b>	<b>182</b>	<b>2,269,539</b>	<b>21.60</b>

(a) Excludes that part of Liverpool Municipality outside the Metropolitan Area of Sydney.  
(b) The only city or town is Canberra, the capital city of Australia, classed as metropolitan.

## § 7. General Characteristics.

2. Age Distribution, p. 297.—The following table shows particulars of the age distribution of the population of each State and Territory at the 1961 Census.

## POPULATION: AGE DISTRIBUTION, CENSUS 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Age Last Birthday (Years).	N.S.W.	Victoria.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia.
0-4 ..	396,577	307,535	167,371	103,019	81,916	41,694	3,587	7,835	1,109,534
5-9 ..	373,620	288,757	156,686	99,408	80,752	38,715	2,700	6,827	1,047,465
10-14 ..	369,409	277,848	151,803	99,028	77,041	36,890	1,990	5,989	1,019,998
15-19 ..	301,434	219,364	122,226	74,513	57,739	27,756	1,489	4,352	808,873
20-24 ..	263,054	195,076	100,088	60,433	47,879	23,121	3,070	4,734	697,455
25-29 ..	248,059	186,725	91,785	56,434	44,320	21,147	2,910	4,666	656,046
30-34 ..	279,890	209,543	100,383	67,253	49,648	23,277	2,854	5,164	738,012
35-39 ..	291,131	217,857	103,888	72,444	50,633	24,116	2,375	5,444	767,888
40-44 ..	259,899	187,624	95,928	64,016	43,665	21,797	1,616	4,059	678,604
45-49 ..	250,393	181,825	93,113	61,604	45,275	21,063	1,409	3,104	657,786
50-54 ..	216,529	158,847	80,336	50,915	40,375	17,830	1,046	2,188	568,066
55-59 ..	173,634	131,730	65,941	40,761	34,834	14,148	778	1,526	463,352
60-64 ..	150,511	115,030	59,691	34,656	27,455	11,777	582	1,165	400,867
65-69 ..	126,578	95,755	49,360	30,906	20,241	9,791	349	792	333,772
70-74 ..	103,203	73,620	38,756	25,120	15,742	7,868	181	520	265,010
75-79 ..	64,381	45,364	23,258	16,376	10,065	5,111	100	275	164,930
80-84 ..	32,413	24,232	12,050	8,290	5,810	2,735	40	127	85,697
85-89 ..	12,448	10,080	4,609	3,139	2,474	1,138	15	44	33,947
90-94 ..	3,243	2,809	1,303	868	651	308	3	17	9,202
95 and over ..	607	492	253	157	114	58	1	..	1,682
Total ..	3,917,013	2,930,113	1,518,828	969,340	736,629	350,340	27,095	58,828	10,508,186

In the following table the age-sex constitution of the population is shown as recorded at the 1961 Census.

## POPULATION: DISTRIBUTION BY AGE AND SEX, AUSTRALIA, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Age Last Birthday (Years).	Males.	Females.	Persons.	Age Last Birthday (Years).	Males.	Females.	Persons.
0-4 ..	567,754	541,780	1,109,534	55-59 ..	238,053	225,299	463,352
5-9 ..	536,030	511,435	1,047,465	60-64 ..	190,808	210,059	400,867
10-14 ..	522,399	497,599	1,019,998	65-69 ..	149,129	184,643	333,772
15-19 ..	414,786	394,087	808,873	70-74 ..	116,945	148,065	265,010
20-24 ..	361,535	335,920	697,455	75-79 ..	69,222	95,708	164,930
25-29 ..	342,436	313,610	656,046	80-84 ..	33,067	52,630	85,697
30-34 ..	386,181	351,831	738,012	85-89 ..	12,215	21,732	33,947
35-39 ..	395,245	372,643	767,888	90-94 ..	3,087	6,115	9,202
40-44 ..	343,977	334,627	678,604	95 and over ..	490	1,192	1,682
45-49 ..	335,887	321,899	657,786				
50-54 ..	293,006	275,060	568,066	Total ..	5,312,252	5,195,934	10,508,186

3. Other General Characteristics, p. 298.—The tables which follow show particulars of conjugal condition, birthplace, nationality, religion, and occupational status of the population in each State and Territory as recorded at the 1961 Census. Period of residence of immigrant population and industry are given only for Australia as a whole.

(i) *Conjugal Condition.*

## POPULATION: CONJUGAL CONDITION, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Conjugal Condition.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia. (a)
Never Married—							
Under 15 years of age .. ..	1,139,606	874,140	475,860	301,455	239,709	117,299	3,176,997
15 years of age and over .. ..	701,140	526,080	282,210	159,956	123,815	58,039	1,868,554
Total .. ..	1,840,746	1,400,220	758,070	461,411	363,524	175,338	5,045,551
Married .. ..	1,771,916	1,325,446	656,082	443,903	323,294	153,014	4,709,341
Married but Permanently Separated ..	59,241	40,229	21,406	10,589	9,830	4,096	146,606
Widowed .. ..	208,276	145,437	73,685	46,277	33,457	15,563	524,708
Divorced .. ..	36,834	18,781	9,585	7,160	6,524	2,329	81,980
Total .. ..	3,917,013	2,930,113	1,518,828	969,340	736,629	350,340	10,508,186

(a) Includes Northern Territory and Australian Capital Territory.

The sex distribution of each conjugal condition was as follows:—Never Married, Males 2,724,667, Females 2,320,884; Married, Males 2,364,687, Females 2,344,654; Permanently Separated, Males 68,172, Females 78,434; Widowed, Males 116,085, Females 408,623; Divorced, Males 38,641, Females 43,339.

(ii) *Birthplaces.*

## POPULATION: BIRTHPLACES, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Birthplace.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia. (a)
Australia .. ..	3,290,166	2,360,331	1,341,050	783,201	572,170	317,443	8,729,014
New Zealand .. ..	24,194	11,470	5,756	1,822	1,911	1,127	46,975
Europe—							
United Kingdom and Republic of Ireland .. ..	269,016	206,529	93,354	78,828	83,370	16,746	755,576
Germany .. ..	35,767	39,288	8,466	16,010	5,582	2,224	109,310
Greece .. ..	26,751	31,660	3,979	9,476	4,087	486	77,356
Italy .. ..	62,354	90,829	19,772	26,106	25,251	1,536	227,689
Malta .. ..	17,078	17,851	1,829	1,775	536	71	39,370
Netherlands .. ..	27,674	36,224	9,557	12,672	11,167	3,556	102,178
Poland .. ..	18,483	23,794	3,771	6,941	4,711	1,608	60,044
Other .. ..	87,119	73,540	17,541	24,011	15,090	3,620	224,744
Total, Europe .. ..	544,242	519,715	158,269	175,819	149,794	29,847	1,596,267
Other Birthplaces .. ..	58,411	38,597	13,753	8,498	12,754	1,923	135,930
Total Born Outside Australia .. ..	626,847	569,782	177,778	186,139	164,459	32,897	1,779,172
Total .. ..	3,917,013	2,930,113	1,518,828	969,340	736,629	350,340	10,508,186

(a) Includes Northern Territory and Australian Capital Territory.

The numbers of males and females in the population broadly classified according to birthplace were as follows:—

Born in:—Australia, Males, 4,324,722, Females, 4,404,292; United Kingdom, Males, 400,594, Females, 354,982; Other European Countries, Males, 485,736, Females, 354,955 all other countries, Males, 101,200, Females, 81,705.

(iii) *Period of Residence in Australia.***IMMIGRANT POPULATION: PERIOD OF RESIDENCE, AUSTRALIA, CENSUS, 30th JUNE, 1961.****PERSONS BORN OUTSIDE AUSTRALIA.**

Period of Residence in Australia (Years).	Males.	Females.	Persons.
Under 1 .. .. .	72,321	51,195	123,516
1 and under 2 .. .. .	48,605	38,376	86,981
2 and under 3 .. .. .	47,135	42,932	90,067
3 and under 4 .. .. .	37,744	41,249	78,993
4 and under 5 .. .. .	42,600	41,279	83,879
5 and under 6 .. .. .	54,094	42,073	96,167
6 and under 7 .. .. .	51,833	40,209	92,042
7 and under 14 .. .. .	345,594	254,847	600,441
14 and under 21 .. .. .	22,451	17,839	40,290
21 and over .. .. .	244,043	205,633	449,676
Not Stated .. .. .	21,110	16,010	37,120
Born outside Australia .. .. .	987,530	791,642	1,779,172
Born in Australia .. .. .	4,324,722	4,404,292	8,729,014
<b>Total .. .. .</b>	<b>5,312,252</b>	<b>5,195,934</b>	<b>10,508,186</b>

(iv) *Nationality.***POPULATION: NATIONALITY (i.e. ALLEGIANCE), CENSUS, 30th JUNE, 1961.****(EXCLUDING FULL-BLOOD ABORIGINALS.)**

Nationality.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia. (a)
<b>British—</b>							
Born in Australia	3,290,166	2,360,331	1,341,050	783,201	572,170	317,443	8,729,014
Born outside Australia ..	449,981	363,935	143,355	128,361	130,589	24,956	1,254,620
<b>Total British</b>	<b>3,740,147</b>	<b>2,724,266</b>	<b>1,484,405</b>	<b>911,562</b>	<b>702,759</b>	<b>342,399</b>	<b>9,983,634</b>
<b>Foreign—</b>							
Dutch .. .. .	20,942	27,578	6,862	9,892	7,368	2,241	75,762
German .. .. .	20,777	23,895	3,132	8,288	1,897	1,224	60,477
Greek .. .. .	20,967	28,072	1,861	7,039	1,882	381	60,883
Hungarian .. .. .	6,233	5,424	552	1,170	229	171	14,000
Italian .. .. .	42,554	68,396	8,698	17,873	13,905	1,214	154,026
Latvian, Lithuanian and Estonian .. .. .	2,516	2,438	529	879	516	111	7,111
Polish .. .. .	7,377	8,164	1,588	2,390	1,774	649	22,417
Ukranian .. .. .	1,852	1,799	305	598	296	103	5,029
Yugoslav .. .. .	10,188	10,391	1,494	2,310	2,173	397	27,396
Other (including Stateless) .. .. .	43,460	29,690	9,402	7,339	3,830	1,450	97,451
<b>Total Foreign .. .. .</b>	<b>176,866</b>	<b>205,847</b>	<b>34,423</b>	<b>57,778</b>	<b>33,870</b>	<b>7,941</b>	<b>524,552</b>
<b>Grand Total .. .. .</b>	<b>3,917,013</b>	<b>2,930,113</b>	<b>1,518,828</b>	<b>969,340</b>	<b>736,629</b>	<b>350,340</b>	<b>10,508,186</b>

(a) Includes Northern Territory and Australian Capital Territory.

Of the British nationals, 4,324,722 of those born in Australia were males and 4,404,292 were females, while 686,145 of those born outside Australia were males and 568,475 females. Of foreign nationalities, 301,385 were males and 223,167 were females.

(v) Religion.

POPULATION: RELIGION, CENSUS 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Religion.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia. (a)
Christian—							
Baptist .. .. .	50,805	38,627	22,253	21,032	8,961	7,227	149,819
Brethren .. .. .	4,869	3,357	3,799	573	856	2,008	15,523
Catholic, Roman(b)	476,127	250,822	209,307	59,629	106,053	26,288	1,139,658
Catholic(b) .. ..	555,655	511,912	163,043	123,424	74,131	37,705	1,480,353
Churches of Christ	12,889	37,939	7,627	23,905	10,261	2,507	95,641
Church of England	1,556,965	893,160	486,316	255,054	289,863	159,101	3,668,931
Congregational .. .	21,743	12,104	9,166	17,867	8,026	4,193	73,526
Greek Orthodox .. .	57,852	54,823	11,777	18,644	9,057	1,009	154,924
Lutheran .. .. .	27,533	35,368	35,123	53,947	4,460	1,555	160,181
Methodist .. .. .	294,280	275,205	165,556	216,770	76,465	42,236	1,076,395
Presbyterian .. .	333,635	367,346	173,316	37,911	40,573	16,757	976,518
Protestant (un- defined) .. .. .	28,815	39,941	10,149	11,474	5,234	1,975	98,551
Salvation Army .. .	15,642	13,597	8,318	6,411	4,545	2,316	51,084
Seventh-day Ad- ventist .. .. .	12,431	5,720	5,473	2,551	3,790	1,567	31,626
Other (including Christian un- defined) .. .. .	30,130	24,890	21,940	9,708	8,756	5,090	101,396
<i>Total, Christian</i>	<i>3,479,371</i>	<i>2,564,811</i>	<i>1,333,163</i>	<i>858,900</i>	<i>651,031</i>	<i>311,534</i>	<i>9,274,126</i>
Non-Christian—							
Hebrew .. .. .	24,026	29,932	1,334	985	2,782	150	59,343
Other .. .. .	2,888	2,873	1,360	1,002	836	118	9,475
<i>Total, Non- Christian .. .. .</i>	<i>26,914</i>	<i>32,805</i>	<i>2,694</i>	<i>1,987</i>	<i>3,618</i>	<i>268</i>	<i>68,818</i>
Indefinite .. .. .	8,456	6,651	3,084	2,614	2,028	1,766	24,762
No Religion .. .. .	14,248	10,796	4,546	3,234	3,156	775	37,550
No Reply .. .. .	388,024	315,050	175,341	102,605	76,796	35,997	1,102,930
<b>Total .. .. .</b>	<b>3,917,013</b>	<b>2,930,113</b>	<b>1,518,828</b>	<b>969,340</b>	<b>736,629</b>	<b>350,340</b>	<b>10,508,186</b>

(a) Includes Northern Territory and Australian Capital Territory.

