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The
Official Year Book
of
New South Wales.
1920.



H. A. SMITH.

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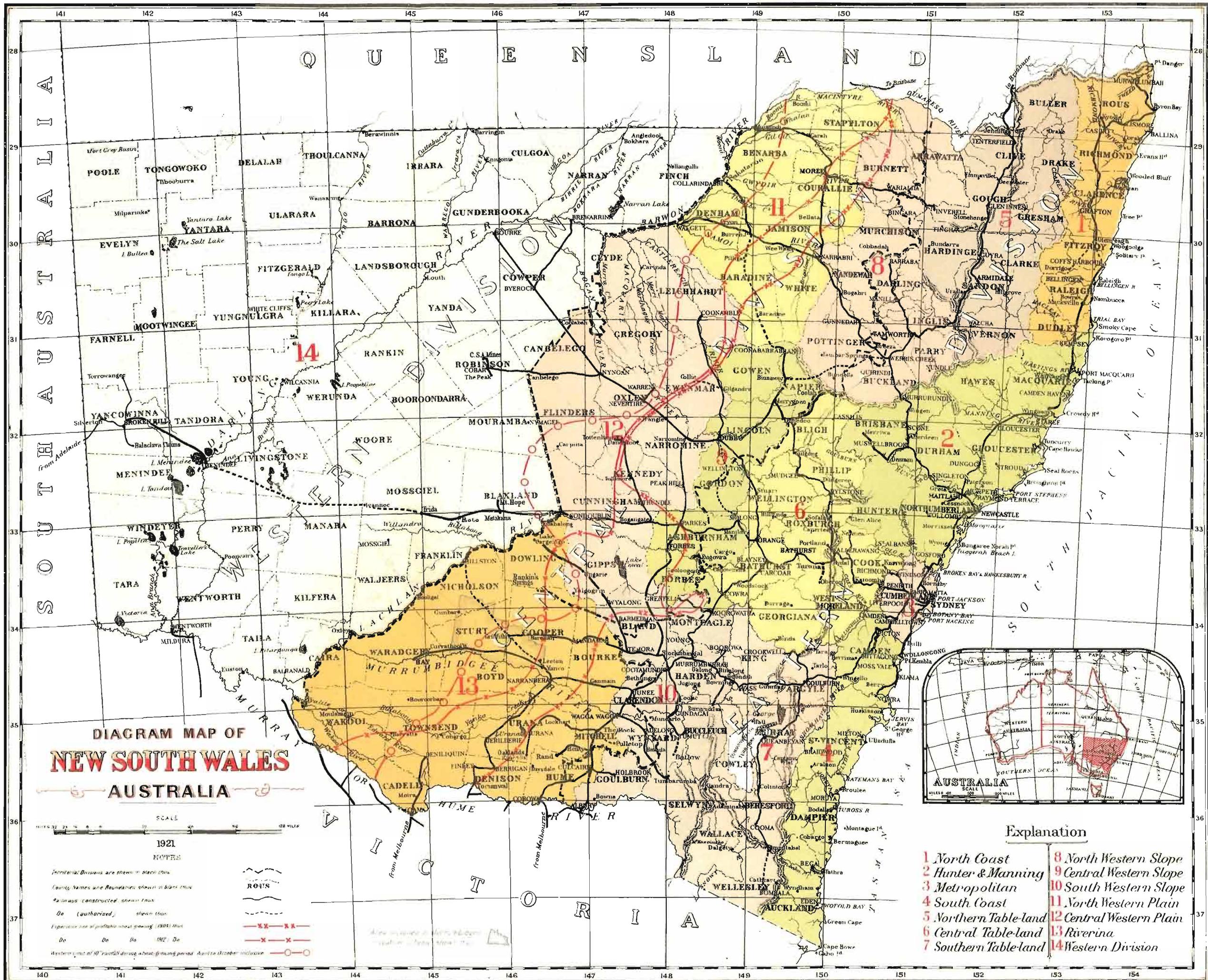


DIAGRAM MAP OF
NEW SOUTH WALES
AUSTRALIA

SCALE
1921
MILES

Territorial Divisions are shown in black lines
County Names and Boundaries shown in black lines
Rivers constructed shown in blue lines
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- Explanation
- 1 North Coast
 - 2 Hunter & Manning
 - 3 Metropolitan
 - 4 South Coast
 - 5 Northern Table-land
 - 6 Central Table-land
 - 7 Southern Table-land
 - 8 North Western Slope
 - 9 Central Western Slope
 - 10 South Western Slope
 - 11 North Western Plain
 - 12 Central Western Plain
 - 13 Riverina
 - 14 Western Division



THE
OFFICIAL YEAR BOOK
OF
NEW SOUTH WALES.
1920.



H. A. SMITH, F.S.S.,

GOVERNMENT STATISTICIAN.

PUBLISHED BY AUTHORITY OF THE GOVERNMENT OF
NEW SOUTH WALES.

W. A. GULLICK, GOVERNMENT PRINTER.

1921.

PREFACE.

THIS is the twenty-eighth issue of the Official Year Book, which up to 1904 was known as the "Wealth and Progress of New South Wales."

In a work of this kind there is always difficulty in making it interesting to the two classes of persons for whose use it is intended, viz., those within the State, and those abroad, but it is believed the difficulty has been met.

The contents have been published already in eighteen parts, which were issued as they became available from the printer, in order to render them of immediate service. The information was brought up to the latest date available at time of publication.

A diagram map of New South Wales is published with the volume to show the railways, county and territorial divisions, and area of the State suitable for profitable cultivation of wheat.

Every care has been taken to keep the work free from errors, but if any are noticed, it would be deemed a favour if their nature were indicated.

I have to express my thanks to the responsible officers of the various State and Commonwealth Departments, and to others who have kindly supplied all desired information, often at considerable trouble.

The "Statistical Register of New South Wales" is published annually from this Bureau; as it contains in full detail the results of the collected and compiled statistics of the State, it will prove of great service if studied in conjunction with this Year Book.

The rates per head of population throughout the volume have been calculated upon estimates of population based on the movement of population between 1901 and 1911, but the Census of 1921 showed that the population was about 47,000 in excess of the estimate, consequently the rates are overstated. As the required data were not available until the whole work was in the hands of the printer, it was not possible to make the necessary corrections.

H. A. SMITH,
Government Statistician.

Bureau of Statistics,
Sydney, 15th September, 1921.

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HISTORICAL SKETCH.

IT is impossible to say who were the first discoverers of Australia, although French, Portuguese, Spanish, and Dutch navigators, in turn, laid claim to being the first to sight the great southern land, traditionally known as "Terra Australis."

The great voyage of James Cook, in 1769-70, was undertaken, primarily, for the purpose of observing the transit of Venus, but he was also expressly commissioned to ascertain "whether the unexplored part of the Southern Hemisphere be only an immense mass of water, or contain another continent." The vessel fitted out for the voyage was a small craft of 320 tons, carrying twenty-two guns, and built originally for the coal service, with a view rather to strength than to speed. Chosen by Cook himself, she was renamed the "Endeavour," in allusion to the great work which her commander was setting out to achieve. Mr. Charles Green was commissioned to conduct the astronomical observations, and Sir Joseph Banks and Dr. Solander were appointed botanists to the expedition. After successfully observing the transit from the island of Tahiti, or Otaheite, as Cook wrote it, the "Endeavour's" head was turned south, and then north-west, beating about the Pacific in search of the eastern coast of the great continent whose western shores had been so long known to the Dutch. Circumnavigating and minutely surveying New Zealand, Cook then stood due west, in order to carry out the instructions given him.

After a voyage of nearly three weeks, Cook, on the 19th April, 1770, sighted the eastern coast of Australia, but the first important point observed was a bare and sandy headland, to which he gave the name of Cape Howe. After passing and naming Mount Dromedary, the Pigeon House, Point Upright, Cape St. George, and Red Point, Botany Bay was discovered on the 28th April, 1770, and as it appeared to offer a suitable anchorage, the "Endeavour" entered the bay and dropped anchor.

While in the bay the ceremony was performed of hoisting the Union Jack, first on the south shore, and then near the north head, formal possession of the territory thus being taken for the British Crown.

After leaving Botany Bay, Cook sailed northward. He saw and named Port Jackson, but forbore to enter the finest natural harbour in Australia. Broken Bay and other inlets, and several headlands, were also seen and named, but the vessel did not come to an anchor until Moreton Bay was reached. Still sailing north and having completed the survey of the east coast, to which he gave the name of New South Wales, Cook sighted and named Cape York, the northernmost point of Australia, and took final possession of his discoveries from latitude 38° south northward to latitude 10½° south, on a spot which he named Possession Island, thence returning to England by way of Torres Straits and the Indian Ocean.

The favourable reports brought to England by the "Endeavour" on her return, and the graphic account of his voyage published by Cook, together with the fact that Great Britain had just lost her North American colonies by their successful rebellion, turned all eyes to Australia, or New Holland, as it was then called. The difficulty of disposing of their criminal population was only one of the causes which determined the Government of the

day to found the colony of New South Wales; for all concerned felt they were engaged in founding a new home in the Southern Hemisphere for the British people, and visions of even greater progress than had yet been attained filled the minds, not only of Viscount Sydney and Governor Phillip, but also of many reflecting persons in the colony itself. The truth of this view is amply demonstrated by the testimony of several contemporary writers.