(b) So described in individual Census Schedules.

(vi) Industry. In the following table, the male and female population of Australia are classified according to the industry in which they were usually engaged at the 1961 Census

## POPULATION: INDUSTRY, AUSTRALIA, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Industry Group.	Males.	Females.	Persons.	
			Number.	Proportion of Total. (Per cent.)
Primary Production .. .. .	419,678	39,189	458,867	4.37
Mining and Quarrying .. .. .	52,989	1,478	54,467	0.52
Manufacturing .. .. .	887,106	253,260	1,140,366	10.85
Electricity, Gas, Water and Sanitary Services (Production, Supply and Maintenance) ..	88,621	5,652	94,273	0.90
Building and Construction .. .. .	365,252	7,290	372,542	3.55
Transport and Storage and Communication	326,128	36,813	362,941	3.45
Finance and Property .. .. .	86,282	54,858	141,140	1.34
Commerce .. .. .	451,552	234,972	686,524	6.53
Public Authority (n.e.i.) and Defence Services .. .. .	135,849	33,943	169,792	1.62
Community and Business Services (including Professional)(a) .. .. .	182,239	227,901	410,140	3.90
Amusement, Hotels and Other Accommodation, Cafés, Personal Services, etc. ..	112,512	135,454	247,966	2.36
Other Industries and Industry Inadequately Described or Not Stated .. .. .	57,565	28,348	85,913	0.82
<i>Total in Work Force</i> .. .. .	<i>3,165,773</i>	<i>1,059,158</i>	<i>4,224,931</i>	<i>40.21</i>
<i>Persons not in Work Force</i> .. .. .	<i>2,146,479</i>	<i>4,136,776</i>	<i>6,283,255</i>	<i>59.79</i>
<b>Grand Total</b> .. .. .	<b>5,312,252</b>	<b>5,195,934</b>	<b>10,508,186</b>	<b>100.00</b>

(a) Includes police, fire brigades, hospitals, medical and dental services, education, and business services such as consultant engineering and surveying, accountancy and auditing, industrial and trade associations, advertising, etc.

## (vii) Occupational Status.

## POPULATION: OCCUPATIONAL STATUS, CENSUS, 30th JUNE, 1961.

(EXCLUDING FULL-BLOOD ABORIGINALS.)

Occupational Status.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Australia. (a)
<i>In Work Force</i>							
At Work—							
Employer ..	95,721	73,151	43,497	24,234	20,531	8,221	267,259
Self-employed ..	138,685	120,999	67,856	41,034	29,827	13,191	413,212
Employee (b) ..	1,297,823	958,006	438,856	298,597	217,619	104,719	3,350,204
Helper (c) ..	6,494	5,965	4,874	1,968	1,660	704	21,742
Total at Work	1,538,723	1,158,121	555,083	365,833	269,637	126,835	4,052,417
Not at Work (d) ..	63,642	51,890	29,933	11,731	10,163	4,091	172,514
<i>Total in Work Force</i> ..	<i>1,602,365</i>	<i>1,210,011</i>	<i>585,016</i>	<i>377,564</i>	<i>279,800</i>	<i>130,926</i>	<i>4,224,931</i>
<i>Not in Work Force</i> ..	<i>2,314,648</i>	<i>1,720,102</i>	<i>933,812</i>	<i>591,776</i>	<i>456,829</i>	<i>219,414</i>	<i>6,283,255</i>
<b>Grand Total</b> ..	<b>3,917,013</b>	<b>2,930,113</b>	<b>1,518,828</b>	<b>969,340</b>	<b>736,629</b>	<b>350,340</b>	<b>10,508,186</b>

(a) Includes Northern Territory and Australian Capital Territory. Of the employers 224,513 were males and 42,746 females, while 350,437 males, 62,775 females were self employed. Male employees numbered 2,448,458 and female employees 901,746 and there were 13,801 male and 7,941 female helpers. Of those not at work, 128,564 were males and 43,950 females. Females numbering 4,136,776 were in the majority of those not in the work force, the males being only 2,146,479. (b) On wage or salary. (c) Not on wage or salary. (d) The category "Not at Work" includes those who stated that they were usually engaged in work but were not actively seeking a job at the time of the Census by reason of sickness, accident, etc., or because they were on strike, changing jobs or temporarily laid off, etc. It includes also persons able and willing to work but unable to secure employment, as well as casual and seasonal workers not actually in a job at the time of the Census. The numbers shown as "Not at Work", therefore, do not represent the number of unemployed available for work and unable to obtain it.

### § 14. The Aboriginal Population of Australia, p. 314.

The numbers of full-blood aboriginals enumerated in each State and Territory at the Census of 30th June, 1961, and an estimate of the total numbers at that date are shown in the following table.

#### FULL-BLOOD ABORIGINAL POPULATION, 30th JUNE, 1961.

State or Territory.	Number of Full-blood Aboriginals Enumerated at Census, 30th June, 1961.			Estimated Number of Full-blood Aboriginals out of Contact at Census.	Total Number of Full-blood Aboriginals as Recorded or Estimated as at 30th June, 1961.
	Males.	Females.	Persons.		
New South Wales .. ..	791	697	1,488	..	1,488
Victoria .. ..	141	112	253	..	253
Queensland .. ..	4,686	4,000	8,686	..	8,686
South Australia .. ..	1,181	966	2,147	..	2,147
Western Australia .. ..	4,243	3,878	8,121	2,000	10,121
Tasmania .. ..	..	..	..	..	..
Northern Territory .. ..	7,857	7,585	15,442	1,944	17,386
Australian Capital Territory .. ..	..	..	..	..	..
<b>Australia .. ..</b>	<b>18,899</b>	<b>17,238</b>	<b>36,137</b>	<b>3,944</b>	<b>40,081</b>

Torres Strait Islanders, whether full-blood or half-caste, and half-caste aboriginals or persons of less than half aboriginal blood are included in the population shown on page 1218. Census tabulations which show separately the number of full-blood and half-caste Torres Strait Islanders and half-caste aboriginals so included have not yet been completed.

## CHAPTER XI.—HOUSING AND BUILDING.

### § 1. Census Dwellings.

NOTE.—Particulars of dwellings in the following tables are subject to revision on completion of detailed tabulations.

2. Number of Dwellings, p. 363.—The following table shows the number of occupied and unoccupied dwellings in the urban and rural areas of Australia at the Census of 30th June, 1961.

#### DWELLINGS: AUSTRALIA, CENSUS, 30th JUNE, 1961.

(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Division.	Occupied.				Unoccupied.	
	Private.	Other than Private.	Total.		Number.	Proportion of Total. (Per cent.)
			Number.	Proportion of Total. (Per cent.)		
Urban—						
Metropolitan ..	1,607,392	18,304	1,625,696	57.71	59,096	30.45
Other ..	706,460	9,206	715,666	25.40	58,569	30.17
Rural ..	468,093	7,815	475,908	16.89	76,449	39.38
<b>Total ..</b>	<b>2,781,945</b>	<b>35,325</b>	<b>2,817,270</b>	<b>100.00</b>	<b>194,114</b>	<b>100.00</b>

3. Class of Dwelling, p. 364.—The following table shows, for each State and Territory, the number of the various classes of occupied dwellings and the total number of unoccupied dwellings at the Census of 30th June, 1961.

**DWELLINGS ACCORDING TO CLASS: CENSUS, 30th JUNE, 1961.**  
(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Class of Dwelling.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Private Dwellings—</i>									
<i>Private House—</i>									
House .. .. .	870,628	678,486	341,681	231,640	175,495	79,797	3,907	11,523	2,393,157
Shed, Hut, etc. ..	19,250	5,710	8,326	2,887	3,641	1,484	553	161	42,012
<i>Total Private Houses</i>	<i>889,878</i>	<i>684,196</i>	<i>350,007</i>	<i>234,527</i>	<i>179,136</i>	<i>81,281</i>	<i>4,460</i>	<i>11,684</i>	<i>2,435,169</i>
Share of Private House	30,819	28,749	5,602	8,534	2,788	2,455	186	414	79,547
Flat .. .. .	104,092	52,864	30,219	14,094	8,672	5,574	397	1,674	217,586
Other .. .. .	23,433	15,724	6,231	2,189	1,020	888	103	55	49,643
<i>Total Private Dwellings</i>	<i>1,048,222</i>	<i>781,533</i>	<i>392,059</i>	<i>259,344</i>	<i>191,616</i>	<i>90,198</i>	<i>5,146</i>	<i>13,827</i>	<i>2,781,945</i>
<i>Dwellings other than Private—</i>									
Hotel, Licensed (incl. Hotel-Motel) ..	2,015	1,584	1,149	578	451	277	24	7	6,085
Motel .. .. .	249	84	111	24	6	17	7	3	501
Boarding House, Hostel (other than Migrant), Private Hotel, etc. .. .	7,955	5,708	1,965	1,142	1,083	455	117	66	18,491
Educational, Religious or Charitable Institution .. .. .	942	524	386	173	229	92	17	17	2,380
Hospital .. .. .	507	358	186	180	146	53	7	1	1,438
Other .. .. .	1,719	738	2,377	467	786	166	161	16	6,430
<i>Total Dwellings other than Private</i>	<i>13,387</i>	<i>8,996</i>	<i>6,174</i>	<i>2,564</i>	<i>2,701</i>	<i>1,060</i>	<i>333</i>	<i>110</i>	<i>35,325</i>
<b>Total Occupied Dwellings</b>	<b>1,061,609</b>	<b>790,529</b>	<b>398,233</b>	<b>261,908</b>	<b>194,317</b>	<b>91,258</b>	<b>5,479</b>	<b>13,937</b>	<b>2,817,270</b>
Unoccupied Dwellings ..	72,432	47,389	33,969	17,061	13,705	8,582	179	797	194,114

5. Occupied Private Dwellings, p. 365.—The tables which follow show, for occupied private dwellings, particulars recorded at the 1961 Census of material of outer walls in divisions of States, number of rooms, number of inmates, nature of occupancy, and facilities, and for tenanted private dwellings, a classification according to weekly rent.

(i) *Material of Outer Walls*

**OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO MATERIAL OF OUTER WALLS: AUSTRALIA, CENSUS 30th JUNE, 1961.**  
(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Material of Outer Walls.	Urban.		Rural.	Total Australia.
	Metropolitan.	Other.		
Brick .. .. .	807,311	113,386	32,297	952,994
Stone .. .. .	32,828	19,917	30,325	83,070
Concrete .. .. .	40,779	19,111	15,455	75,345
Wood .. .. .	507,775	386,505	258,303	1,152,583
Iron, tin .. .. .	4,556	17,236	24,869	46,661
Fibro-cement .. .. .	208,271	145,985	98,011	452,267
Calico, Canvas, Hessian .. .. .	105	585	1,918	2,608
Other .. .. .	4,328	2,958	5,844	13,130
Not Stated .. .. .	1,439	777	1,071	3,287
<b>Total .. .. .</b>	<b>1,607,392</b>	<b>706,460</b>	<b>468,093</b>	<b>2,781,945</b>



(ii) *Number of Rooms.*OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO  
NUMBER OF ROOMS(a): CENSUS, 30th JUNE, 1961.

(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Number of Rooms per Dwelling.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1 .. ..	17,694	10,582	5,322	2,278	2,301	1,070	367	214	39,828
2 .. ..	38,846	22,660	11,662	5,722	4,490	2,212	365	535	86,492
3 .. ..	65,125	37,869	22,705	14,251	10,129	4,252	658	550	155,539
4 .. ..	198,219	134,796	55,790	38,699	40,997	13,644	1,049	2,133	485,327
5 .. ..	318,686	301,266	113,463	107,849	72,108	35,111	1,656	6,130	956,269
6 .. ..	262,428	183,736	101,937	60,207	40,654	21,965	615	2,942	674,484
7 .. ..	91,825	56,480	48,063	19,091	13,249	7,235	202	872	237,017
8 .. ..	30,887	19,261	19,097	6,333	4,371	2,572	74	264	82,859
9 .. ..	10,593	6,524	6,818	2,213	1,516	966	32	78	23,740
10 and over .. ..	9,450	5,686	5,223	1,952	1,119	949	48	79	24,506
Not stated .. ..	4,469	2,673	1,979	749	682	222	80	30	10,884
<b>Total Private Dwellings</b>	<b>1,048,222</b>	<b>781,533</b>	<b>392,059</b>	<b>259,344</b>	<b>191,616</b>	<b>90,198</b>	<b>5,146</b>	<b>13,827</b>	<b>2,781,945</b>
<b>Average Number of Rooms per Private Dwelling .. ..</b>	<b>5.12</b>	<b>5.12</b>	<b>5.40</b>	<b>5.17</b>	<b>5.04</b>	<b>5.23</b>	<b>4.36</b>	<b>5.05</b>	<b>5.16</b>

(a) Includes kitchen and permanently enclosed sleep-out, but not bathroom, pantry, laundry or storehouse.