It was in the early part of 1787 that Viscount Sydney, Secretary of State for the Colonies, determined to plant a colony in New South Wales, and by May of that year the First Fleet had been assembled. It consisted of the 20-gun frigate "Sirius," the armed tender "Supply," three storeships—the "Golden Grove," "Fishburn," and "Borradale"; and six transports—the "Alexander," "Scarborough," "Lady Penrhyn," "Prince of Wales," "Friendship," and "Charlotte." The largest of these vessels measured only 450 tons, and the smallest was no more than 270 tons. On board the six transports were packed, according to the statement made by Collins in his history, no fewer than 564 men and 192 women, all prisoners who had been sentenced to expatriation. There were also carried 168 marines and 10 officers, commissioned and non-commissioned. These, with 5 medical men, a few mechanics, and 40 women—wives of marines—together with 13 children—the offspring of the convicts—made up the total number of persons despatched to found the colony. Captain Phillip, R.N., was placed in command of the expedition, and given a commission as Governor and Captain-General of New South Wales. The fleet sailed in May, 1787, and after calling at Rio Janeiro, arrived in Botany Bay in the beginning of January, 1788.

1788-1806.

Governor Phillip was not long in discovering that Botany Bay was by no means an ideal spot for a settlement. The harbour was shallow, and insufficiently protected from adverse winds; the rich soil and beautiful meadows mentioned by Cook and Banks could not be found, while there was a very scanty supply of fresh water. Phillip, thereupon, with a small party, proceeded in a rowing boat to explore Port Jackson, and so impressed was he with the capabilities of this magnificent harbour, that he immediately determined on removing the settlement thither, choosing for its site the shores of a little inlet which he named Sydney Cove. The ships were therefore brought round as soon as possible, and on the memorable 26th January, 1788, formal possession was taken of Sydney Cove, although the proclamation of the colony and the reading of the Governor's Commission did not take place until the 7th February.

While the fleet was still in Botany Bay, two French vessels, the "Boussole" and the "Astrolabe," put in to refit. La Pérouse, the commander of the expedition, had been sent out on a voyage of discovery by the French Government.

From the very outset the infant colony was beset by grave difficulties. When the work of clearing the woods and providing quarters and hospital accommodation was taken in hand, it was found that there were very few capable mechanics amongst either soldiers or prisoners. Many of the latter were lazy, and a large number were in poor health, while there was much quarrelling among the officers. After the soil had been got ready for tillage, it was discovered that no one had any practical acquaintance with farming. Some of the sheep and cattle died, others strayed away and were lost in the bush. Major Ross, the second in command, declared that, "It will be cheaper to feed the convicts on turtle and venison at the London Tavern than be at the expense of sending them here."

Despite all the worries, Governor Phillip never lost heart, but struggled on bravely. It was his aim to make the new colony, as far as possible, independent of outside supplies; so that, when the land at Farm Cove proved unsuitable for agriculture, he lost no time in seeking elsewhere, and good land was discovered at Parramatta. A branch settlement was formed at Norfolk Island, under Lieutenant King, in February, 1788.

It had been arranged, prior to leaving England, that the colony should never be left for more than a year without replenishing the stores. In accordance with this arrangement, the "Guardian," transport, had been despatched from England with supplies in August, 1789, but was wrecked near the Cape of Good Hope. To add to the distress occasioned in the colony by the non-arrival of this store-ship, a fresh batch of colonists came out in the "Lady Juliana." The "Sirius" was hurriedly despatched to the Cape of Good Hope for supplies, and returned in May, 1789, but the stock of provisions was being depleted, and famine stared the colonists in the face. In February, 1790, there was not four months' supply in the stores, even at half rations. Under the circumstances, the Governor deemed it advisable to divide the settlement, and send some of the inhabitants, with a portion of the supplies, to Norfolk Island, on board the "Sirius" and "Supply." The "Sirius" was, unfortunately, wrecked near the island, and a large quantity of stores lost. The little company was reduced to desperate straits, and had to subsist mainly on the sea-birds which nested on the island. Meanwhile, matters on the mainland were in no better case. Relief arrived, however, in June, 1790, through the advent of three store-ships. Soon afterwards, in 1791, what is known as the "Second Fleet" arrived, and consisted of one store-ship and ten transports containing prisoners. Although there were subsequent periods of scarcity, the community was never again threatened with absolute starvation.

At the close of the year 1792, Phillip resigned office and returned to England, his health having given way under the cares and anxieties of his office. During his term of administration the young colony had made substantial progress. Sydney had more than 1,000 inhabitants, and Norfolk Island about 900. At the Rosehill settlement there were 2,000 people, and the agricultural industry was advancing rapidly. The valley of the Hawkesbury had been explored, and good land was found at various points along its course. Roughly speaking, the total population at the end of 1792 may be given as 5,000.

Until the arrival of a successor to Phillip, Major Grose and Captain Paterson, officers in charge of the military, administered the government of the colony. In 1795, Captain Hunter, who after the loss of the "Sirius" had gone to England, arrived as the second Governor, and with his reappearance affairs took a new turn. He brought out a number of free settlers, mostly agriculturists; and some fine alluvial land having been discovered on the banks of the Hawkesbury, farming was successfully begun, and in a short time more than 6,000 acres were under crops of wheat and maize. The attempts to introduce cattle were for a time unsuccessful; but in 1796 a herd of 60 head was discovered at the "Cow-pastures," near Camden. These were the descendants of some cattle which had strayed from the settlement several years before; and though their quality was found to have deteriorated, they proved a very welcome addition to the live stock of the settlement.

In 1800, when Captain Hunter left the colony, the population was over 6,000; attempts had been made to penetrate into the interior, although without success; the Hunter River and its coal-mines had been discovered, and the mines were being worked by a detachment of prisoners; the city of

Newcastle had been founded; and the New South Wales Corps, a military body enlisted for service in the colony (the first detachments of which had arrived in 1790), formed an efficient garrison and guard over the more refractory prisoners. During Governor Hunter's term of office, Bass and Flinders minutely examined the coast to the south of Sydney, in a small boat only 9 feet over all, and the former discovered the strait which bears his name, thus proving Tasmania to be an island, and not the southern extremity of the continent, as previously supposed.

The summer of 1798-9 was marked by one of the earliest recorded droughts in the history of the colony; but this was immediately succeeded in the Hawkesbury district by a disastrous flood, which swept away the homes of many of the settlers, and for a time paralysed all industry in that division. The live stock in the colony in 1792 numbered only 182, but in 1800 there were 203 horses, 1,044 cattle, 6,124 sheep, and 2,182 goats. It is interesting to note that the first plough put into Australian soil was used on Macarthur's farm at Parramatta in 1795. As illustrating the value of stock in those early days, it may be stated that it was impossible to procure a horse for less than £100, while cows were sold at from £80 upwards. One of the most noteworthy events in Hunter's period of administration was the discovery of coal, in 1797. The existence of the mineral was first reported by some shipwrecked refugees who had made their way overland from Point Hicks to Sydney. At the locality where they discovered it, in the Illawarra district, the seam was so difficult of access that its exploitation was at the time regarded as impossible. In the same year, however, Lieutenant Shortland, who had gone northwards in pursuit of some runaway convicts, discovered the Hunter, or Coal River, as it was originally named, and noted the deposits of coal near its mouth. Before very long, steps were taken to utilise the discovery, and the town of Newcastle was founded. The first recorded shipment of coal from the colony was in 1801, being paid for at the rate of £2 5s. per chaldron.

As showing the disabilities in the way of transport suffered by the early colonists, it may be noted that the successful accomplishment of a voyage from England to Australia in 1799, by the "Albion," in the space of three months fifteen days, was looked upon as little short of marvellous. The vessel was 86 feet long, and had a tonnage of 362.

The next Governor was Philip Gidley King, who arrived in Sydney with authority to relieve Governor Hunter, in April, 1800, but did not assume the administration till some months later.

From the talent and energy which King had displayed in the formation of the branch settlement at Norfolk Island, it was thought that he would make a successful administrator, but the rum-trade interests proved too strong for him, and he was glad to resign in 1806. To explain these it will be necessary to describe the constitution of the New South Wales Corps. This body had been specially raised for service in the colony, the officers of the King's regiments not unnaturally objecting to be sent to such a far distant settlement, where they knew they would find no intellectual occupation, and that their sole work would consist in acting as a prison guard, or, at most, in making a few raids, in reprisal for the misdeeds of the ill-used, and often sorely provoked, aborigines. As a military guard of some sort was necessary, this corps was raised, and a few enterprising spirits—many of whom had never served before—were induced to accept commissions, with the view of obtaining grants of land and making their fortunes in the colony. Unfortunately, the readiest means to this end was found in the import trade, and as rum was in great request, the officers of the New South Wales Corps became importers of that spirit in large

quantities—and even set up private stills in defiance of a Government order. Governor King was specially commissioned to put a stop to the traffic, and proceeded to act with great promptitude, and his vigorous proceedings in sending away thousands of gallons of spirits and wine created a storm of indignation among the importers, greatly embittering the officers of the New South Wales Corps against the Government.

Shortly after his arrival, King drew the attention of the Home Authorities to the lack of a circulating medium in the colony, and 4 tons of copper coin of the value of 1d. each, and total value of £550, were sent out in 1800. Each coin was issued at the rate of 2d., and it was made a penal offence to export any quantity in excess of £5 worth of this coinage. This, however, was not the first shipment of money to the colony, as £1,000 worth of dollars had been sent out in 1792. The coinage at this period was of a rather mixed description, and in November, 1800, Governor King found it necessary to issue a general order giving the denomination and rate of legal tender of the coins circulating in the colony. These were as follow:—

	£	s.	d.		£	s.	d.
A Guinea	1	2	0	Rupee	0	2	6
Half Johanna	2	0	0	Dutch Guilder	0	2	0
Gold Mohur... ..	1	17	6	English Shilling	0	1	8
Spanish Dollar	0	5	0	Copper Coin of 1 oz.	0	0	2
Johanna	4	0	0	„ ½ „	0	0	1
Ducat	0	9	6	„ ¼ „	0	0	½
Pagoda	0	8	0				

It is interesting to note that in 1801 two French vigneron arrived in Sydney for the purpose of superintending the wine-growing industry. Progress in this direction was, however, for a long time comparatively slow.

As showing the consumption of spirits in the early days of the colony's history, it appears, from a published return, that during the period from 3rd November, 1799, to 31st May, 1800, no less than 36,590 gallons of spirits and 22,224 gallons of wine were imported, while the total population was only about 5,500.

During King's administration the first serious rising among the convict population took place. In 1804, a party of convicts, some 300 strong, was employed in road-making at a place called Castle Hill, between Parramatta and Windsor. Seizing a favourable opportunity they overpowered and disarmed their guards, and then marched in the direction of the Hawkesbury, where they counted on gaining support from the disaffected settlers. Major Johnston, the military commander, marched against them with a mere handful of soldiers, and after a struggle of about fifteen minutes' duration the insurgents laid down their arms. The casualties amounted to 12 killed and 6 wounded, while 26 were taken prisoners, 8 of the latter being subsequently executed.

Generally speaking, the colony may be considered to have made substantial progress during King's term of office. The settlement had emerged from its state of dependence, so far as food was concerned, on the mother country, while the beginnings of commercial enterprise in the way of wool and whale oils were noticeable. By the year 1805 the important industry of wool-growing was established firmly, and in this connection the name of Captain Macarthur stands out prominently. Although the first Spanish merinos were brought here in 1797 by Waterhouse and Kent, it is to Macarthur that the credit is due of seeing the great possibilities of the industry, and of having the courage and determination to follow it up. It was during King's administration that the birth of the Australasian Press took place in the form of the *Sydney Gazette*, first issued in 1803.

The Hawkesbury district was again devastated by floods in 1806, when 36,000 acres were submerged, and about 23,000 bushels of wheat, 60,000 of maize, and 5,000 of barley were destroyed. Seven persons lost their lives, and it was stated that the river rose 70 feet over its usual level.

1806-1821.

Governor King was succeeded in the administration by Captain Bligh, in 1806. The new Governor had already given proofs of wonderful courage and resourcefulness by his celebrated voyage after the mutiny of the "Bounty," and had distinguished himself greatly in the naval engagements at Camperdown and Copenhagen, and in connection with the mutiny at the Nore. He had been specially commissioned by the Home Government to abolish the rum traffic, which it appears had assumed such proportions that spirits were being freely used as payment for labour or goods. The Governor proceeded to deal with the business in his customary arbitrary fashion, and consequently incurred the odium of the officers of the New South Wales Corps. Matters reached a climax with the arrest of Captain Macarthur. A detailed account of the various circumstances which led up to Macarthur's apprehension cannot be given here, but it will suffice to say that the soldiers, aided by some of the civilians, did their utmost to render nugatory all Bligh's good intentions with regard to the liquor traffic. Macarthur's military friends procured his release, and this was followed by one of the most sensational episodes in the history of the colony, namely, the arrest and deposition of Governor Bligh by the soldiers under Major Johnston. The Governor was arrested in January, 1808, and was kept in prison for twelve months, when he was allowed to resume command of the "Porpoise," on promising to proceed to England. He, however, put in at Tasmania, where he was nearly captured by the military, and remained off the coast of the colony till May, 1810. For his share in these dramatic proceedings Major Johnston was tried in England in 1811, and cashiered from the service, while Macarthur was prohibited from returning to the colony for eight years.

Governor Macquarie took over the administration on the 1st January, 1810. Prior to leaving England he had been instructed to reinstate Bligh for a period of twenty-four hours, and to rescind the orders of the interim military despotism. The first of these tasks could not be carried out, and the Governor exercised his discretion with regard to the second.

Macquarie at once entered on a vigorous public works policy. New roads and bridges were built and extensive repairs effected to those already existing, while numerous public buildings were erected. The flocks and herds of the colony at this period comprised 65,000 sheep, 21,000 cattle, and nearly 2,000 horses, and so rapidly were they increasing that an outlet was becoming imperatively necessary. Attention was therefore directed towards the possibility of finding a way over the Blue Mountains into the country beyond, and this was successfully accomplished in 1813 by Messrs. Wentworth, Lawson, and Blaxland. Prior to this several attempts had been made by other explorers such as Bass, Tench, Wilson, Caley, and Barrallier. The Governor lost no time in sending a surveyor to report on the practicability of making a road over the ranges, and the report being favourable, the work of construction was pushed forward so vigorously that, by 1815, a stream of settlement was passing westwards to the rich Bathurst Plains.

The explorations of Oxley and Hume, between 1817 and 1819, added considerably to the knowledge of the country, and the known area of the colony was increased some twenty times by their efforts.

For a long time the Lachlan and the Macquarie Rivers mystified the early explorers. Oxley followed up the Lachlan in 1817 for more than 400 miles

until he found further progress blocked by a swamp. He then struck off across country till he reached the Macquarie, passing through the rich Wellington valley on his way. Next year he went down the Macquarie until he again found his progress stopped by this supposed inland sea. From this point he struck away towards the coast, crossing the fertile Liverpool Plains and discovering the Hastings and Manning Rivers before his return to Sydney. Meanwhile, Hamilton Hume had forced a passage through the rugged country to the south-west, and discovered the valuable agricultural and pastoral lands round Lake Bathurst and Lake George, and by the year 1819 had pushed as far down as the Murrumbidgee.

Macquarie's administration has been the subject of varied criticism. Under his public works policy he erected 250 public buildings, and built numerous roads and bridges, thus affording labour for convict and settler, and developing the resources of the colony. The name of George-street was applied to Sydney's principal thoroughfare by a General Order of August, 1810, while many improvements were made in buildings and means of communication throughout the metropolitan area. By some people, however, he has been accused of simply lavishing the Imperial funds for his own self-glorification. His treatment of the "emancipists," as those convicts were called who had served their sentences, also roused a storm of hostile criticism from the "pure merinos," as the free settlers were called. Macquarie held that when a convict had served his sentence he should be regarded as a free settler, and admitted to the social amenities befitting his station. In fact, he was too extreme in this regard, and looked on the free settler almost as an interloper. He quarrelled with Mr. Bent, the first judge of the Supreme Court, because he would not hear the pleading of an emancipated barrister, and, on the Governor's advice, Bent was recalled by Earl Bathurst. The Home Government sent out Mr. Bigge with a Commission to inquire into the state of the colony, and this officer reported against Macquarie's extravagant expenditure and his treatment of the emancipists, but gave him credit in other directions. Whatever view may be taken on some matters, there is no doubt that, under Macquarie's rule, the colony made substantial progress, and his departure was viewed with regret by the great bulk of the inhabitants.

1821-1838.

The new Governor, Sir Thomas Brisbane, entered on his duties on the 1st December, 1821.

The recent important discoveries of good lands had been the means of attracting a considerable number of free settlers, many of whom possessed a fair amount of capital, and their advent was regarded with great satisfaction by the Government. This tide of immigration lasted throughout Governor Brisbane's term of administration.

An event of great importance in Colonial history was the creation in 1824 of a Legislative Council, consisting of "five principal officers," this body with its restricted powers forming the nucleus of the present more extensive system of self-government. Trial by jury was also instituted in 1824, the first Civil jury being empanelled on the 1st November in that year. The censorship of the Press was removed, and this liberty resulted in the issue of two newspapers, of which the chief was the *Australian*, edited by W. C. Wentworth. The old *Sydney Gazette*, which was first published in 1803, was formerly the only newspaper in the colony, and was under complete Government control.

During Governor Brisbane's period of office the exploration of the interior was pushed forward vigorously. In 1823, Captains Stirling and Currie, in the course of an expedition to the southward, discovered the fertile

district which they called the Brisbane Downs, but which is now known as the Monaro Plains. Next year Hovell and Hume penetrated from Lake George to the shores of Bass Straits, and discovered the Hume, Ovens, and Goulburn Rivers, reaching the north-eastern arm of Port Phillip on the 16th December, 1824. About the same time Allan Cunningham, a botanical collector for the Royal Gardens at Kew, discovered the Cudgegong River, about 50 miles northward of Bathurst, and the rich pastoral land in its basin was soon occupied by thriving settlements. Cunningham also discovered the Pandora Pass, leading from the Upper Hunter into the fertile district of Liverpool Plains. In 1823 Oxley discovered the Brisbane River, which flows into Moreton Bay, and is one of the largest rivers on the east coast of Australia. A branch penal settlement was formed on the banks of the river in the following year.

Governor Brisbane was succeeded in the administration by Governor Darling, who assumed office on the 19th December, 1825.

About this time the Australian Agricultural Company, which had been incorporated with a capital of a million sterling, commenced operations in the Hunter River district, where they had been granted a million acres of land. The extensive purchases of sheep and cattle by the agents of the Company caused a boom in prices, which led to the ruin of those who had overstocked in the ensuing dry years.

Darling tried to rule the colony with a rod of iron, and it was not long before he found himself involved in serious difficulties. Some of his harsher measures he was foolish enough to attempt to justify in the *Sydney Gazette*, while he was most bitterly assailed in the columns of the rival papers. He then tried to interfere with the liberty of the Press by proposing legislation aimed at regulating the contents of the papers, but in this he was unsuccessful, and the struggle had not ended when he left in 1831.

Sturt's famous journey to the south-west interior was commenced in 1829. Reaching the Murrumbidgee, he followed its course until the usual swamps were met with, when the expedition took to the boats, and passing the Lachlan mouth entered the Murray, which Sturt followed down to the sea. The return journey against the swift current was accomplished only after great privation, and when the intrepid leader reached Sydney he was blind, and did not recover his sight for some considerable time. In 1827, Allan Cunningham, in the course of an exploration to the northward, crossed the Gwydir and Dumaresq, and discovered the splendid pastoral country in the Moreton Bay district known as the Darling Downs.