(iii) *Number of Inmates.*OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO  
NUMBER OF INMATES: CENSUS, 30th JUNE, 1961.

(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Number of Inmates per Dwelling.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1 .. ..	110,662	77,912	41,394	25,007	19,877	8,794	595	1,118	285,359
2 .. ..	251,121	185,603	92,201	62,128	43,969	19,949	1,017	2,502	658,490
3 .. ..	204,486	149,917	73,044	49,312	34,371	16,827	943	2,485	531,385
4 .. ..	209,693	156,991	73,891	53,034	38,021	17,516	948	3,193	553,287
5 .. ..	137,758	106,203	52,373	35,779	27,851	12,480	712	2,350	375,506
6 .. ..	72,838	57,091	30,622	19,050	15,494	7,508	414	1,225	204,242
7 .. ..	33,278	26,423	15,020	8,625	6,895	3,718	237	531	94,727
8 .. ..	16,399	12,382	7,632	3,840	3,106	1,891	132	251	45,633
9 .. ..	6,313	4,838	3,065	1,456	1,097	763	56	101	17,689
10 and over .. ..	5,674	4,173	2,817	1,113	935	752	92	71	15,627
<b>Total Private Dwellings</b>	<b>1,048,222</b>	<b>781,533</b>	<b>392,059</b>	<b>259,344</b>	<b>191,616</b>	<b>90,198</b>	<b>5,146</b>	<b>13,827</b>	<b>2,781,945</b>
<b>Total Inmates .. ..</b>	<b>3,682,935</b>	<b>2,773,330</b>	<b>1,416,754</b>	<b>918,773</b>	<b>688,407</b>	<b>332,876</b>	<b>19,552</b>	<b>52,869</b>	<b>9,885,496</b>
<b>Average Number of Inmates per Private Dwelling .. ..</b>	<b>3.51</b>	<b>3.55</b>	<b>3.61</b>	<b>3.54</b>	<b>3.59</b>	<b>3.69</b>	<b>3.80</b>	<b>3.82</b>	<b>3.55</b>

(iv) *Nature of Occupancy.*

**OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO  
NATURE OF OCCUPANCY: CENSUS, 30th JUNE, 1961.**  
(EXCLUDING DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Nature of Occupancy.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Owner .. .. .	490,569	368,653	206,407	121,266	88,871	42,896	1,149	1,797	1,321,608
Purchaser by Instalments Tenant (Governmental Housing)(a) .. .. .	226,639	196,728	74,419	60,023	44,598	19,006	447	2,156	624,016
Tenant .. .. .	34,217	28,030	9,611	21,801	11,003	3,271	1,321	7,824	117,078
Caretaker .. .. .	270,088	170,990	86,289	50,084	41,892	22,667	1,830	1,895	645,735
Other Methods of Oc- cupancy .. .. .	11,148	7,046	6,084	1,973	2,193	1,235	182	61	29,922
Not Stated .. .. .	10,453	6,500	6,624	3,098	2,096	765	158	75	29,769
	5,108	3,586	2,625	1,099	963	358	59	19	13,817
<b>Total Private Dwellings</b>	<b>1,048,222</b>	<b>781,533</b>	<b>392,059</b>	<b>259,344</b>	<b>191,616</b>	<b>90,198</b>	<b>5,146</b>	<b>13,827</b>	<b>2,781,945</b>

(a) Compiled from the answers furnished in response to the instructions on the Household's Schedule "Tenant paying rent to (appropriate Governmental Housing Authority) to write 'Tenant (G)'."

(v) *Facilities.*

**OCCUPIED PRIVATE DWELLINGS CLASSIFIED ACCORDING TO  
FACILITIES: CENSUS, 30th JUNE, 1961.**  
(EXCLUSIVE OF DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Facilities.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Gas or Electricity—									
With Gas only .. .. .	1,523	2,348	642	687	432	113	11	9	5,765
With Electricity only .. .. .	522,653	310,103	241,976	134,991	116,758	79,137	4,541	13,666	1,423,825
With Gas and Elec- tricity .. .. .	491,736	447,332	123,745	115,447	63,767	9,011	93	60	1,251,191
Without Gas or Elec- tricity .. .. .	27,757	19,210	22,990	7,384	9,500	1,719	443	49	89,052
Not Stated .. .. .	4,553	2,540	2,706	835	1,159	218	58	43	12,112
<b>Total Private Dwellings</b>	<b>1,048,222</b>	<b>781,533</b>	<b>392,059</b>	<b>259,344</b>	<b>191,616</b>	<b>90,198</b>	<b>5,146</b>	<b>13,827</b>	<b>2,781,945</b>
With Television Set(a) ..	506,668	436,512	116,953	125,084	71,788	21,202	9	445	1,278,661

(a) So stated in Census Schedules.

(vi) *Weekly Rent, Tenanted Private Dwellings.*

**TENANTED PRIVATE DWELLINGS(a) CLASSIFIED ACCORDING TO  
WEEKLY RENT (UNFURNISHED): CENSUS, 30th JUNE, 1961.**  
(EXCLUSIVE OF DWELLINGS OCCUPIED SOLELY BY FULL-BLOOD ABORIGINALS.)

Weekly Rent (unfurnished).	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Under 20s. .. .. .	11,085	4,672	3,584	2,655	2,656	2,084	162	170	27,068
20s. and under 30s. ..	22,429	8,983	4,307	5,221	2,744	2,586	136	632	47,038
30s. and under 40s. ..	27,181	8,576	4,285	5,172	2,453	2,119	117	651	50,554
40s. and under 50s. ..	29,154	11,776	5,527	5,196	3,645	1,905	224	807	58,234
50s. and under 60s. ..	22,435	8,910	4,679	3,539	2,729	1,402	134	1,986	45,814
60s. and under 70s. ..	18,169	11,121	5,423	3,125	3,440	1,510	101	2,458	45,347
70s. and under 80s. ..	11,064	7,241	3,494	1,663	2,837	936	109	587	27,931
80s. and under 90s. ..	8,310	7,800	3,298	1,556	2,316	1,063	109	348	24,800
90s. and under 100s. ..	3,785	4,092	1,857	887	1,620	581	53	146	13,021
100s. and over .. .. .	26,047	40,082	7,200	5,455	5,138	2,525	172	813	87,432
Not Stated(b) .. .. .	90,429	57,737	42,635	15,615	12,314	5,956	1,834	1,121	227,641
<b>Total Tenanted Private Dwellings</b> .. .. .	<b>270,088</b>	<b>170,990</b>	<b>86,289</b>	<b>50,084</b>	<b>41,892</b>	<b>22,667</b>	<b>3,151</b>	<b>9,719</b>	<b>654,880</b>
Average Weekly Rent (un- furnished) per Private Dwelling .. .. .	60s. 4d.	84s. 2d.	61s. 0d.	56s. 4d.	61s. 9d.	54s. 4d.	59s. 3d.	62s. 7d.	66s. 4d.

(a) In this table particulars of dwellings occupied by tenants paying rent to a Governmental Housing Authority are excluded for each of the States but included for Northern Territory and Australian Capital Territory.

(b) Includes tenanted dwellings which were rent free, those rented on a furnished basis, and those for which the rents were not applicable.

## § 4. New Building.

**New Houses, p. 377.**—The number of new houses approved, commenced, completed and under construction in each State and Territory during 1961–62 was as follows.

**NEW HOUSES: NUMBER, 1961–62.**

(Including Owner-built Houses.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approved ..	26,893	18,114	9,932	7,976	6,291	2,527	404	1,432	73,569
Commenced ..	25,358	18,539	9,166	8,729	6,316	2,475	427	1,590	72,600
Completed ..	26,411	18,969	9,140	9,136	6,082	2,397	394	1,515	74,044
Under construction at 30th June, 1962 ..	11,434	11,580	2,739	4,599	3,250	1,656	303	1,153	36,714

Of the 74,044 new houses completed during 1961–62, 34,990 had outer walls of brick, brick veneer, concrete or stone, 20,896 of wood (weatherboard, etc.), 17,776 of fibro-cement and 382 of other materials.

**New Flats, p. 382.**—The following table shows the number of new flats approved, commenced, completed and under construction in each State and Territory during 1961–62.

**NEW FLATS: NUMBER, 1961–62.**

(Individual Flats.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approved ..	5,747	3,291	820	560	592	117	67	28	11,222
Commenced ..	4,927	3,001	588	605	493	166	62	28	9,870
Completed ..	5,938	4,070	928	593	265	154	2	269	12,219
Under construction at 30th June, 1962 ..	3,838	2,242	411	331	379	106	64	23	7,394

**Value of New Buildings, p. 383.**—The values of all new buildings approved, commenced, completed and under construction in each State and Territory are shown in the following table for the year 1961–62.

**NEW BUILDINGS: VALUE, 1961–62.**

(Including Estimated Value of Owner-built Houses.)

(£'000.)

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approved ..	185,848	139,311	56,188	49,760	36,411	17,932	3,729	18,684	507,863
Commenced ..	209,598	152,093	52,917	51,746	36,762	17,693	3,982	19,035	543,826
Completed ..	208,043	148,175	55,054	52,315	34,036	16,727	3,503	15,758	533,611
Under construction at 30th June, 1962 ..	167,408	128,296	28,448	41,508	24,503	13,888	3,928	21,825	429,804

The value of new buildings completed in Australia during 1961–62, according to kind of building, was as follows:—*Houses*—Brick, brick veneer, concrete and stone, £143,741,000; wood (weatherboard, etc.), £66,648,000; fibro-cement, £46,466,000; other, £1,054,000; Total, £257,909,000; *Other Buildings*—Flats, £38,676,000; hotels, hostels, etc., £15,064,000; shops, £23,670,000; factories, £51,034,000; offices, £31,057,000; other business premises,

£21,605,000; educational, £41,343,000; religious, £7,260,000; health, £17,703,000; entertainment and recreation, £11,622,000; miscellaneous, £16,668,000; Total Other Buildings, £275,702,000; Grand Total, New Buildings, £533,611,000.

Persons Working in New Building, p. 385.—The number of persons working on jobs carried out by builders of new buildings in Australia at 29th June, 1962, was as follows:—Carpenters, 46,503; bricklayers, 13,104; painters, 11,274; electricians, 6,645; plumbers, 10,638; builders' labourers, 19,240; other, 19,305; total, 126,709. Of this total, contractors actually working on jobs numbered 9,712, sub-contractors actually working on jobs 19,959 and wage earners, 97,038.

## CHAPTER XII.—LABOUR, WAGES AND PRICES.

### A. RETAIL PRICES AND PRICE INDEXES.

#### § 4. Tabular Statements of Retail Price Index Numbers.

The Consumer Price Index, p. 392.—The following table shows Consumer Price Index numbers for March and June quarters, 1962, for each capital city and the six capital cities combined for each Group and all Groups combined.

#### CONSUMER PRICE INDEX NUMBERS.(a)

(Base of each Index: Year 1952-53 = 100.0.)

Period.	Sydney.	Mel- bourne.	Brisbane.	Adelaide.	Perth.	Hobart.	Six Capital Cities.(b)
FOOD.							
March Quarter, 1962..	121.2	126.6	131.4	126.3	123.4	127.2	124.7
June " " ..	120.0	125.6	129.4	125.7	124.2	126.5	123.7
CLOTHING AND DRAPERY.							
March Quarter, 1962..	111.5	114.2	116.8	111.4	111.8	114.2	112.9
June " " ..	111.5	114.2	116.8	111.5	111.5	114.2	112.9
HOUSING.							
March Quarter, 1962..	147.6	158.1	140.3	154.2	147.1	164.6	151.0
June " " ..	150.2	159.2	141.9	153.9	147.8	166.1	152.6
HOUSEHOLD SUPPLIES AND EQUIPMENT.							
March Quarter, 1962..	113.1	114.2	113.2	106.5	107.1	123.9	112.7
June " " ..	113.3	114.4	113.0	106.7	107.2	124.2	112.8
MISCELLANEOUS.							
March Quarter, 1962..	128.0	129.0	134.3	121.5	124.9	126.8	128.0
June " " ..	128.0	129.5	134.3	121.6	124.9	126.9	128.2
ALL GROUPS.							
March Quarter, 1962..	122.4	125.9	127.7	122.1	121.5	127.5	124.1
June " " ..	122.3	125.9	127.3	121.9	121.8	127.5	124.0

(a) The index numbers measure price movements in each city individually and for the weighted average of the six capitals. They do not measure differences in price levels as between cities.

(b) Weighted average.

## B. WHOLESALE PRICES AND PRICE INDEXES.

## § 2. Wholesale Price (Basic Materials and Foodstuffs) Index.

Index Numbers, p. 397.—Index numbers for each group of commodities and for all groups combined for the index of wholesale prices of basic materials and foodstuffs are shown below for the year 1961-62 and for the months April to June, 1962.

## WHOLESALE PRICE (BASIC MATERIALS AND FOODSTUFFS) INDEX NUMBERS.

(Base of each Index: Average of 3 years ended June, 1939 = 100.)

Period.	Basic Materials.							Foodstuffs and Tobacco. (a)	Basic Materials and Foodstuffs.		
	Metals and Coal.	Oils, Fats and Waxes.	Textiles.	Chemicals.	Rubber and Hides.	Building Materials.	Total.		Goods principally Imported. (b)	Goods principally Home Produced. (a)	Total All Groups. (a)
1961-62	392	212	400	333	302	439	340	332	270	363	336
1962—											
April	390	211	410	334	304	439	340	327	267	361	333
May..	392	211	410	334	299	439	340	330	271	361	334
June	389	211	410	333	293	439	339	337	269	367	338

(a) The indexes for "Foodstuffs and Tobacco", "Goods Principally Home Produced" and "Total All Groups" have been reconstructed as from the base period by excluding potatoes and onions.  
(b) Represents only such imported commodities as are included in the Wholesale Price Index and does not measure changes in prices of all imports.

## D. WAGES.

## § 2. Rates of Wage and Hours of Labour.

Weekly Wage Rates, pp. 402-6.—The following table shows for each State and Australia the weighted average minimum weekly rates of wage payable, and the index numbers based thereon, for adult males and for adult females, at 31st March and 30th June, 1962, together with revised figures for 31st December, 1961. Revised particulars of minimum weekly wage rates for 1961 and earlier years were published in the Statistical Bulletins *Minimum Weekly Wage Rates*, 1939 to 1959, and *Minimum Weekly Wage Rates, January, 1960, to June, 1962*, published on 3rd October, 1962.

## WEEKLY WAGE RATES: ADULT MALES AND FEMALES.

WEIGHTED AVERAGE MINIMUM WEEKLY RATES PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Date.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
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## ADULT MALES—RATES OF WAGE.

	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>	<i>s.</i>	<i>d.</i>
31st December, 1961..	373	4	362	1	359	10	354	7	363	9	362	10
31st March, 1962 ..	372	8	363	3	359	10	354	8	363	9	362	10
30th June, 1962 ..	372	8	363	4	359	10	355	3	363	10	362	10

## ADULT MALES—INDEX NUMBERS.

(Base: Weighted Average Weekly Wage Rate for Australia, 1954=100.0)

31st December, 1961..	132.2	128.2	127.4	125.6	128.8	128.5	129.5
31st March, 1962 ..	132.0	128.6	127.4	125.6	128.8	128.5	129.5
30th June, 1962 ..	132.0	128.6	127.4	125.8	128.8	128.5	129.5

WEEKLY WAGE RATES: ADULT MALES AND FEMALES—*continued.*WEIGHTED AVERAGE MINIMUM WEEKLY RATES PAYABLE FOR A FULL WEEK'S WORK  
(EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES.

Date.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aust.
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## ADULT FEMALES—RATES OF WAGE.

	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>
31st December, 1961..	269 2	256 7	255 7	252 0	256 7	248 3	261 2
31st March, 1962 ..	269 1	256 8	255 9	252 0	256 7	248 3	261 2
30th June, 1962 ..	269 1	256 8	255 9	252 0	256 7	248 3	261 2

## ADULT FEMALES—INDEX NUMBERS.

*(Base: Weighted Average Weekly Wage Rate for Australia, 1954=100.0)*

31st December, 1961..	135.2	128.9	128.4	126.6	128.9	124.7	131.2
31st March, 1962 ..	135.2	128.9	128.5	126.6	128.9	124.7	131.2
30th June, 1962 ..	135.2	128.9	128.5	126.6	128.9	124.7	131.2

## § 3. Average Weekly Earnings.

Average Weekly Total Wages and Salaries Paid and Average Earnings, All Industries, p. 409.—The following table shows for each State and Australia the average weekly total wages and salaries paid, and average weekly earnings per employed male unit, for the year ended June, 1962.

## AVERAGE WEEKLY TOTAL WAGES AND SALARIES PAID AND AVERAGE EARNINGS(a), 1961-62.

N.S.W.(b)	Victoria.	Queensland.	S. Aust.(c)	W. Aust.	Tasmania.	Australia.
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AVERAGE WEEKLY TOTAL WAGES AND SALARIES PAID.  
(£'000.)

27,268	19,519	7,909	5,822	4,048	2,057	66,623
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AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT.(d)  
(£.)

24.48	23.98	21.67	21.96	21.27	22.50	23.46
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(a) Includes, in addition to wages at award rates, earnings of salaried employees, overtime earnings, over-award and bonus payments, etc. (b) Includes the Australian Capital Territory. (c) Includes the Northern Territory. (d) Total wages and salaries, etc., divided by total civilian employment expressed in male units. Male units represent total male employment plus a proportion of female employment based on the approximate ratio of female to male earnings. As it is not possible to estimate the ratio of female to male earnings in the several States, the same ratio has been used in each State. Because the actual ratio may vary between States, precise comparisons between average earnings in different States cannot be made on the basis of the figures above.

Average Weekly Earnings Index Numbers, p. 409.—The average weekly earnings index numbers for Australia for All Industries and Manufacturing (Base of each series: 1953-54 = 100.0—seasonally adjusted series) for the June quarter, 1962, and the year ended June, 1962, were respectively:—All Industries, 146.8, 144.6; Manufacturing, 146.7, 144.7.

State Basic Wage Rates, p. 441.—The table below shows the "basic" weekly wage rates of State industrial tribunals, operative in August, 1962.

STATE BASIC WAGE: WEEKLY RATES, AUGUST, 1962.

State and Area.	Date of Operation.	Males.	Females.
		<i>s. d.</i>	<i>s. d.</i>
New South Wales(a) .. .. .	(b)	299 0	224 6
Victoria(c) .. .. .	(d)	287 0	215 0
Queensland—			
Southern Division—			
Eastern District, including Brisbane .. .. .	29.5.61	284 0	213 0
Western District .. .. .	29.5.61	294 6	221 0
Mackay Division .. .. .	29.5.61	293 0	219 9
Northern Division—			
Eastern District .. .. .	29.5.61	294 6	221 0
Western District .. .. .	29.5.61	316 6	237 6
South Australia(e) .. .. .	10.7.61	283 0	212 0
Western Australia—			
Metropolitan Area .. .. .	30.10.61	298 9	224 1
South-West Land Division .. .. .	30.10.61	297 3	222 11
Goldfields and other areas .. .. .	30.10.61	291 6	218 8
Tasmania(c) .. .. .	(f)	294 0	220 6

(a) Metropolitan rate applied to the whole of New South Wales from November, 1961. (b) From beginning of first pay-period commencing in August, 1962. (c) No basic wage declared. Rates shown are those adopted by most Wages Boards. (d) During July and August, 1961, Wages Boards varied determinations by adopting the Commonwealth basic wage rate. (e) The "living wage" declared for the metropolitan area is also adopted for country areas, except at Whyalla and nearby areas, where a loading of 5s. a week is generally payable. (f) Most Wages Boards adopted the Commonwealth basic wage rate from July, 1961.

§ 7. Leave, p. 445.

Three Weeks' Annual Leave Inquiry, 1962.—On 10th April, 1962, the Commonwealth Conciliation and Arbitration Commission, constituted by Kirby C.J. (President), Moore J. (Deputy President) and D. G. Apsey (Commissioner), commenced hearing an application to vary the Metal Trades Award to provide three weeks' paid annual leave instead of two.

In its judgment, delivered on 30th May, 1962, the Commission stated that an increase to three weeks' annual leave generally in secondary industry, subject to special cases, should be granted as soon as it was satisfied that the economy was in a position to cope with the effects of such an increase. However, the Commission first wished to be able better to assess the effects of the recession of 1961 and the effect on Australia of the success or failure of the application of the United Kingdom to enter the European Common Market. Accordingly it adjourned the proceedings to February or March, 1963.

E. EMPLOYMENT AND UNEMPLOYMENT.

§ 1. Employment.

Wage and Salary Earners in Civilian Employment, p. 450.—The following are particulars of wage and salary earners in civilian employment, excluding rural wage earners, female private domestics and defence forces, for the month of June, 1962.

## WAGE AND SALARY EARNERS IN CIVILIAN EMPLOYMENT, JUNE, 1962.

(Excluding Rural Wage Earners, Female Private Domestic and Defence Forces.)

('000.)

Industrial Group.				State or Territory.			
	Males.	Fe- males.	Per- sons.		Males.	Fe- males.	Per- sons.
Mining and Quarrying ..	46.7	1.2	47.9	New South Wales ..	858.0	348.5	1,206.5
Manufacturing, etc.(a) ..	909.1	272.1	1,181.2				
Building and Con- struction ..	205.4	6.4	211.8	Victoria ..	624.5	272.4	896.9
Transport ..	235.9	21.9	257.8	Queensland ..	287.5	103.0	390.5
Communication ..	73.1	18.9	92.0				
Finance and Property ..	79.1	55.1	134.2	South Australia ..	199.2	72.9	272.1
Retail Trade ..	138.5	137.5	276.0				
Wholesale and Other Commerce ..	158.0	49.5	207.5	Western Australia ..	146.5	51.9	198.4
Public Authority Ac- tivities, n.e.i. ..	111.0	33.8	144.8	Tasmania ..	69.5	24.7	94.2
Health ..	31.4	98.8	130.2	Northern Territory ..	6.6	1.8	8.4
Education ..	61.4	75.3	136.7				
Amusement, Hotels, Per- sonal Service, etc. ..	76.0	76.5	152.5	Aust. Capital Territory	15.1	5.9	21.0
Other ..	81.3	34.1	115.4				
<b>Total ..</b>	<b>2,206.9</b>	<b>881.1</b>	<b>3,088.0</b>				
Government(b) ..	662.1	164.6	826.7				
Private ..	1,544.8	716.5	2,261.3				
<b>Total ..</b>	<b>2,206.9</b>	<b>881.1</b>	<b>3,088.0</b>	<b>Total ..</b>	<b>2,206.9</b>	<b>881.1</b>	<b>3,088.0</b>

(a) Subject to revision. See footnote (a) on p. 452, also text preceding table on p. 451.  
 (b) Includes all employees of Commonwealth, State, Local and semi-government authorities on services such as railways, tramways, banks, post office, air transport, education, broadcasting, television, police, public works, factories and munitions establishments, migrant hostels, etc., as well as administrative employees, within Australia.

**Government Employees, p. 453.**—The number of government employees in Australia (including employees of semi-government authorities) in June, 1962, was as follows:—Commonwealth Government—males, 180,885; females, 48,892; persons, 229,777; State Government authorities—males, 401,982; females, 107,457; persons, 509,439; Local Government authorities—males, 79,260; females, 8,195; persons, 87,455; Total—males, 662,127; females, 164,544; persons, 826,671.

## CHAPTER XIII.—TRADE.

NOTE.—Values are expressed in £A. f.o.b., port of shipment.

## § 7. Total Oversea Trade.

**Summary of Movements, p. 484.**—The following are preliminary figures of the total overseas trade of Australia during the year 1961–62:—Merchandise—Exports, £1,068,672,937; Imports, £882,602,963; Commodity balance, + £186,069,974; Bullion and Specie—Exports, £9,398,989; Imports, £2,199,237; Balance, + £7,199,752; Total balance, + £193,269,726.

## § 8. Direction of Oversea Trade.

**According to Countries, p. 485.**—The following table shows particulars of the values of total imports and total exports of Australia, including bullion and specie, according to countries of origin or consignment, for the year 1961–62.



**TOTAL OVERSEA TRADE, AUSTRALIA: COUNTRIES OF ORIGIN OR  
CONSIGNMENT, 1961-62.(a)**

(£'000.)