Governor Bourke arrived in the colony on the 2nd December, 1831, and during the six years in which he administered the government he gained the respect and affection of all classes of the community. One of his first acts was to abolish the Government patronage of the *Sydney Gazette*, and so terminate the unseemly disputes which had harassed the administration of his predecessor. He lost no time in procuring more humane conditions for the convicts, and ensured greater fairness in their assignment to the settlers. Religious equality was secured in the colony by the General Church Act of 1836, which continued in force till the year 1862. Immigrants began to arrive in large numbers, under a policy of assisted immigration which was then initiated. The first vote in aid of immigration was made by the Legislative Council, at Bourke's suggestion, and the British Government doubled the amount given by the colony. Under that system the first batches of immigrants to arrive were fifty young women from an orphan school in Cork, and fifty-nine mechanics from Scotland, whom the Rev. Dr. Lang introduced for the purpose of building the Australian

College. The first steps also were taken in the path of constitutional reform, but the movement did not reach its full fruition until after the arrival of Gipps.

The explorations of Sir Thomas Mitchell, undertaken during Governor Bourke's administration, added greatly to the knowledge of the interior. In 1835, Mitchell proceeded westward from Boree, near Bathurst, along the Bogan to the Darling, which he followed for 300 miles. In the following year he traced the remaining 130 miles of the Darling's course, visited the head waters of the Murray and the Murrumbidgee, and then struck off southward through the beautiful district which he named Australia Felix, and which now forms part of the State of Victoria.

1838-1851.

Sir George Gipps, the ninth Governor of New South Wales, assumed office on the 24th February, 1838.

With the opening up of the splendid country round Port Phillip, a strong tide of immigration had set in towards the colony. A large number of those who came out were possessed of capital, and in the rush for land prices rose considerably. After a time they passed the margin of safety, and then the inevitable crash came, involving the ruin of the Bank of Australia and various other financial institutions. This happened in 1843; and in 1844 the Governor, in order to replenish the depleted coffers of the State, propounded a scheme under which the squatters were to be forced to purchase a certain quantity of land every year at the minimum price—a course of action which resulted in a storm of discontent.

In 1842 a Constitution Act was passed providing for a Legislative Council of thirty-six members, six of whom were Government officers, six Crown nominees, and the rest elected by the people—eighteen in New South Wales, and six in Port Phillip.

An event of great moment under the Gipps administration was the abolition of transportation to New South Wales, which was effected under an Order-in-Council passed in 1840, Tasmania and Norfolk Island being made the only convict settlements in Australia.

Sir George Gipps left the colony on the 11th July, 1846, and was succeeded on the 2nd August by Sir Charles Fitzroy, who administered the affairs of New South Wales until the 20th January, 1855.

For some years the inhabitants in the Port Phillip district had been agitating for separation from the parent settlement. The Home Authorities therefore appointed a Commission to devise a scheme for conferring self-government on the Australian colonies, and this body recommended that Port Phillip should be separated from the older colony, and be called Victoria. The necessary legislation to give effect to this proposal was passed by the New South Wales Government in the year 1851.

1851-1859.

The discovery of gold in 1851, by Edward Hargraves, exercised a most momentous effect on the destinies of the colony, and, in fact, "precipitated Australia into nationhood." For some years prior to 1851 there were grounds for believing that deposits of precious metal would eventually be found. Strzelecki discovered traces of gold near Hartley as early as 1839, in the time of Governor Gipps; but the latter, fearful of the effect that such news might have on the convicts, persuaded him to refrain from publicly mentioning it. In 1841 the Rev. W. B. Clarke found grains of alluvial gold near Bathurst; while three years later Sir Roderick Murchison, the eminent English scientist, stated his belief that the Dividing Range would be found

as rich in gold as the Urals of Europe. News of the Californian discoveries reached New South Wales in 1849, and amongst those who joined in the rush to that country from Australia was Edward Hargraves. While at the diggings in California, he was struck by the similarity between the country round him and that of a particular locality in New South Wales, and so obsessed did his mind become with this idea that he resolved to return home and prospect at the spot. In February, 1851, he proceeded to the junction of the Lewis Ponds and Summer Hill Creeks, where he at once struck alluvial gold. Hargraves' discovery was soon followed by finds in various other parts of the Colony, and "rushes" set in to the different fields. The effect of the gold discoveries on the economic condition of the colony was at first disastrous. Professional men, tradesmen, agriculturists, and labourers of all classes left their usual avocations and flocked to the diggings. Ship after ship arrived in Sydney harbour laden with eager gold-seekers, and in many cases even the crews deserted and joined in the race for wealth. Prices rose prodigiously, while production was almost at a standstill. The crowds of lawless characters who gathered at the various diggings caused endless trouble as regards police arrangements, while the unsuccessful and penniless prospectors who clustered in the metropolis were also a source of much anxiety to the authorities. Later on, when the gold fever had abated somewhat, many of those who had failed to reap a sudden fortune found that wealth could be surely, if more slowly, acquired by following their ordinary employments, and it was in this spirit that the foundations of sound progress were laid.

Nothing since the introduction of wool-growing has tended so much to develop its resources, and to make so widely known the great advantages which Australia offers to the overcrowded populations of the Old World, as the discovery of gold in 1851. Since that era the country's progress has been by leaps and bounds, and Australia, which was before regarded merely as a far-off dependency of Great Britain, now takes a place amongst the nations of the world, and is in a fair way of realising the prophetic visions of future greatness which inspired its founders.

Sir Charles Fitzroy was succeeded in the Governorship by Sir William Denison on the 20th January, 1855. Towards the close of this year the Royal assent to the new Constitution was received, and the first Parliament under the new order met on the 22nd May, 1856. This Act, which was the outcome of a considerable agitation conducted during the previous decade, provided a permanent settlement of the ever-recurrent disputes between the Governor and his Council by establishing a complete system of representative and responsible government. And this system, save for the modifications consequent on the federation of the colonies, exists practically unchanged at the present day.

The following year was one of the most disastrous in the history of the Colony. Torrential rains had been followed in many districts by devastating floods, occasioning great loss of life and damage to property, the Hunter and Hawkesbury districts especially suffering. In addition, the "Dunbar" was wrecked at the Gap, near Sydney Heads, and out of 120 persons on board—many of them colonists returning from Europe—only one man was saved. Shortly after this, twenty-one lives were lost in the wreck of the "Catherine Adamson," also in the immediate vicinity of the Heads. To guard against a repetition of similar calamities, the coastal lighting was improved, and the lighthouse erected at South Head is amongst the finest in the world.

The Moreton Bay district was separated from New South Wales in 1859, and was erected into a distinct colony under the name of Queensland.

1859-1872.

Sir William Denison left New South Wales on the 22nd January, 1861, and was succeeded by Sir John Young, who arrived on the 22nd March.

At the very outset of his administration the new Governor was called upon to deal with a constitutional crisis. Mr. Robertson had introduced his Land Bills for the second time, embodying the principle of free selection, which was so distasteful to the squatting interests in the Upper House. Accepted by the Lower House, the measures were rejected by the Legislative Council, and the Governor thereupon granted a dissolution of Parliament, and a general election was held. At this election the policy of the Government was emphatically endorsed and, the Council still proving obdurate, sufficient new members were created to swamp the opposition and carry through the proposed legislation. When the new Councillors appeared in the Chamber the old members left in a body, and as the newcomers could not be sworn in, the Council ceased to exist. A fresh body of Councillors was therefore appointed, and the Crown Lands Alienation Bill and Crown Lands Occupation Bill became law in 1861.

Sir John Young's period of administration terminated on the 24th December, 1867, and the new Governor, the Earl of Belmore, assumed office on the 8th January, 1868.

As the year 1870 was the anniversary of the discovery of Australia by Captain Cook, it was resolved to mark the occasion by holding an exhibition illustrative of colonial progress. Victoria, Queensland, South Australia, and Tasmania contributed exhibits, and the exhibition, which was held in an elaborate building in Prince Alfred Park, Sydney, was a pronounced success.

1872-1893.

The Earl of Belmore was succeeded in the administration by Sir Hercules Robinson, who assumed office on the 3rd June, 1872.

In 1873 the colony lost the services of one of its most distinguished politicians, in the person of Mr. W. C. Wentworth, whose death took place on the 7th May, both Houses of Parliament adjourning as a mark of respect to the deceased statesman.

It was about this time that what has been termed a "vigorous public works policy" was initiated, and for some fifteen years the Government continued to expend large sums of money in the construction of works and services which, in many instances, were far in advance of requirements.

In 1874 an important constitutional enactment, The Triennial Parliaments Act, was placed upon the statute-book. By this measure the duration of Parliament was reduced from five to three years.

Sir Hercules Robinson remained in office till the 19th March, 1879, the new Governor, Lord Loftus, taking over the administration on the 4th August.

During the Loftus Administration some most important measures were passed into law. The Public Instruction Act remodelled the education system. Under the previous Act of 1866 the schools subsidised by the Government had been placed under the control of a Council of Education, and aid was granted to denominational schools. The Act of 1880 dissolved the Council, and placed public education under the control of a Minister of the Crown. Provision was made for compulsory education, and for the training of teachers; State aid to denominational schools was abolished, and the Act decreed that all State education be non-sectarian.

The first revision of the electoral districts was made under the Electoral Act of 1880. The number of electorates was increased to 72 with 108 members. Provision was also made for additional representation of any electorate in accordance with increase of population.

A very successful International Exhibition was opened in the early part of the Loftus administration, and had the effect of attracting considerable outside attention to the varied products of the colony. The Garden Palace, which housed the exhibits, was unfortunately destroyed by fire in the year 1882, and many valuable documents were destroyed.

The rich silver lodes in the Broken Hill district were discovered in 1883, and the Broken Hill Proprietary commenced operations two years later. For many years the field has ranked amongst the foremost silver and lead producing areas of the world.

An event which afforded striking testimony of the loyal attachment of the colonies to the homeland was the despatch in 1885 of a contingent of troops to assist the British arms in the Soudan. The detachment left Sydney in the "Iberia" and "Australasian," on the 3rd March, amidst intense enthusiasm. Although the number of men sent was comparatively small, and took little part in actual hostilities, the incident undoubtedly was the means of arousing a new estimate of the value of the Colonial Empire.

Since the riots of 1861, which had resulted from the attempts of the gold-miners to evict the Chinese from Lambing Flat, public attention had been directed to the large influx of Chinese, and it was felt that the time had arrived when something should be done to stop indiscriminate immigration of this character to the colony. This was, for the time being, effected by the Chinese Restriction Act of Sir Henry Parkes, which received the Royal assent on the 6th December, 1881. Under the provisions of the Act shipmasters were forbidden to carry more than a limited number of Chinese passengers to the ports of the State, while each of these immigrants had to pay a tax of £10 before being allowed to land. Heavy penalties were provided for any infraction of the law. Later on this law was supplemented by other legislation of a still more drastic character.

Lord Loftus' term of office expired on the 9th November, 1885, and his successor, Lord Carrington, took over the administration on the 12th December following.

Despite the Chinese Restriction Act of 1881, large numbers of these aliens continued to arrive in the colony, the number who came in during 1887 being considerably over 4,000. Public indignation was so aroused by fears of a similar invasion during succeeding years that the Premier, in 1888, actually took the illegal step of forbidding the captains of two vessels to land contingents of Chinese immigrants. The owners of the vessels, however, took the matter into court, and Sir Henry Parkes was forced to give way; but on the 11th July, 1888, a further Chinese Restriction Act was passed which prohibited the carrying of more than one Chinese immigrant to every 300 tons of the vessel's burthen, and imposed a poll tax of £100. In consequence of this repressive legislation Chinese immigration fell away considerably, only seven entering the colony in 1889.

Prior to 1887 coal-mining in New South Wales had been singularly free from disasters of any magnitude, such as occasionally occur in other parts of the world, but early in that year the Colony was stunned by the news of a dreadful calamity at the Bulli Colliery, in the Illawarra district, when eighty-three miners lost their lives through an explosion of gas in the workings of the mine. Relief Committees were immediately formed, and in a short space of time large sums of money were collected in aid of the widows and orphans of the unfortunate victims. As the result of an inquiry instituted by Parliament into the causes of the accident, steps were taken with a view to minimising the possibility of its recurrence.

The period from 1885 to 1895 was marked by considerable disturbance in economic conditions. The vigorous public works policy previously alluded

to, ceased at about the beginning of the epoch, and, in consequence, a large number of unemployed were thrown on the labour market, and wages in most trades underwent a serious decline. In addition, the numerous strikes which characterised the period had an unhappy effect on trade and wages. Much distress was caused in the southern district in 1886-7 by a strike which involved the cessation of labour at several of the southern collieries. This was followed in 1888 by a strike of 6,000 coal-miners in the northern district. In 1890 a strike at Broken Hill led to the closing down of the silver-mines. Following on the pronouncement of the Intercolonial Labour Conference, over 40,000 men ceased work, and being joined by the draymen in the metropolis, for a time paralysed the wool trade, while the shearers' strike in the same year involved some 20,000 workers. In 1892 the Broken Hill silver-mines were laid idle for four months through a strike of the local miners. In addition to these disastrous events, the closing years of Lord Carrington's administration were marked by devastating bush fires in portions of the colony, followed by destructive floods, the northern coastal districts especially suffering in 1890 from inundations.

Lord Carrington's term of office lasted till the 1st November, 1890, and on the 15th January, 1891, he was succeeded by the Earl of Jersey.

Early in March, 1891, a Federal Convention, consisting of delegates appointed by the various Australasian Parliaments, met in Sydney and drew up a draft Constitution Bill. Although this measure at the time did not arouse popular enthusiasm in the States, it nevertheless formed the basis upon which the present Constitution was constructed.

An outcome of the industrial disturbances in the years immediately preceding 1891 was the formation of a definite "Labour Party" in colonial politics, and from this time forward the influence of labour has had a marked effect on the trend of legislation. Successful efforts to enter Parliament had, prior to 1891, been made by professed labour candidates, but it was in this year that the first concerted action was taken by duly accredited representatives of an organised political labour party. At the general elections in June the nominees of the party entered the political arena, pledged to the support of a platform of sixteen clauses, and secured eighteen out of fifty-two seats in the metropolitan division, also polling heavily in several others. When the time came to count heads in the ensuing Parliament of one hundred and twenty-five members it was found that there were thirty-five labour members, while over a dozen others were prepared to subscribe to their platform. Since 1891 the party has experienced many vicissitudes, while its platform has, from time to time, been remodelled, but it has been instrumental in securing the passage of a considerable amount of industrial legislation.

1893-1901.

The Earl of Jersey's governorship terminated on the 1st March, 1893, and his successor, Sir Robert Duff, assumed office on the 29th May following. It was at about this period that the series of financial disasters occurred which are generally alluded to as the Banking Crisis of 1893. The approach of this crisis had been heralded by several signs. As early as 1891 several land companies and building societies, whose business had been conducted on an unsound basis, failed to meet their obligations. In 1892, in consequence of a groundless rumour, there was a temporary run on the Savings Bank of New South Wales. In March, 1892, a fresh impetus was given to the feelings of distrust and alarm by the failure of the Mercantile Bank of Australia at Melbourne. During the course of the following month the Bank of South Australia and the New Oriental Bank failed to meet the demands made upon them. Feelings of uneasiness increased, and all efforts to stem the gathering tide of disaster proved unavailing.

On the 29th January, 1893, the Federal Bank of Australia suspended payment, followed by the Commercial Bank of Australia on the 5th April, while by the middle of May no less than thirteen out of the twenty-five trading banks were forced to close their doors. The securities of a large number of these institutions consisted of real estate, and could not, therefore, be converted into cash at short notice, while several of them possessed large holdings of Government stock and debentures which were readily saleable only in London. The English banks hastened to the rescue, and a shipment of £900,000 in gold was despatched to the colonies from London. Valuable aid was also rendered by the Dibbs Government in New South Wales proclaiming bank-notes to be a legal tender and guaranteeing their payment for a period of about seven months, after which State assistance was no longer required. Although public confidence received a rude shock by these untoward experiences, there can be no doubt that the crisis of 1893 was in some measure a blessing in disguise, for it led to a more rigid scrutiny of their securities by both the banks and the public, and it had the effect of putting an end to the bogus institutions which deluded the public by paying interest out of capital, and by various other nefarious devices.

Fresh labour troubles occurred in 1893, culminating about the middle of the year in a general strike of the seamen engaged on the intercolonial steamers. Trade was for a time paralysed, but the employers were assisted by numerous bands of volunteer workers, and thus in the end defeated the strikers. The year 1894 saw a recrudescence of industrial disturbances, and a strike of shearers in New South Wales and Queensland for a time disorganised the wool trade. Efforts were made to prevent a recurrence of these unfortunate disputes by the formation of a Board of Conciliation and Arbitration, but the scheme was unsuccessful, and it was not until eight years later that practical legislation was passed to deal with the evil in the shape of the Industrial Arbitration Act of 1901.

In July, 1894, the Ministry of Sir George Dibbs gave place to an administration presided over by Mr. G. H. Reid. This Government lost no time in introducing new methods of taxation in the form of a Customs Duties Bill and a Land and Income Tax Bill. The Upper House, however, rejected these measures, and the Premier thereupon appealed to the country. The general elections in July confirmed his policy, and in the subsequent Parliament the Bills were again introduced and a second time rejected by the Council. Recourse was, therefore, had to a conference between the two Houses to settle some of the matters in dispute, and the measures shortly afterwards became law. The Government was also successful in passing a Crown Lands Act, introducing the principle of homestead and settlement leases, while a great boon was conferred on the employees in factories and shops by the Factories and Shops Act of 1896. Amongst other important legislation passed during this period was the Public Service Act of 1895, which removed the appointment and promotion of public servants from the control of the political heads and placed them in the hands of three independent Commissioners, and the Federal Enabling Act of 1896, providing for the representation of New South Wales at the Federal Convention.

Sir Robert Duff died in office on the 15th March, 1895, and on the 21st November Viscount Hampden assumed the administration, which he held until the 6th March, 1899. His successor, Earl Beauchamp, took over the duties on the 18th May, 1899.

The colony lost one of its foremost statesmen in 1896 by the death of Sir Henry Parkes, who had been intimately connected with the destinies of New South Wales from the initiation of Responsible Government, and

had been instrumental in placing some of its best legislation on the statute-book. The deceased statesman had also been one of the chief advocates of Australian Federation.

In its completed form the Commonwealth Constitution Bill of 1898, although essentially grounded on the Bill of 1891, nevertheless contained some very important alterations and additions, and while it was accepted in Victoria, Tasmania, and South Australia, the result of a referendum on the 3rd June, 1898, showed that a sufficient majority had not been obtained to ensure its acceptance in the parent State. The election in 1899, at which the party led by Mr. G. H. Reid was returned to power, had been contested mainly on the Federal issue, but it was recognised that some drastic changes would have to be made in the Federal Constitution before it would be welcomed in New South Wales. The Government thereupon decided to send Mr. Reid to a conference with representatives of the other States, and commissioned him to move a series of resolutions expressing its wishes with regard to the Bill. This Conference met in Melbourne in January, 1899, and after a considerable amount of discussion, both with the Legislature of New South Wales and the representatives of the other States, the Bill was sufficiently amended to please the majority of those interested in its fate, and at a referendum in June, 1899, it was accepted in New South Wales, and shortly afterwards in all the other States, excepting Western Australia. A referendum was not taken in the last-mentioned State until the 31st July, 1900; but the Bill was passed there by the substantial majority of 25,109 votes.