Country.	Imports.	Exports	Country.	Imports.	Exports.
United Kingdom .. ..	265,915	206,422	Czechoslovakia .. ..	2,579	4,877
Australian Territories—			France .. ..	11,086	52,022
New Guinea .. ..	5,690	10,593	Germany, Federal Republic of	51,837	40,250
Other .. ..	5,809	8,894	Indonesia .. ..	26,500	3,548
Brunei .. ..	8,484	76	Iraq .. ..	20,944	1,473
Canada .. ..	34,158	17,505	Italy .. ..	4,214	1,308
Ceylon .. ..	9,821	8,947	Japan .. ..	14,033	52,307
Hong Kong .. ..	6,418	20,356	Mexico .. ..	49,468	187,023
India .. ..	16,067	25,222	Netherlands .. ..	1,372	4,429
Malaya, Federation of .. ..	11,478	11,850	Norway .. ..	13,316	10,003
New Zealand .. ..	13,548	58,885	Poland .. ..	3,331	2,153
Pakistan .. ..	5,663	3,329	Sweden .. ..	424	9,498
Singapore .. ..	2,426	15,811	South Africa, Republic of .. ..	7,843	9,699
Other Commonwealth Countries	18,863	26,524	Switzerland .. ..	16,695	2,124
<i>Total, Commonwealth Countries</i>	<i>404,340</i>	<i>414,414</i>	United States of America .. ..	13,761	1,542
Arabian States .. ..	29,272	3,526	Other Foreign Countries(b) .. ..	174,068	109,004
Austria .. ..	4,042	1,460	<i>Total, Foreign Countries</i>	<i>480,462</i>	<i>663,658</i>
Belgium—Luxembourg .. ..	6,812	23,006	<i>Total, All Countries .. ..</i>	<i>884,802</i>	<i>1,078,072</i>
China, Republic of—Mainland	3,807	65,942			

(a) Preliminary.

(b) Includes shipments made "for orders" and imports of unknown origin.

According to Major Groups of Countries, p. 487.—The following table shows the trade of Australia during 1961-62 according to major groups.

**OVERSEA TRADE OF AUSTRALIA WITH MAJOR GROUPS OF COUNTRIES,(a)  
1961-62.(b)**

Monetary Group.	£'000.	Monetary Group.	£'000.
<b>STERLING.</b>		<b>NON-STERLING—contd.</b>	
Imports—		From—Countries of the E.E.C. ..	98,476
From—United Kingdom .. ..	265,915	Countries of the E.F.T.A. ..	46,287
Other Sterling Area Coun- tries .. ..	129,483	Other Countries .. ..	136,405
Total .. ..	395,398	Total .. ..	281,168
Exports—		Exports—	
To—United Kingdom .. ..	206,422	To—Countries of the E.E.C. ..	182,982
Other Sterling Area Countries ..	204,427	Countries of the E.F.T.A. ..	10,844
Total .. ..	410,849	Other Countries .. ..	345,955
Total .. ..	410,849	Total .. ..	539,781
Excess of Exports (+) or Imports (-)	+15,451	Excess of Exports (+) or Imports (-)	+258,613
<b>NON-STERLING.</b>		<b>ALL MONETARY GROUPS.</b>	
Imports—		Total Imports .. ..	884,802
From—United States of America(c)	174,078	Total Exports .. ..	1,078,072
Canada .. ..	34,158	Excess of Exports (+) or Imports (-)	+193,270
Total .. ..	208,236		
Exports—			
To—United States of America(c) ..	109,937		
Canada .. ..	17,505		
Total .. ..	127,442		
Excess of Exports (+) or Imports (-)	-80,794		

(a) For a list of the countries in each group, see page 486.

(b) Preliminary.

(c) Includes U.S.A. Territories and Dependencies.

## § 12. Classified Summary of Australian Oversea Trade.

Imports and Exports in Statistical Classes, p. 492.—The following table shows the values of total imports and total exports in statistical classes for the year 1961–62.

**TOTAL OVERSEA TRADE, AUSTRALIA: CLASSES, 1961-62.(a)**  
(£'000.)

Class.	Imports.	Exports.	Class.	Imports.	Exports.
I. Animal foodstuffs, etc. . . . .	11,484	142,498	XIII. Rubber and leather, etc.	19,447	4,855
II. Vegetable foodstuffs; non-alcoholic beverages, etc. . . . .	27,903	267,096	XIV. Wood and wicker, etc.	15,395	3,622
III. Alcoholic liquors, etc. . . . .	4,529	2,372	XV. Earthenware, etc. . . . .	17,957	989
IV. Tobacco, etc. . . . .	9,744	564	XVI. Paper and stationery . . . . .	57,871	3,875
V. Live animals . . . . .	576	1,469	XVII. Jewellery, etc. . . . .	12,515	2,839
VI. Animal substances, etc. . . . .	4,349	406,254	XVIII. Optical, surgical and scientific instruments	16,859	3,031
VII. Vegetable substances, etc. . . . .	19,713	1,735	XIX. Chemicals, medicinal products, fertilizers, etc. . . . .	58,165	8,931
VIII. Apparel, textiles, etc. . . . .	104,205	3,761	XX. Miscellaneous . . . . .	63,652	32,463
IX. Oils, fats and waxes . . . . .	109,902	29,547	XXI. Gold and silver; bronze specie . . . . .	2,199	9,399
X. Pigments, paints and varnishes . . . . .	5,456	1,229			
XI. Rocks, minerals, etc. . . . .	7,539	40,427			
XII. Metals, metal manufactures and machinery . . . . .	315,342	111,116	Total . . . . .	884,802	1,078,072

(a) Preliminary.

Imports of Principal Articles, p. 493.—The following table shows the values of the principal articles imported into Australia during 1961–62.

**PRINCIPAL ARTICLES IMPORTED: AUSTRALIA, 1961-62.(a)**

Article.	Value (£'000).
Aircraft and Parts . . . . .	12,174
Apparel . . . . .	8,793
Arms, explosives, military stores, etc. . . . .	8,137
Bags and sacks . . . . .	10,380
Chemicals, medicinal and pharmaceutical products, essential oils and fertilizers . . . . .	58,168
Cotton raw, excluding linters and waste . . . . .	5,906
Electrical machinery, appliances and equipment . . . . .	47,864
Fibres, excluding cotton . . . . .	6,982
Glass and glassware . . . . .	7,928
Iron and steel—	
Bar and rod . . . . .	5,562
Plate and sheet . . . . .	6,617
Machines and machinery—	
Motive power . . . . .	37,581
Other . . . . .	100,270
Motor vehicles complete; components and parts . . . . .	53,531
Paper, printings . . . . .	16,823
Petroleum and shale oils . . . . .	102,409
Piece-goods—	
Cotton and linen . . . . .	35,880
Other . . . . .	17,945
Synthetic resins . . . . .	9,862
Rubber and rubber manufactures . . . . .	17,772
Stationery and paper manufactures . . . . .	19,382
Tea . . . . .	12,914
Timber, undressed, including logs . . . . .	12,279
Tobacco . . . . .	8,484
All other articles . . . . .	261,159
<b>Total Imports . . . . .</b>	<b>884,802</b>

(a) Preliminary.

Exports of Principal Articles of Australian Produce, p. 494.—The following table shows the quantities and values of the principal articles of Australian produce exported during 1961-62.

EXPORTS OF PRINCIPAL ARTICLES OF AUSTRALIAN PRODUCE, 1961-62.(a)

Article.	Unit of Quantity.	Quantity.	Value.(£'000.)
Butter .. .. .	ton	78,364	23,538
Cheese .. .. .	"	22,415	5,203
Chemicals, drugs, fertilizers .. .. .	"	..	8,931
Fruit—			
Dried .. .. .	ton	64,798	10,355
Fresh, including frozen .. .. .	'000 bus.	9,430	13,454
Preserved in airtight containers .. .. .	ton	83,834	11,919
Gold .. .. .	"	..	8,977
Grains and cereals—			
Barley .. .. .	ton	701,687	14,954
Flour (wheaten), plain white .. .. .	ton(b)	578,853	17,397
Wheat .. .. .	ton	5,443,045	142,446
Hides and skins .. .. .	"	..	32,250
Lead, unwrought, n.e.i. .. .. .	ton	186,559	13,639
Machines and machinery (except dynamo electrical) .. .. .	"	..	13,156
Meats preserved by cold process—			
Beef and veal .. .. .	ton	201,333	58,843
Lamb .. .. .	"	16,696	2,624
Mutton .. .. .	"	48,594	8,131
Pork .. .. .	"	934	305
Meats, tinned .. .. .	"	33,415	10,518
Milk and cream .. .. .	'000 lb.	96,248	7,228
Ores and concentrates .. .. .	ton	843,714	24,670
Sugar (from cane) .. .. .	"	843,519	33,895
Wool (c) .. .. .	'000 lb.	1,553,554	372,796
All other articles .. .. .	"	..	216,249
<b>Total Exports (Australian Produce)</b> .. .. .	..	..	<b>1,051,478</b>

(a) Preliminary.

(b) 2,000 lb.

(c) Quantity in terms of greasy wool.

§ 16. Australian Index of Export Prices.

Monthly Index (Fixed Weights), p. 502.—The following are the export price index numbers for the year 1961-62 and for the months April to June, 1962.

EXPORT PRICE INDEXES: AUSTRALIA.

SIMPLE AGGREGATIVE INDEX: FIXED WEIGHTS.

INDIVIDUAL COMMODITIES, GROUPS OF COMMODITIES, AND ALL GROUPS COMBINED.

(Base of each Index: Average of three years ended June, 1939 = 100.)

Period.	Wool.	Wheat.	Butter.	Metals. (a)	Meats. (b)	Sugar.	Dried. Fruits. (c)	Tallow.	Hides. (d)	Gold.	All Groups.
1961-62..	412	354	229	358	(e)	430	(f)313	256	307	178	(f)362
1962—											
April ..	422	362	240	350	(e)	437	303	238	304	178	(f)368
May ..	422	364	241	346	(e)	418	(f)311	235	299	178	(f)367
June ..	422	365	258	337	(e)	425	(f)311	231	296	178	(f)369

(a) Silver, copper, tin, zinc, lead. (b) Beef, lamb, mutton and canned meats (see paragraph 4 (ii) on page 500). Guaranteed minimum prices are used when operative. (c) Sultanas, raisins, currants. (d) Cattle hides, calfskins. (e) Actual price realized not yet known; provisional series are included in "All Groups" Indexes which are subject to revision. (f) Preliminary.

Revised figures for the Dried Fruits Group for the months May, 1961, to March, 1962, respectively, were:—344, 343, 341, 327, 325, 309, 307, 309, 304, 303, 303. The All Groups figures remained unchanged.

Since Part VI of this Year Book was issued, a new Export Price Index has been published. A full description of this new index is given in *Statistical Bulletin* No. S.B. 134, issued on 8th October, 1962.

## § 21. The Australian Balance of Payments, p. 507.

The table following shows in summary form revised balance of payments estimates for the years 1959-60 and 1960-61, and preliminary estimates for 1961-62. Further details will be found in the mimeograph publication *The Australian Balance of Payments, 1957-58 to 1961-62*.

## BALANCE OF PAYMENTS: SUMMARY, AUSTRALIA.

(£A. million.)

Particulars.	1959-60.	1960-61.	1961-62.(e)
<b>CURRENT ACCOUNT.(a)</b>			
Exports f.o.b.(b) .. .. .	937	936	1,080
Imports f.o.b.(b) .. .. .	916	1,046	859
Balance of Trade .. .. .	21	-110	221
<b>Invisible Credits—</b>			
Transportation .. .. .	86	99	102
Travel .. .. .	10	14	16
Investment income .. .. .	26	30	37
Government .. .. .	26	25	26
Other .. .. .	56	64	68
<b>Invisible Debits—</b>			
Transportation(d) .. .. .	148	175	154
Travel .. .. .	36	42	41
Investment income .. .. .	151	153	155
Government .. .. .	48	55	56
Other .. .. .	66	66	72
Balance on Current Account .. .. .	-224	-369	-8
<b>CAPITAL ITEMS.(a)</b>			
<b>Official (net)—</b>			
Loans .. .. .	35	12	7
Other .. .. .	5	-9	-2
Total .. .. .	40	3	5
<b>Private—</b>			
<b>Overseas investment in Australian companies—</b>			
Undistributed income .. .. .	69	63	(c)
Other direct .. .. .	91	121	(c)
Portfolio .. .. .	33	48	(c)
Total .. .. .	193	232	(c)
Australian investment in overseas companies .. .. .	-3	-3	(c)
Other private capital movements (net) .. .. .	-7	-4	(c)
Total Private Capital (net) .. .. .	183	225	} (c) 92
Balancing Item .. .. .	8	102	
<b>Monetary Movements—</b>			
Change in net I.M.F. position .. .. .	11	-78	79
Change in International Reserves .. .. .	-4	39	10
Total Monetary Movements .. .. .	7	-39	89

(a) For current account balances, minus sign (-) denotes deficit; for capital items other than monetary movements, minus sign (-) denotes outflow; for monetary movements, minus sign (-) denotes decrease in international reserves or net I.M.F. position. (b) The amounts shown represent the recorded trade figures adjusted for balance of payments purposes. Adjustments affect both coverage and valuation. (c) Particulars of the Survey of Overseas Investment are not yet available for 1961-62. Private capital movements for this period are therefore combined with the balancing item. (d) Total freight and insurance on imports, whether payable overseas or in Australia, is estimated at £127,000,000 in 1959-60, £151,000,000 in 1960-61 and £126,000,000 in 1961-62. (e) Preliminary estimates.

## CHAPTER XIV.—TRANSPORT AND COMMUNICATION.

## A. SHIPPING.

## § 3. Oversea Shipping.

Total Oversea Shipping, States, p. 516.—The following table shows particulars of the entrances and clearances of vessels direct from, and to, overseas countries during 1961-62.

## OVERSEA SHIPPING: ENTRANCES AND CLEARANCES OF VESSELS DIRECT, 1961-62.(a)

Particulars.		N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.
Entrances	No.	1,257	567	472	244	943	72	44	3,599
	'000 net tons	6,470	3,851	1,746	1,039	5,399	268	84	18,857
Clearances	No.	1,067	504	698	294	979	28	41	3,611
	'000 net tons	5,881	3,446	2,671	1,217	5,363	135	91	18,804

(a) Preliminary.

## § 6. Shipping Cargo.

Oversea and Interstate Cargo, p. 521.—The following table shows the quantity of shipping cargo discharged and shipped, according to States, during 1961-62.

CARGO DISCHARGED AND SHIPPED: STATES, 1961-62.(a)  
('000 Tons.)

State, etc.	Discharged.				Shipped.			
	Oversea.		Interstate.		Oversea.		Interstate.	
	wt.	meas.	wt.	meas.	wt.	meas.	wt.	meas.
New South Wales	6,315	1,164	6,448	177	6,025	407	3,708	112
Victoria	5,879	1,009	2,183	484	2,821	513	1,457	504
Queensland	424	191	1,321	119	1,872	63	508	52
South Australia	301	251	2,002	72	2,289	196	4,897	28
Western Australia	4,038	120	566	64	4,014	171	2,673	29
Tasmania	252	29	721	511	163	180	401	466
Northern Territory	98	..	80	..	11	..	4	..
Australia	17,507	2,764	13,321	1,427	17,195	1,530	13,648	1,191

(a) Preliminary.

## B. GOVERNMENT RAILWAYS.

Summary of Operations, pp. 530-37.—The following table shows a summary of the operations of Government railways for the year 1961-62.

## GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, 1961-62.

Particulars.	C'wth.	N.S.W.	Vic.	Qld. (a)	S.A. (b)	W.A. (b)	Tas.	Aust.
Route Miles open	2,252	6,063	4,291	6,008	2,533	3,851	515	25,513
Train-miles	'000 2,453	37,834	18,903	17,291	6,737	8,065	1,415	92,698
Earnings (c)—								
Coaching (Passengers, Parcels, Mails, etc.)	£'000 1,005	26,738	13,922	5,744	2,092	1,649	197	51,347
Goods, including Livestock and Minerals	4,499	61,424	25,733	29,467	10,928	15,114	2,411	149,576
Miscellaneous	737	189	2,902	(d)	972	1,041	95	5,936
Total Earnings(c)	6,241	88,351	42,557	35,211	13,992	17,804	2,703	206,859
Working Expenses	£'000 5,165	79,595	42,906	37,273	15,671	15,763	3,175	199,548
Net Earnings	1,076	8,756	-349	-2,062	-1,679	2,041	-472	7,311
Ratio of Working Expenses to Earnings	% 82.75	90.01	100.82	105.86	112.00	88.54	117.47	96.46
Earnings per Train-mile	50s. 11d.	46s. 8d.	45s. 0d.	40s. 9d.	41s. 6d.	44s. 2d.	38s. 2d.	44s. 8d.
Working Expenses per Train-mile	42s. 1d.	42s. 1d.	45s. 5d.	43s. 1d.	46s. 6d.	39s. 1d.	44s. 10d.	43s. 1d.
Passenger-journeys	'000 315	252,719	152,768	26,514	15,176	11,906	1,816	461,214
Freight Carried—								
Livestock	'000 tons 80	551	264	683	179	125	29	1,911
Coal and Coke	1,235	10,481	2,275	1,808	91	648	305	16,843
Other Minerals	78	2,299	89	1,449	1,104	434	28	5,481
Other Goods	564	10,802	7,723	3,772	3,264	4,135	734	30,994
Total Freight	1,957	24,133	10,351	7,712	4,638	5,342	1,096	55,229

(a) Excludes South Brisbane—Border section of the uniform gauge line (69 route miles). (b) Financial details include road motors. (c) Excludes Government Grants. (d) Included with Coaching. Minus sign (—) denotes loss.

NOTE.—The foregoing table is prepared from quarterly statements supplied by each Government Railway, and figures therein are not completely comparable with those shown in Chapter XIV.—Transport and Communication, which are derived, in the main, from the Annual Reports of the Government Railways.

## E. MOTOR VEHICLES.

Motor Vehicle Registrations, pp. 545–6.—Motor vehicles registered at 30th June, 1962, and new motor vehicles registered during 1961–62 were as follows.

## MOTOR VEHICLES: REGISTRATIONS, 1961-62(a).

State or Territory.	Number of Motor Vehicles Registered at 30th June, 1962.				Number of New Motor Vehicles Registered, 1961-62.(b)			
	Motor Cars.(c)	Com-mercial Vehicles.(d)	Motor Cycles.	Total.	Motor Cars.(c)	Other Vehicles.	Motor Cycles.	Total.
New South Wales ..	702,069	355,899	21,772	1,079,740	85,647	18,633	1,401	105,681
Victoria ..	e730,079	e179,467	17,191	926,737	59,592	12,389	738	72,719
Queensland ..	273,741	146,326	15,190	435,237	25,171	7,802	1,029	34,002
South Australia ..	231,631	75,698	15,681	323,010	18,536	4,710	1,127	24,373
Western Australia ..	151,013	74,748	12,052	237,813	16,857	5,824	896	23,577
Tasmania ..	73,836	26,999	2,398	103,233	6,931	1,775	59	8,765
Northern Territory ..	5,858	5,497	726	12,081	572	523	31	1,128
Aust. Capital Territory ..	16,861	4,173	359	21,393	2,620	465	33	3,116
Total ..	e2,185,088	e868,807	85,369	3,139,264	215,926	52,121	5,314	273,361

(a) Excludes Defence Service vehicles, trailers, road tractors, etc., and dealer's plates. (b) This series is not strictly comparable with the Number of Motor Vehicles Registered series (see p. 546). (c) Includes taxis, hire cars and station wagons. (d) Includes utilities, panel vans, lorries and omnibuses. (e) Registration in Victoria is according to purpose of use and not type of vehicle; consequently, motor car registrations in this series are overstated by the inclusion of commercial vehicles registered for private use.

## H. CIVIL AVIATION.

Statistical Summaries, p. 560.—The following table shows particulars of the operations of regular internal services and oversea services for 1961–62.

## CIVIL AVIATION: OPERATIONS OF REGULAR INTERNAL SERVICES AND OVERSEA SERVICES, 1961-62.

Particulars.	Regular Internal Services.(a)	Oversea Services.(b)
Route miles (unduplicated)(c) ..	59,923	69,712
Hours flown ..	206,215	51,066
Miles flown ..	'000 41,176	19,240
Paying passengers ..	'000 2,665,710	247,517
Paying passenger-miles ..	'000 1,119,331	836,570
Freight—		
Tons(d) ..	57,207	6,432
Ton-miles(d) ..	'000 26,076	30,429
Mail—		
Tons(d) ..	6,316	2,016
Ton-miles(d) ..	'000 3,202	11,622

(a) Includes only services operating within the Australian mainland and Tasmania. (b) Airlines wholly or partly owned by Australian interests. (c) At 30th June, 1962. (d) In terms of short tons (2,000 lb.).

## J. BROADCASTING AND TELEVISION.

## § 4. Licences, etc.

Broadcast Listeners' and Television Viewers' Licences, pp. 577-8.—Broadcast listeners' licences in force at 30th June, 1962, were as follows:—New South Wales, 812,822; Victoria, 585,752; Queensland, 328,525; South Australia, 249,673; Western Australia, 168,676; Tasmania, 75,014; Australia, 2,220,462. Figures for the Northern Territory and the Australian Capital Territory have been included with those for South Australia and New South Wales respectively.

Television viewers' licences in force at 30th June, 1962, were as follows:—New South Wales, 564,707; Victoria, 460,558; Queensland, 142,422; South Australia, 143,794; Western Australia, 83,951; Tasmania, 29,003; Australia, 1,424,435.

## CHAPTER XVIII.—WELFARE SERVICES.

## A. COMMONWEALTH EXPENDITURE ON SOCIAL AND HEALTH SERVICES.

## § 2. National Welfare Fund, p. 698.

The following table shows particulars of payments of social and health services in each State during 1961-62.

COMMONWEALTH EXPENDITURE FROM NATIONAL WELFARE FUND  
ON SOCIAL AND HEALTH SERVICES, 1961-62.  
(£'000.)

Service.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.(a)	A.C.T. (a)	Over- seas.	Aus- tralia.
<i>Social Services—</i>										
Age and Invalid Pensions ...	72,143	44,682	28,368	16,422	12,172	5,702	359	214	183	180,245
Child Endowment	23,617	18,021	10,085	6,336	5,103	2,497	278	416	25	66,378
Commonwealth Rehabilitation Service ...	190	220	108	102	78	25	..	..	..	723
Funeral Benefits	150	97	59	31	26	12	..	1	..	376
Maternity Allowances ...	1,442	1,057	589	344	279	145	23	24	5	3,908
Unemployment Benefits ...	4,402	3,603	2,636	893	726	348	7	22	..	12,637
Sickness Benefits	1,104	647	429	199	190	81	5	10	..	2,665
Special Benefits <sup>b</sup>	166	278	79	33	27	19	..	1	..	603
Widows' Benefits	5,729	3,680	2,516	1,377	1,186	519	30	32	25	15,094
<i>National Health Services—</i>										
Hospital Benefits	9,038	5,493	2,989	1,966	1,998	651	30	32	..	22,197
Medical Benefits	4,534	2,802	1,164	1,186	942	289	..	..	..	10,917
Medical Benefits for Pensioners	1,915	1,094	589	390	286	115	..	9	..	4,398
Nutrition for Children ...	1,327	1,034	564	332	263	171	23	28	..	3,742
Pharmaceutical Benefits ...	10,188	7,739	3,648	2,142	1,795	545	..	(c) 35	..	26,092
Pharmaceutical Benefits for Pensioners ...	4,000	2,082	1,351	829	610	225	..	..	..	9,097
Tuberculosis Campaign—										
Allowances ...	313	199	191	83	40	47	..	..	..	873
Maintenance and Surveys <sup>d</sup>	1,495	1,110	783	345	397	184	..	(e) 19	..	4,333
Miscellaneous <sup>f</sup>	75	55	112	11	17	27	19	(g) 532	..	848
Rental Rebates ...	..	..	65	..	..	..	..	..	..	65
<b>Total ..</b>	<b>141,828</b>	<b>93,893</b>	<b>56,325</b>	<b>33,021</b>	<b>26,135</b>	<b>11,602</b>	<b>774</b>	<b>1,375</b>	<b>238</b>	<b>365,191</b>

(a) Payments for some Health Services to residents of the Northern Territory and the Australian Capital Territory are included in the amounts shown for States. (b) Includes special benefits to migrants in reception and training centres. (c) Includes payments to Flying Doctor Service and Bush Nursing Centres. (d) Paid to the State Governments as a contribution towards the cost of surveys and the maintenance of institutions for the treatment of tuberculosis. (e) Includes cost of manufacturing B.C.G. vaccine for distribution throughout Australia. (f) This item covers the cost of district laboratory services, the free supply of prophylactic materials and biological products (e.g. insulin, poliomyelitis and diphtheria prophylactics), the supply and maintenance of hearing aids for children, subsidies to voluntary organizations conducting home-nursing services, and certain costs associated with the blood transfusion services of the Australian Red Cross Society. (g) Includes £255,990 for the production of poliomyelitis vaccine, £100,000 for running expenses of the Blood Fractionation Plant at the Commonwealth Serum Laboratories, £107,668 for Home Nursing Service throughout Australia and £20,300 for the production of smallpox vaccine.

## B. COMMONWEALTH SOCIAL SERVICES.

§ 2. Age and Invalid Pensions, § 3. Child Endowment, § 6. Maternity Allowances, § 7. Unemployment, Sickness and Special Benefits, § 8. Widows' Pensions, pp. 699-711.

The following table gives a summary of age, invalid and widows' pensions, maternity allowances, child endowment, and unemployment, sickness and special benefits for the year 1961-62.