In response to a call for troops for service in South Africa, three contingents were despatched by the Government, another corps was provided for almost entirely by voluntary subscriptions of citizens, while a body of mounted troops known as the Imperial Bushmen's Contingent was raised by the Imperial authorities. Earl Beauchamp resigned office in November, 1900, and the Government was administered by the Lieutenant-Governor, Sir Frederick Darley, until the end of May, 1902, when Sir H. H. Rawson arrived.

The Commonwealth Constitution Bill was received with considerable approval by the Imperial Government; but it suggested certain alterations, the most important of which referred to appeals to the Privy Council. After consultation with representatives of the Australian States who were sent to England for the purpose, all difficulties were eventually smoothed away, and the Bill received the Royal Assent on the 9th July, 1900. Lord Hopetoun, who was appointed first Governor-General, arrived in Sydney on the 15th December, and the formal inauguration of the new Commonwealth took place on the 1st January, 1901. The ceremony of swearing-in the first Federal Ministry was conducted in a pavilion erected for the purpose in the Centennial Park, at Sydney, and the festivities in honour of the birth of a Federated Australia lasted for several days, considerable éclat being lent to the proceedings by the presence of picked detachments of troops from Great Britain, India, and the various provinces of Australasia. In connection with the history of the Federation, a melancholy interest attaches to the death of Queen Victoria, which took place on the 22nd January, 1901, from the fact that one of her last public acts was to sign the warrant establishing the Commonwealth.

1901-1910.

On the acceptance of a portfolio in the Federal Government by Sir W. J. Lyne, the premiership passed to Sir John See, whose Ministry took office on the 28th March, 1901.

In view of the growing labour unrest the new Government promptly passed the Industrial Arbitration Act, 1901, the first* of a series of statutes which had material influence on the subsequent industrial development of the State. The measure was at the time considered a piece of experimental legislation, and its effects were watched with interest. It provided for arbitration in the settlement of industrial disputes, and introduced a system very similar to that existing twenty years later. The Act remained in force until 1908, and during the seven years of its operation there was no extensive dislocation of industry, although a number of minor disputes occurred. Trade Unionism now made rapid headway, and the counter movement among employers resulted in the ultimate formation of two highly organised industrial groups which, under the authority of the State, came to decide, principally in the Arbitration Court, the conditions of employment, and to dominate the economic fortunes of the community. This Act, indirectly, was the first important statutory expression of the Labour movement in New South Wales. It marked the culmination of fifteen years of industrial agitation and of eight years political activity. The events of the years that followed were to be decisively influenced by the young party.

During this year 1901 the State contributed further contingents of troops for service in South Africa, and co-operated with the other States of the Commonwealth in the detachments sent away in 1902, furnishing also a naval contingent to aid the British forces operating in China. In May, 1901, after opening the first Federal Parliament in Melbourne, their Royal Highnesses the Duke and Duchess of York visited Sydney.

Federation soon produced results of great importance to the State. In October, 1901, the Commonwealth Government imposed uniform Customs duties throughout Australia, and freetrade between the States was established.

The early months of 1902 were marked by a continuance of the drought conditions of the previous year and a rise in the price of meat and of agricultural and dairy produce resulted. Wheat production fell away considerably, the yield being over a million bushels less than in the preceding year, while for the season ended March, 1903, the total harvested was only a million and a half bushels. The marvellous recuperative powers of the State were, however, well evidenced by the returns for the following year, when the wheat harvest exceeded 27,000,000 bushels, a record crop at the time.

The South Coast district was again the scene of a disastrous colliery accident in 1902, an explosion in the Mount Kembla Mine being responsible for the deaths of 95 employees.

An important experimental attempt was made in 1902 to obtain a solution for unemployment by establishing land settlements on communal lines. Dissension and lack of industry among the settlers, however, rendered the attempt abortive, and after fifteen years of struggle the land was divided among the holders.

The Federal Parliament, exercising powers conferred by the Constitution, established the High Court in 1903, virtually as a final court of appeal for Australia. But appeals still lay as of right from the Supreme Court direct to the Privy Council in private suits.

In view of the creation of new political representatives by federation the question of further reducing the number of members in the Legisla-

*Provision for arbitration in settling disputes generally had existed for many years, but statutory provision was first made in New South Wales in 1839. Subsequent Acts were passed in 1867 and 1892. Statutes providing expressly for the settlement of trade disputes in New South Wales by conciliation and arbitration had been enacted in 1892 and 1899.

tive Assembly was discussed in 1903, and, finally, after a referendum on the question a reduction from 125 to 90 constituencies was effected. Following a redistribution of seats an election was held in 1904, at which women, who had received the franchise in 1902, voted for the first time in New South Wales. A change of government resulted. The new Ministry was led by Mr. T. Waddell, but after two months in office he was replaced by Mr. (now Sir) J. H. Carruthers.

A comprehensive Legislative programme was entered upon. The existing local government law was consolidated, and the powers of local government bodies were extended. By the establishment of shires in 1905 local government was granted to the whole State except in the sparsely populated Western Division. In pursuance of a policy of rural development, important amendments were made in the Closer Settlement Act, approval was given to the Murrumbidgee Irrigation scheme, and the construction of Burrenjuick Dam authorised, while the policy of assisted immigration was revived after having been twenty years in abeyance.

One of the last administrative acts of the Government brought it into conflict with the Federal authorities. In August, 1907, a quantity of wire-netting, imported from oversea by the State Government, was landed in Sydney and detained by the Customs officials, who demanded payment of duty. This was refused, and under an order issued by the Executive Government of New South Wales the Government carrier seized and removed portion of the wire-netting without the authority or consent of the Customs officials. Litigation followed, and a case was stated for the opinion of the High Court which held unanimously that the powers of the Commonwealth with respect to Customs were paramount and exclusive and that the Customs authorities had, under the Customs Act, 1901, the same rights over the imports of a State Government as they had over the imports of private persons. Order for a penalty against the State for infringement of section 33 of the Customs Act was issued.

During this period prosperity had been almost unbroken. An effective recovery from the crisis of 1893 had been made by the end of the century, minor wars abroad were of too small proportions to affect the State adversely, the drought of 1902 was followed by a succession of good seasons, and the struggle between employees and employers had as yet only begun.

In these favourable circumstances it is not surprising that the State progressed rapidly. During the first seven years of the new century the tonnage of vessels entered and cleared in the ports of New South Wales increased by more than 50 per cent., the value of exports doubled, while that of imports increased by one-third, and loan expenditure decreased considerably. The value of production in manufactories rose by leaps and bounds. In response to the effective policy of protection and encouragement of local industries pursued by the Commonwealth Government, the first iron and steel works in the State were established at Lithgow in 1907.

But this placid era was soon to be disturbed, and, though progress continued up to the outbreak of war in 1914, signs of stress and strain were becoming increasingly manifest.

A recrudescence of labour troubles began in 1907 with a strike of coal-miners, followed in the next year by an extensive tramway strike, and that again in 1909 by a long and bitterly contested strike of miners at Newcastle and Broken Hill. The task of settling these disputes, and of facing the new position created by the apparent break-down of the arbitration system, fell on the shoulders of the Government of Mr. (now Sir) C. G. Wade, which had attained office in 1907.

Existing arbitration legislation was allowed to expire in 1908 and was replaced by the Industrial Disputes Act. In 1909, in view of impending

trouble among the miners, an amending act was passed, popularly known as "The Coercion Act," to give the police wide powers in taking action against the organisers of strikes. These powers were used against the strike-leaders at Newcastle, several of whom were imprisoned. After four months' struggle the miners returned to work. These strikes were the first of a long series of disastrous conflicts that have done much to set back the mining industry in New South Wales.

A visit to Australia in 1908 by a large fleet of American warships was marked by general festivities, and did much to cement the friendship of the English-speaking races on either side of the Pacific Ocean.

Since 1904 small regard had been paid to the establishment of the seat of Federal Government in New South Wales as provided by the Constitution, and it was not until 1908, after considerable vacillation, that the site at Canberra was finally chosen; further delay ensued, and the site was not formally proclaimed until 1910. Meanwhile the enhancement of the position of the Federal Government and the extension of its powers received considerable attention. Following upon a conference on Imperial Defence held in London in 1909, and a visit of Lord Kitchener to Australia, the Commonwealth began to emerge more distinctly as a separate entity within the Empire. Plans for the establishment of an Australian fleet unit were adopted forthwith, and, in 1911, a system of compulsory universal training for home defence was instituted. The Commonwealth Government, in the exercise of its powers, imposed a Federal Land Tax during 1910, and provided for the issue of Australian notes and the minting of Australian silver coins. The important provision of section 87 (the Braddon clause) of the Constitution, whereby three-fourths of the Customs Revenue was returned to the States, expired on 31st December, 1910, and it was enacted that until 31st December, 1920, the return of surplus revenue should be made on a population basis. The expiry of this period has given the Commonwealth Government a considerable advantage over the States which has, on occasions, been exercised. The keeping of accounts of interstate trade ceased on 3rd September, 1910. In the same year the first of a series of referenda, seeking extended legislative powers for the Commonwealth, was held. But none of the twelve proposals submitted has received the endorsement of the electors.

1910-1920.

The accession of the first Labour Government to office in New South Wales under Mr. J. S. T. McGowen on 21st October, 1910, was largely consequent on the popular disapproval of the former Government's industrial policy. But it marked the achievement of the purpose of twenty years' strenuous political campaigning, and it consummated the movement within the Labour party to attain its objectives through Parliament. A few months earlier the party had obtained its first working majority in the Federal Parliament.

A considerable volume of industrial legislation was now passed, including a new Industrial Arbitration Act. Despite the elaborate machinery for their avoidance, strikes became increasingly common. The continued rise in the cost of living caused a steady decline in effective wages and resulted in considerable discontent. The unrest was most acute in the coal-mining industry.

The important principle of fixing a living wage now forced itself on public attention. In 1911 it was decided that the increase in the cost of living warranted an increase in the Harvester Wage of 1907, which had received extensive application. In February, 1914, the first of a series of living-wage determinations of far-reaching effects was made.

Meanwhile, many important events were happening. Wireless telegraphy was introduced into the State in 1911, and soon afterwards the first Australian aviator, W. E. Hart, made a successful flight from Sydney to Penrith, while towards the close of the year the cruiser "Warrego," the first to be constructed locally, was launched from Cockatoo Dock. Early in the following year a Small Arms Factory was established at Lithgow, and the first part of the naval defence programme was realised in 1913 by the arrival of the battle-cruiser "Australia" and the cruisers "Sydney" and "Melbourne."

In the same year the work of constructing the federal capital at Canberra was initiated. Developmental works proceeded apace, and the opening for settlement of the first irrigation areas under the Murrumbidgee Irrigation Scheme almost synchronised with the signing of an interstate agreement in connection with a similar scheme on the Murray River.

In 1912 considerable extension was made in the scope of the education system of the State. The net results were that a clear connection was established between Primary School and University, and that facilities for a complete education were made available for all capable students, irrespective of their means.

Lord Chelmsford, who had succeeded Sir Harry Rawson as Governor in 1909, was followed in office by Sir Gerald Strickland in 1913. The Labour Party, led by Mr. W. A. Holman, returned from the elections of this year with an increased majority.

The era of prosperity which had dawned at the close of the last century and had induced such rapid progress during the first decade of the new, reached its zenith in the early years of the second decade. The growth of local manufactures continued strongly, great extensions in shipping occurred, trade-unionism developed, and, as a result of the co-ordinated policies of State and Commonwealth, the flow of immigrants from oversea increased rapidly, while at the same time a steady rise in the birth-rate was evident.

But prosperity was fringed with decline. The stream of immigration was retarded in 1913, and at the same time the birth-rate fell. A drought in 1912 depleted the sheep flocks of the State, and the losses accumulated through subsequent droughts until 1920. Moreover, industrial unrest was increasing as the cost of commodities rose, the expenditure of loan money had advanced rapidly, and, while the value of oversea exports remained almost stationary, that of imports showed considerable increases.

In these circumstances the outbreak of war on 4th August, 1914, added further and more serious troubles to the transient misfortunes of the State. At first it was confidently anticipated that the conflict would reach a speedy termination and "business as usual" was widely urged. However, this principle was soon found impossible of practical application, and the course of the following years was guided by the dominating influence of the war. The volume of shipping trade contracted rapidly and fell away to 50 per cent. of its pre-war magnitude on the introduction by Germany of the ruthless submarine campaign at the beginning of 1917. Immigration ceased and an exodus of the most virile section of the population to the scene of conflict commenced. Production began to suffer heavily, and the falling-off was accentuated by the drought of 1914.

An increased world demand for raw materials, however, began to operate in favour of the State's products, and, in a large measure, counteracted the adverse effects of the scarcity of imported goods which embraced most manufactured products. Both causes, however, produced further rapid increases in the cost of living and the unsettled

conditions brought to a head grave labour troubles. Legislation was promptly passed to meet the new emergencies. The Commonwealth Government assumed wide powers under the War Precautions Act, by virtue of which it could do practically anything that might conduce to the effective prosecution of the war. To prevent inordinate rises in prices and to secure a measure of steadiness in markets, the Necessary Commodities Control Act was passed in the State in 1914, and extensive provision for price regulation was made. At the same time the various Governments embarked on a scheme for marketing the entire wheat crops of Australia. The scheme remained operative for the successive seasons until 1920-21. In 1915 legislation was passed in the respective States to ensure an adequate supply of meat for Imperial uses, and in the following year an agreement whereby the Imperial Government purchased the entire wool-clip of Australia for the four seasons 1916 to 1919 was entered upon. These gigantic transactions, which secured for the producer payment or partial payment for his produce on or before delivery, did much to stabilise the financial conditions of the State and to minimise the evil effects of the war at a time when the chaotic market conditions of the world threatened disaster to our export trade in primary produce.

But, while every endeavour was being made to assist the Empire by ensuring an adequate supply of raw materials, a greater measure of support was given in military forces. By 31st December, 1914, more than 30,000 Australian volunteers had embarked for active service overseas, and, by the end of the following year a quarter of a million men had enlisted for service abroad. Still, it was felt that the response was not great enough, and towards the close of 1916 a referendum on the question of compulsory military service abroad was submitted to the people by the Commonwealth Government. The question was decided in the negative by a substantial majority and again by a larger majority a year later. The popular opinion seemed to be that a very ready response had been made voluntarily, and that voluntary recruiting was adequate to secure Australia's share of fighting-men. Moreover, it was widely held that a liberal production of raw materials was vitally necessary to the success of the Empire. This idea had already received expression in the record harvest of 1915, which resulted more from the great efforts of the farmers in extending the area under cultivation than from the favourable season. In the year 1915 the Commonwealth raised its first war loan of £13,000,000 and imposed the income tax. This was the initiation of a huge war expenditure which by September, 1920, had amounted to £238,000,000.

Meanwhile, though the development of the State was arrested, a number of important works proceeded. The Government Housing Scheme, inaugurated at Daceyville in 1913, was continued; the State trawlers were built with a view to exploiting the fishing grounds of the coast, and providing cheap fish for the people; while, in 1915, the Broken Hill Proprietary Company opened extensive steel works at Newcastle. These works, with a supply of the best coal in close proximity, are destined to foster the development of a large group of subsidiary iron and steel manufactories.

In 1915 a contract was entered into between the Government and Norton Griffiths and Company (an English firm), whereby the latter undertook a number of important public works, including the construction of the City Railway, at a cost of £6,400,000. The financial stringency of the war period rendered the agreement abortive, and its operation practically ceased in May, 1917. Meanwhile the construction of elevators for handling and storing wheat was forced upon the Government. The lack of shipping facilities rendered the marketing of the wheat crops of the State increas-

ingly difficult after 1916, and a compulsory pooling of all wheat grown was imposed by Act of Parliament in an endeavour to assist the farmers. Market conditions enforced a long storage, and the stocks of wheat accumulated with successive harvests. In 1917 plagues of mice and weevil attacked the huge stacks of bagged wheat in most of the country centres, and considerable loss was sustained. The much discussed project of bulk-handling of grain now developed into an approved scheme, and the work of constructing the necessary silos began in 1917. Sufficient progress had been made at the beginning of 1921 to enable the handling in bulk of part of the 1920-21 crop.

The division of opinion in the Labour party on the question of conscription, which had been imported into State politics, resulted in a definite break in the movement. At the end of 1916 the supporters of a conscription policy fused into a single organisation, and the National party resulted. The Labour party now went into opposition.

Toward the close of 1916, when feeling was running high on the question of conscription, and when considerable industrial unrest existed, a series of extensive and disastrous fires, which occurred in Sydney warehouses and shops, caused considerable alarm. The discovery of inflammatory materials in connection with several outbreaks led to the conclusion that an extensive system of organised arson was in operation. Police investigations culminated in the arrest of twelve prominent members of the local branch of the Industrial Workers of the World organisation, all of whom were convicted and sentenced to periods of imprisonment ranging from five to fifteen years in connection with the affair. Following upon the report of a Royal Commissioner, all but two of the men were liberated in 1920. Early in 1917 the Commonwealth Government had taken action to suppress the organisation in Australia.

Active discontent among the workers continued, but the more serious disputes were confined principally to the mining industries which were in a state of continual ferment accentuated by conditions consequent on the war. However, in 1917, an agitation which had been gathering head for some time, and which had been fed by the disturbing factors of the conscription referenda, broke out in August—when an attempt was made to introduce a "card system" into the Railway Workshops—into a strike of the first magnitude, involving all railway and tramway workers, the coalminers, the gas and meat-trade employees, and the transport workers, including seamen and wharf-labourers. The gravest view of the situation was taken by the Government, and elaborate measures, similar to those of 1890, were taken to keep up the supply of necessary commodities, and to defeat the strikers. The original strike of railway and tramway men was settled on 11th September, but the resumption of work was not general until October. Altogether the strike resulted in the loss of two and a half million working days. Considerable bitterness was engendered by the employment of loyalist workers who, in many cases, were retained in their positions after the strike had terminated. However, the following year was the most peaceful since 1912, and efforts were again made by the Government to introduce palliative legislation. An important amendment to the Industrial Arbitration Act of 1912 provided that strikes except under certain circumstances should not be unlawful, and established a Board of Trade with the functions of promoting harmonious relationships between employers and employees and of making an annual declaration of the cost of living.

Sir Gerald Strickland, who had succeeded Lord Chelmsford as Governor in March, 1913, retired somewhat abruptly in April, 1917. A considerable

amount of friction had existed for some months between the Governor and his Ministers, and the settlement of the matter was tantamount to an affirmation of the principle that the Governor should not exercise his discretionary powers in constitutional matters of purely local concern. The incident marked the recognition of the full development of the system of responsible government through a Cabinet answerable to Parliament. The retiring Governor carried with him the expressed good will of the people of the State. He was succeeded in February, 1918, by Sir Walter Davidson.

On 11th November, 1918, the Armistice between the belligerents in Europe brought to a close the four years of war, and terminated the first phase of a strenuous economic period.