## SOCIAL SERVICES: SUMMARY, 1961-62.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<i>Age Pensioners at end of year</i>	234,282	152,533	93,657	55,013	39,104	17,522	1,069	832	594,012
<i>Invalid Pensioners at end of year</i>	41,732	21,519	14,650	7,660	7,826	3,299	379	181	97,246
<i>Child Endowment at end of year—</i>									
Family claims in force	566,102	417,482	215,496	144,375	112,006	53,050	4,703	9,603	1,523,074
Endowed children (a)	1,225,182	926,209	511,707	325,556	266,067	127,015	15914	21,959	3,420,134
								(b)	
<i>Maternity Allowances—</i>									
Claims paid during year	87,659	65,847	36,339	21,328	17,366	8,942	1,398	1,662	6240,841
<i>Unemployment, Sickness and Special Benefits—</i>									
Persons Admitted to Benefit—									
Unemployment Benefit	95,080	72,201	64,725	21,834	15,525	8,273	493	805	278,936
Sickness Benefit	24,344	14,833	11,337	5,307	5,412	2,000	143	210	63,586
Special Benefit—									
Ordinary	837	1,612	653	172	157	93	3	7	3,534
Migrants	723	2,961	..	248	..	..	..	..	3,932
Persons on benefit at end of year—									
Unemployment benefit	16,967	14,338	7,432	3,057	2,667	1,778	17	68	46,324
Sickness Benefit	4,278	2,479	1,669	786	714	304	15	25	10,270
Special Benefit—									
Ordinary	673	1,025	332	137	127	95	2	..	2,391
Migrants	19	98	..	1	..	..	..	..	118
Benefits paid—									
Unemployment	£ 4,402,094	3,603,254	2,636,105	892,830	726,082	347,870	6,666	21,865	12636766
Sickness	£ 1,104,059	646,820	428,968	198,449	190,706	81,403	4,340	10,177	2,664,922
Special(c)	£ 166,238	278,524	78,564	33,221	26,705	19,124	137	678	603,191
Total(c)	£ 5,672,391	4,528,598	3,143,637	1,124,500	943,493	448,397	11,143	32,720	15904879
<i>Widows' Pensions at end of year—</i>									
Pensions in force	21,187	14,251	9,452	5,218	4,570	1,912	117	129	56,836
Class "A" pensions in force(d)	8,937	5,845	4,553	2,220	1,905	998	59	67	24,584

(a) Includes children in approved institutions. (b) Includes claims paid overseas.  
 (c) Includes payments to migrants. (d) Pensions paid to widows who maintain at least one child under 16 years of age.

## CHAPTER XV.—EDUCATION AND RESEARCH.

## D. STATE GOVERNMENT EXPENDITURE ON EDUCATION, SCIENCE AND ART, p. 634.

The following table includes amended figures for Victoria and the Australian total which were received subsequent to publication of Part VII of this Year Book.

STATE EXPENDITURE ON EDUCATION, SCIENCE AND ART, 1959-60.  
(£'000.)

State.	Expenditure from—				Receipts.	Net Expenditure.
	Revenue.	Loan.	Other Funds.	Total.		
New South Wales	51,432	14,953	..	66,385	1,107	65,278
Victoria	36,234	11,279	..	47,513	473	47,040
Queensland	15,500	3,610	1,126	20,236	659	19,577
South Australia	13,499	4,019	..	17,518	1,433	16,085
Western Australia	10,276	2,115	19	12,410	215	12,195
Tasmania	5,433	1,775	28	7,236	462	6,774
Total	132,374	37,751	1,173	171,298	4,349	166,949



## CHAPTER XX.—PRIVATE FINANCE:

## A. CURRENCY.

## § 2. Coinage.

**Issues of Australian Coins, p. 762.**—The net issues of Australian coins to 30th June, 1962, were:—silver, £44,702,000; bronze, £3,488,000; total, £48,190,000.

## § 3. Notes.

**The Australian Note Issue, p. 764.**—The average value of notes in circulation for the year 1961–62 was £431,408,000. This amount was distributed in denominations as follows:—10s., £12,526,000; £1, £69,298,000; £5, £192,392,000; £10, £153,613,000; £20, £2,000; £50, £30,000; £100, £36,000; and £1,000, £3,511,000. The amount held by the banks was £59,695,000 and by the public £371,713,000.

## B. BANKING.

## § 1. Cheque-Paying Banks.

**Reserve Bank, p. 769.**—The average liabilities of the Central Banking Business (including Note Issue Department) of the Reserve Bank for the year ended June, 1962, amounted to £1,035,676,000. Capital and Reserve Funds amounted to £26,000,000; Notes on Issue to £427,503,000; Statutory Reserve Deposit Accounts of Trading Banks to £217,733,000; Other Deposits of Trading Banks to £31,454,000; Deposits of Savings Banks to £151,036,000; Other Liabilities to £181,950,000.

Particulars of the average assets were as follows:—Gold and Balances held abroad, £492,083,000; Australian Notes and Coin, £7,985,000; Cheques and Bills of other Banks, £1,790,000; Government and Other Securities (including Treasury Bills), £465,687,000; Bills Receivable and Remittances in Transit, £6,270,000; and Other Assets, £61,861,000.

**Commonwealth Trading Bank, p. 773.**—The average liabilities in Australia of the Commonwealth Trading Bank for the year ended June, 1962 were £300,845,000. Of this amount, Fixed Deposits amounted to £97,755,000 and Current Deposits (including Current Deposits bearing interest £15,764,000) to £199,454,000; Balances due to other Banks to £941,000; Other Liabilities to £2,695,000.

The average assets in Australia, £306,974,000, included Cash and Cash Balances £10,842,000; Treasury Bills and Seasonal Securities, £2,195,000; Other Commonwealth and State Government Securities, £84,455,000; Loans to Authorized Dealers in the Short Term Money Market, £2,947,000; Statutory Reserve Deposits with Reserve Bank, £35,704,000; Cheques, Bills and Balances with other Banks, £7,557,000; Loans (other than Loans to Authorized Dealers in the Short Term Money Market), Advances and Bills Discounted, £149,711,000; Other Assets, £13,563,000.

**Private Trading Banks, p. 775.**—Average liabilities in Australia of the Private Trading Banks for the year ended June, 1962, were £1,545,217,000. Fixed Deposits amounted to £436,028,000 and Current Deposits (including Current Deposits bearing interest, £83,621,000) to £1,073,338,000; Balances due to other Banks to £7,457,000; Other Liabilities to £28,394,000.

The average assets in Australia, £1,567,546,000, included Cash and Cash Balances, £61,007,000; Treasury Bills and Seasonal Securities, £32,336,000; Other Commonwealth and State Government Securities, £285,648,000; Loans to Authorized Dealers in the Short

Term Money Market, £27,991,000; Statutory Reserve Deposits with Reserve Bank, £181,558,000; Cheques, Bills and Balances with other Banks, £34,205,000; Loans (other than Loans to Authorized Dealers in the Short Term Money Market), Advances and Bills Discounted, £852,477,000; Other Assets, £92,324,000.

**Classification of Advances within Australia—Commonwealth Trading Bank and Private Trading Banks, p. 781.**—Advances within Australia at the end of June, 1962, dissected by industries were:—*Resident Borrowers*: Business Advances—Agriculture, Grazing and Dairying, £239,601,000; Manufacturing, £209,454,000; Transport, Storage and Communication, £13,975,000; Finance, £66,017,000; Commerce, £216,598,000; Building and Construction, £30,594,000; Other Business and Services, £77,733,000; Unclassified, £8,448,000; Total Business Advances, £862,420,000; Advances to Public Authorities, £12,623,000; Personal advances, £169,631,000; Advances to Non-Profit Organizations, £20,935,000; *Total Resident Borrowers*, £1,065,609,000; *Total Non-Resident Borrowers*, £274,000; *Total advances*, £1,065,883,000.

**Clearing House Returns, p. 784.**—The average weekly bank clearings in each capital city for the year ended June, 1962, were as follows:—Sydney, £200,293,000; Melbourne, £194,352,000; Brisbane, £41,190,000; Adelaide, £39,209,000; Perth, £24,709,000; Hobart, £7,101,000; Total, £506,854,000.

**Debits to Customers' Accounts—All Cheque-paying Banks, p. 784.**—The average weekly debits to customers' accounts in each State for the year 1961–62 for all cheque-paying banks (excluding debits to accounts of Australian Governments in capital cities) were as follows:—New South Wales, £326,995,000; Victoria, £295,018,000; Queensland, £82,181,000; South Australia, £58,088,000; Western Australia, £40,178,000; Tasmania, £16,040,000; Northern Territory, £1,105,000; Australian Capital Territory, £3,951,000; Total, £823,556,000.

## § 2. Savings Banks.

**All Savings Banks, p. 786.**—The numbers of operative accounts in the several States at end of June, 1962, were:—New South Wales, 3,324,000; Victoria, 2,984,000; Queensland, 1,251,000; South Australia, 1,019,000; Western Australia, 625,000; Tasmania, 332,000; Northern Territory, 19,000; and Australian Capital Territory, 45,000; Total, 9,599,000. The amounts on deposit in the several States at 30th June, 1962, were:—New South Wales, £625,021,000; Victoria, £570,849,000; Queensland, £205,852,000; South Australia, £180,990,000; Western Australia, £90,528,000; Tasmania, £51,230,000; Northern Territory, £3,085,000; and Australian Capital Territory, £7,331,000; Total, £1,734,886,000. Total excess of deposits over withdrawals during 1961–62 was £13,362,000 and interest added was £42,700,000.

## D. INSURANCE.

### § 2. Life Insurance.

**Life Insurance, p. 798.**—The following is a summary of the life insurance business transacted in Australia during 1961 (figures for 1960 in parentheses) compiled from monthly returns collected from the 39 (37) companies registered under the Life Insurance Act 1945–1961, and excluding the Government Insurance Office of New South Wales and the Queensland State Government Insurance Office which operate only within their respective States. Particulars shown are therefore not entirely comparable with those in Chapter XX., which are derived from annual returns and include business of the State Government Offices.

Ordinary Business and Industrial Business, respectively:—New Policies issued in Australia—Number, 391,532 (447,082), 176,117 (187,608); Sum Insured, £798,382,000 (£799,631,000), £44,192,000 (£39,772,000); Policies Matured or Otherwise Discontinued in Australia—Number, 342,104 (283,848), 316,278 (296,813), Sum Insured, £301,793,000 (£244,752,000), £33,692,000 (£29,182,000). Particulars of annuities are excluded.

Premium receipts of Ordinary and Industrial Business in Australia in 1961 amounted, respectively, to £125,944,000 (£112,152,000) and £15,962,000 (£15,562,000). Claims, etc., paid amounted to £53,724,000 (£46,315,000) and £14,277,000 (£12,351,000), respectively. Particulars of annuities are included.

## CHAPTER XXI.—PUBLIC FINANCE.

### A. COMMONWEALTH FINANCE.

Consolidated Revenue Fund, pp. 822 and 831.—The table below shows details of revenue and expenditure for the year 1961–62.

#### COMMONWEALTH CONSOLIDATED REVENUE FUND: REVENUE AND EXPENDITURE, 1961–62.

(£'000.)

Revenue.		Expenditure.	
Item.	Amount.	Item.	Amount.
<i>Taxation—</i>		Defence Services(a) .. ..	145,289
Customs .. .. .	85,201	War and Repatriation Services .. ..	104,280
Excise .. .. .	265,478	Subsidies and Bounties .. ..	29,500
Sales Tax .. .. .	148,818	Departmental .. .. .	216,692
Income Taxes .. .. .	828,150	National Welfare Fund—	
Pay-roll Tax .. .. .	60,972	Expenditure on Social Services .. ..	365,191
Estate Duty .. .. .	17,029		
Other Taxes .. .. .	10,744	<i>Business Undertakings—</i>	
<i>Total</i> .. .. .	<u>1,416,392</u>	Postmaster-General's Department .. ..	114,772
<i>Business Undertakings—</i>		Broadcasting and Television Services .. ..	12,800
Postmaster-General's Department .. ..	139,814	Railways .. .. .	5,222
Broadcasting and Television Services .. ..	12,353	<i>Total</i> .. .. .	<u>132,794</u>
Railways .. .. .	6,222	Territories .. .. .	30,328
<i>Total</i> .. .. .	<u>158,389</u>	<i>Capital Works and Services—</i>	
Territories .. .. .	5,996	Defence Services .. .. .	36,324
Other Revenue .. .. .	60,765	Business Undertakings .. ..	52,483
		Other .. .. .	106,309
		<i>Total</i> .. .. .	<u>195,116</u>
		Payments to or for States .. ..	400,197
		Loan Consolidation and Investment Reserve .. ..	22,155
<b>Grand Total</b> .. .. .	<b>1,641,542</b>	<b>Grand Total</b> .. .. .	<b>1,641,542</b>

(a) In addition, an amount of £23,641,000 was spent from Loan Fund.

## C. COMMONWEALTH AND STATE FINANCE.

Revenue and Expenditure, p. 862.—Preliminary information relating to Commonwealth and State revenue and expenditure during 1961-62 is given below.

COMMONWEALTH AND STATE REVENUE AND EXPENDITURE, 1961-62.  
(£'000.)

Government of—	Consolidated Revenue Fund.			Loan Fund— Net Expenditure on Works and Services.
	Revenue.	Expenditure.	Surplus (+) or Deficit (-)	
New South Wales .. .. .	(a)296,462	(a)299,587	- 3,125	62,198
Victoria .. .. .	196,309	196,298	+ 11	50,460
Queensland .. .. .	117,325	117,215	+ 110	24,831
South Australia .. .. .	89,103	88,596	+ 507	25,587
Western Australia .. .. .	74,926	75,890	- 964	19,581
Tasmania .. .. .	30,318	30,676	- 358	15,006
<i>Six States</i> .. .. .	804,443	808,262	- 3,819	197,663
<i>Commonwealth</i> .. .. .	1,641,542	1,641,542	..	65,947
<b>Grand Total—Unadjusted</b> .. .. .	<b>2,445,985</b>	<b>2,449,804</b>	<b>- 3,819</b>	<b>263,610</b>
<b>Adjusted(b)</b> .. .. .	<b>2,112,464</b>	<b>2,116,283</b>	<b>- 3,819</b>	<b>263,610</b>

(a) Represents the combined transactions of the Consolidated Revenue Fund and the Business Undertakings—Railways, Tramways and Omnibuses and Sydney Harbour Section of the Maritime Services Board—included in the annual Budget Papers. Adjustments have been made to exclude duplications. (b) To avoid duplication in aggregating particulars for the Commonwealth and States, the grand totals have been adjusted to exclude State payments to the Commonwealth in respect of pay-roll tax and Commonwealth payments to the States included in State Consolidated Revenue Funds in respect of interest on State debts, special grants, uniform taxation, special financial assistance, grants to universities, tuberculosis, capital expenditure and National Welfare payments. There are other relatively minor payments for which adjustments have not been made and the adjusted figures are therefore still slightly overstated.

## D. GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH AND STATES.

## § 3. Government Securities on Issue: Commonwealth and States.

Securities on Issue and Annual Interest Payable, p. 867.—The following table shows details of the Government Securities on Issue on account of the Commonwealth and States and the annual interest payable thereon at 30th June, 1962.

GOVERNMENT SECURITIES ON ISSUE AND ANNUAL INTEREST PAYABLE AT  
30th JUNE, 1962: COMMONWEALTH AND STATES.

Particulars.	Currency in which Repayable.							Australian Currency Equivalent.(a)	
	Australian Currency.	Sterling.	United States Dollars.	Canadian Dollars.	Swiss Francs.	Nether- lands Guilders.	German Deutsche Marks.	Total Amount on Issue.	Total Interest Liability.
	£A.'000.	£Stg.'000.	U.S. \$'000.	Can. \$'000.	Sw. fr. '000.	f'000.	D.M.'000.	£A.'000.	£A.'000.
<b>Commonwealth—</b>									
War .. .. .	837,044	13,188	..	..	..	..	..	853,530	25,442
Works and other purposes .. .. .	443,430	62,000	315,617	51,627	209,658	7,150	6,355	706,145	30,103
<b>Total</b> .. .. .	<b>1,280,474</b>	<b>75,188</b>	<b>315,617</b>	<b>51,627</b>	<b>209,658</b>	<b>7,150</b>	<b>6,355</b>	<b>1,559,675</b>	<b>55,545</b>
<b>States</b> .. .. .	<b>2,548,700</b>	<b>266,161</b>	<b>187,701</b>	<b>16,765</b>	<b>50,296</b>	<b>32,850</b>	<b>..</b>	<b>2,981,305</b>	<b>130,663</b>
<b>Grand Total</b> .. .. .	<b>3,829,174</b>	<b>341,349</b>	<b>503,318</b>	<b>68,392</b>	<b>259,954</b>	<b>40,000</b>	<b>6,355</b>	<b>4,540,980</b>	<b>186,208</b>

(a) Converted at rates of exchange ruling at 30th June, 1962.

## § 4. Commonwealth Loan Raisings.

Loans Raised, p. 877.—Particulars of loans raised by the Commonwealth between 1st July, 1961, and 30th June, 1962, are given in the following table.

## COMMONWEALTH LOANS RAISED, 1961-62.(a)

Month of Raising.	Where Raised.	Amount Invited. '000	Amount Subscribed. '000	Rate of Interest. (b)	Year of Maturity.	Purpose.
1961-62—		U.S. \$	U.S. \$	%		
July, 1961 ..	New York ..	25,000	25,000	5½	1981	{ Advances for housing, U.S. \$4,469,000 State purposes, U.S. \$20,531,000
September, 1961	Australia ..	40,000	{ 28,376 9,438 35,685	{ 4½ 5½ 5½	{ 1964 1970 1982	{ Advances for housing, £A.5,000 State purposes, £A.73,494,000
September, 1961	Australia ..	147,914	{ 34,205 26,783 37,616 (c)5,743	{ 4½ 5½ 5½ 4½-5½	{ 1964 1970 1982 1968	{ Conversion
November, 1961	Netherlands	Netherlands Guilders. 40,000	Netherlands Guilders. 40,000	5	1981	{ Advances for housing, £7,150,000 State purposes, £32,850,000
January, 1962 ..	New York ..	U.S. \$ 30,000 £A.	U.S. \$ 30,000 £A.	5½	1982	Conversion
February, 1962 ..	Australia ..	55,000	{ 47,787 17,404 25,495	{ 4½ 4½ 5	{ 1964 1971 1984	{ Advances for housing, £A.27,758,000 State purposes, £A.62,928,000
February, 1962 ..	Australia ..	60,564	{ 35,036 9,447 8,343 (c)1,440	{ 4½ 4½ 5 4½-5½	{ 1964 1971 1984 1969	{ Conversion
May, 1962 ..	Australia ..	40,000	{ 14,824 2,750 21,004	{ 4½ 4½ 5	{ 1965 1971 1984	{ Advances for housing, £A.6,131,000 State purposes, £A.32,447,000
May, 1962 ..	Australia ..	78,315	{ 31,552 21,676 8,994 (c)1,052	{ 4½ 4½ 5 4½-5	{ 1965 1971 1984 1969	{ Conversion
June, 1962 ..	Australia ..	7,000	{ 2,000 5,000	{ 4½ 5	{ 1971 1984	{ Advances for housing
July-June (Special Bonds)	Australia ..	..	27,369	4½-5½	1963-69	{ Advances for housing, £A.7,325,000; War purposes, £A.385,000; State purposes, £A.12,602,000; Redemption, £A.7,057,000

(a) In addition, during 1961-62, \$26,483,000 were raised in New York for Qantas Empire Airways. (b) Australian loans bearing interest at 5 per cent. were issued at par and those at other rates were issued at prices ranging from par to £98 15s. In 1961-62, the New York loans were issued at £97 and £98 5s. The Netherlands loan was issued at par. (c) Special bonds.

## CHAPTER XXIII.—PASTORAL PRODUCTION.

Livestock Numbers, p. 959.—The following table shows, for each State, the numbers of livestock at 31st March, 1962.

LIVESTOCK NUMBERS, 31st MARCH, 1962.(a)  
('000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Horses ..	168	61	217	25	40	9	40	1	561
Dairy Cattle ..	1,272	1,824	1,208	274	236	229	(b)	3	5,046
Beef Cattle ..	3,127	1,332	5,890	385	983	196	1,083	11	13,007
Sheep ..	69,498	27,533	22,125	16,415	18,314	3,531	14	286	157,716
Pigs ..	472	325	433	170	174	76	3	(b)	1,653

(a) Preliminary, subject to revision.

(b) Less than 500.

Production of Meat, pp. 965, 970 and 1005.—The following table shows for each State the production of meat during 1961–62.

PRODUCTION OF MEAT, 1961-62.(a)  
(’000 Tons Carcass Weight.)

Particulars.	N.S.W.	Vic.	Q’land.	S. Aust.	W. Aust.	Tas.	N.T.	A.C.T.	Aust.
Beef and Veal ..	228,411	176 231	279,571	30,256	47,373	19,091	4,750	1,321	787,004
Mutton and Lamb	197,797	226,055	43,036	55,273	42,923	20,191	88	1,316	586,679
Total Meat (incl. Pigmeats) ..	458,038	429,834	352,151	96,753	103,253	44,659	4,955	2,917	1,492,560

(a) Subject to revision.

CHAPTER XXIV.—FARMYARD, DAIRY AND BEE PRODUCTS.

Principal Farmyard and Dairy Products, pp. 993 and 1005.—Particulars of the total production of these products in each State during 1961–62 are shown below.

PRINCIPAL FARMYARD AND DAIRY PRODUCTS, 1961-62.(a)

Particulars.	N.S.W.	Vic.	Q’land.	S. Aust.	W. Aust.	Tas.	A.C.T.	Aust. (b)
Total Whole Milk (’000 gals.)	342,826	642,264	241,268	91,873	57,488	73,769	1,136	1,450,624
Butter(c) ..	40,377	96,499	35,838	7,540	7,539	12,180	2	199,975
Cheese(c) ..	5,953	23,929	8,974	14,533	1,335	648	..	55,372
Pigmeats ..	31,830	27,548	29,544	11,224	12,957	5,377	280	118,877

(a) Subject to revision.

(b) Includes Northern Territory.

(c) Factory and farm production.

CHAPTER XXVII.—MINERAL INDUSTRY.

§ 3. Mineral Production.

Quantity and Value of Production, pp. 1050–1058.—In the table hereunder, particulars are given of the quantity and value of production in Australia of the principal minerals during the year 1961.

MINERAL PRODUCTION: QUANTITIES AND VALUES, AUSTRALIA, 1961.(a)  
METALLIC MINERALS.

Year.	Principal Contents of Metallic Minerals Produced.							Total Value of Output of Metal Mining.
	Copper.	Gold.	Iron.	Lead.	Silver.	Tin.	Zinc.	
	Tons.	Fine oz.	’000 tons.	Tons.	’000 fine oz.	Tons.	Tons.	
1961 .. ..	95,690	1,068,457	3,434	269,656	13,062	2,745	311,171	75,947

(a) Subject to revision.

MINERAL PRODUCTION: QUANTITIES AND VALUES, AUSTRALIA, 1961.(a)  
—continued.

## NON-METALLIC AND FUEL MINERALS.

Year.	Quantities Produced.						Total Value of Output of Non-metal and Fuel Mining. £'000.
	Coal.		Gypsum.	Limestone. (b)	Mica.	Salt.	
	Black.	Brown.					
1961 .. ..	'000 tons. 24,065	'000 tons. 16,279	Tons 608,109	'000 tons. 6,121	lb. 185,920	Tons. 494,898	75,958

(a) Subject to revision.

(b) Excludes limestone used as a construction material.

§ 4. Gold, § 5. Lead, Silver, Zinc, § 6. Copper, § 7. Tin,  
pp. 1062, 1068, 1072 and 1074.

Smelter and refinery production of the principal metals treated in Australia during the year 1961 is shown below.

## SMELTER AND REFINERY PRODUCTION OF PRINCIPAL METALS: AUSTRALIA, 1961.

Year.	Refined Gold.	Refined Silver. (a)	Refined Lead. (a)	Lead Content of Lead Bullion Produced for Export. (a)	Refined Zinc. (a)	Refined Copper. (a)	Refined Tin. (a)
1961 .. ..	'000 fineoz. 1,193	'000 fineoz. 7,099	Tons. 162,264	Tons. 48,090	Tons. 138,694	Tons. 63,723	Tons. 2,546

(a) Source: Bureau of Mineral Resources.

## CHAPTER XXIX.—REPATRIATION.

## § 2. War Pensions, § 3. Service Pensions, pp. 1130–3.

The following table gives a summary of war and service pensions current at 30th June 1962, and of the amounts paid in pensions during the year 1961–62.

## WAR AND SERVICE PENSIONS: SUMMARY, 1961–62.

Particulars.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Abroad.	Total.
<i>War Pensions—</i>								
Pensioners at end of year ..	223,714	192,440	94,775	68,241	57,904	28,398	4,706	670,178
Amount paid during year ..	£ 21,009,991	18,419,806	9,039,080	5,579,118	4,665,499	2,493,889	666,605	61,873,988
<i>Service Pensions—</i>								
Pensioners at end of year ..	18,185	14,017	9,607	6,213	7,115	2,451	..	57,588
Amount paid during year ..	£ 3,156,415	2,121,884	1,625,003	1,096,731	1,343,470	368,139	..	9,711,642





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			Excluding Postage.	Including Postage.		
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			30 0†	38 0†	41 0†	
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