Provision was promptly made in Australia for the reception of the forces from abroad, and for their re-establishment in civilian life. State and Commonwealth worked in unison in the task which was accomplished during the following year without serious dislocation of any kind.

The immediate effect of the cessation of hostilities was to cause a respite in the rise of prices affected by world conditions, and, for a time, it was popularly expected that a period of gradual deflation and a return in some measure to pre-war conditions would follow. But the signs were deceptive, and a period of increased stringency ensued. There was a world-wide scramble to change from a state of war to that of peace, with the result that, following the under-production of goods during the previous four years, and the abnormal consumption, a remarkable scarcity of commodities lent new vigour to the upward movement of prices. It became impossible to maintain a semblance of balance between wages and costs. Each reacted on the other, and a widespread conviction that profiteering was rife added vehemence to the discontent.

The disturbed period was accompanied by a recrudescence of industrial disputes which were more extensive than in any previous year except 1917. The main trouble occurred among the Broken Hill miners in May, 1919, and continued until November of the following year, and a general upheaval on the coal-fields was averted only by the Government making liberal concessions. A further extensive strike of seamen occurred, and the bakers throughout the Metropolitan area were also idle. To the other misfortunes of the year was added a serious outbreak of influenza, which had already ravaged the world, and which caused more than 6,000 deaths locally.

The exigencies of the period called for considerable governmental activity. The control of prices and devising of effective means to keep down the cost of living exercised the public mind. A general house shortage resultant from the slackness of building operations during the war was rendered more acute by the return of the forces from oversea, and Government schemes were quite unable to meet the demand for accommodation.

Unhappily the troubles were accentuated by the advent of a severe drought. The wheat crop of 1919-20 was almost a complete failure, and the continuance of dry weather until June, 1920, caused heavy losses of sheep, whose number fell from 37,000,000 to 29,000,000 during the year. A very extensive system of Government relief to settlers was instituted, and nearly £2,000,000 expended in an endeavour to meet the crisis. Prices of local produce rose to alarming heights, and added a further serious burden to the already heavy lot of the consumer. However, the bounteous rains of the latter half of 1920 produced a splendid season, and enabled a remarkable recovery in the wheat-growing industry. In all, a crop of 55,000,000 bushels was harvested. At the same time a phenomenal growth of herbage facilitated the necessarily more gradual return of the pastoral industry to prosperity.

Considerable progress had been made with the Murrumbidgee Irrigation scheme by 1920, and, though it was still in a developmental stage, extensive settlement had already been made there. In all, nearly 1,000 farms were occupied chiefly in fruit-growing and dairying, and factories for dealing with the settlers' produce were in operation.

The great development in aviation during the war was demonstrated in December, 1919, by Captain Ross Smith, who, with three companions, achieved a flight from London to Australia in thirty days. The flight to Australia from England was achieved also by Lieutenants Parer and Macintosh a few months later.

At the end of 1919 the population of the State reached 2,000,000, having doubled in a period of thirty-two years. A feature of the growth was the rapid rise of Sydney as an industrial and commercial centre. Manufacturing were extended to secondary processes, and accommodation for shipping, including the installation by a private firm of a rapid fuelling device, was greatly increased.

As the date for the elections of 1920 approached, a considerable wing of the Nationalist party became disaffected, and finally formed a third party to represent country interests under the name of Progressives. The election was contested under the proportional system of voting, and resulted in a defeat of the Government. Fifteen members of the new party and a bare majority of the Labour candidates were returned. A Labour Ministry under the leadership of Mr. John Storey was formed, and its attention was at once occupied with a set of difficult problems—more effective price control, profiteering prevention, drought relief, land legislation, and finance.

The effect of the Commonwealth of Australia Constitution Act, by virtue of which the Commonwealth was established, was to vest in the Commonwealth extensive powers defined mainly in section 51. But outside these limits there was no interference with the constitution of the States. Broadly speaking, the powers delegated to the Federal Legislature were to be of general application, and not to be applied to any one State. Usually, the powers of both State and Federal Legislatures were to be concurrent, except in respect of matters not transferred, and matters virtually reserved for the Federal authority, viz., customs, excise, defence, currency, coinage, bounties on production and export (except mining), naturalisation of aliens, extradition, quarantine, post and telegraphs, lighthouses, &c., quarantine, and some minor matters, including the power to take over State debts, which, however, has not yet been exercised.

It was provided, moreover, in section 109, that "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." The early decisions of the High Court tended to establish between State and Federal Legislatures a doctrine of mutual non-interference except as provided directly by the Constitution. However, in 1920, this principle was abrogated by the High Court in the case of the Amalgamated Society of Engineers *v.* The Adelaide Steamship Company, Limited, and a doctrine, based on section 109, of the supremacy of the Commonwealth powers was formulated.

The visit to New South Wales of His Royal Highness the Prince of Wales in June, 1920, was marked by wonderful demonstrations of loyalty. The enthusiasm with which he was acclaimed on every side was an ample assertion of the goodwill of the nation, and a fitting consummation to the more practical demonstrations of patriotism that had marked the progress of the war.

A fuller account of the events of the past twenty years treated more from an economic standpoint will be found in another section of this book.

GEOGRAPHY AND CLIMATE.

GEOGRAPHY.

THE area of New South Wales, including Lord Howe Island (its dependency) and the Federal Capital Territory, is estimated at 310,372 square miles, or 198,638,080 acres, representing rather more than one-tenth of the total area of the Commonwealth of Australia. The Federal Territory consists of 912 square miles at Canberra, the site of the Federal Capital, and 28 square miles at Jervis Bay, used for naval purposes.

The length of the State, measuring directly from Point Danger on the north to Cape Howe on the south, is 683 miles. From east to west, along the 29th parallel, the breadth is 756 miles, while diagonally from the south-west corner, where the River Murray passes into South Australia, to Point Danger, the distance is 850 miles.

Lord Howe Island is 7 miles in length, by a width ranging from half-a-mile to $1\frac{1}{2}$ miles, and has an area of 5 square miles.

The area of New South Wales, and of each of the other States, in relation to the total area of the Commonwealth is shown in the following statement :—

State or Territory.	Area.	Per cent. of total area.
	sq. miles.	
New South Wales	309,444	10·40
Federal Territory	940	·03
Victoria	87,884	2·96
Queensland	670,500	22·54
South Australia	380,070	12·78
Western Australia	975,920	32·81
Tasmania	26,215	·88
Northern Territory	523,620	17·60
Total Commonwealth	2,974,581	100·00

New South Wales is smaller in area than Queensland, South Australia, or Western Australia, but is larger than Victoria and Tasmania. It is a little over two and a half times the size of the United Kingdom, one and a half times greater than either France or Germany, and twenty-seven times larger than Belgium. It is about one-twelfth the size of Canada, and one-tenth that of the United States of America.

New South Wales lies in the temperate zone, almost entirely between the 29th and 36th parallels of south latitude and the 141st and 154th meridians of east longitude; the southern boundary dips from the 34th parallel on the west to the 37th parallel on the east. The State is bordered on the north, west, and south respectively by the States of Queensland, South

Australia, and Victoria, and on the east by the South Pacific Ocean. The total length of coast line is 700 miles, representing 1 mile of coast to 443 square miles of its area, as against an average of 1 to 261 for the continent of Australia.

In the 1914 issue of this Year Book an account was given of the important geographical features of New South Wales.

Lord Howe Island.

Lord Howe Island is a dependency of New South Wales and is included in the electorate of Sydney; it is situated about 300 miles east of Port Macquarie, and 436 miles north-east from Sydney, in latitude $31^{\circ} 33' 4''$ S., longitude $159^{\circ} 4' 26''$ E. The island was discovered in 1788; it is of volcanic origin, and Mount Gower, the highest point, reaches a height of 2,840 feet. The climate and soil are favourable for the growth of subtropical products; but on account of the rocky formation of the greater part of the surface of 3,220 acres, only about 300 acres are suitable for cultivation. The land has not been alienated, but is occupied rent free on sufferance, and is utilised mainly for the production of *Kentia* palm seed. A Board of Control at Sydney manages the affairs of the island and supervises the palm seed industry. At the Census of 1911 the population numbered 105 persons, and on 31st December, 1919, it was estimated at 116.

The Surface of New South Wales.

The surface of New South Wales is divided naturally into five well-defined divisions—the Coast District, the Tablelands, the Western Slopes, the Inland Rivers Districts, and the Western Plains. The tablelands occupy the summit of the Great Dividing Range, which traverses the State from north to south and marks the division between the coastal district and the hinterland. On the map at the commencement of this book the various divisions of the State are plainly shown.

The coastal strip is undulating and well watered. The average width is about 30 miles, but at Clifton the tableland abuts on the ocean. The widest part (150 miles) is in the valley of the Hunter River, where the relatively soft rocks of the coal basin have offered least obstruction to river erosion. The Great Coal Basin (extending from beyond Gunnedah on the north to Ulladulla on the south) underlies the central portion of the coastal region; the seam emerges at Newcastle and Bulli, but at Sydney lies about 3,000 feet below the surface. Coal seams are found in the Clarence River district, but for the most part the northern and southern sections of the Coast district are devoted to dairy farming and to the cultivation of such crops as maize, lucerne, grape vines, citrus and other fruits, and, in the extreme north, sugarcane and bananas. The northern forests yield a great variety of valuable timbers.

In the Sydney district all fruits are cultivated, and there are many orchards and market gardens. A large quantity of honey is obtained from the coastal division of the State. At Newcastle extensive iron and steel works have been established, and it is probable that in the near future other works dependent on iron will be established there.

There are three tablelands—the Northern, the Central, and the Southern—comprising an extensive plateau region, furrowed in many parts by deep, rugged valleys. Generally they present on the eastern side a steep escarpment towards the coast, while on the west they slope gradually towards the plains. The tablelands vary in width from 30 to 100 miles. The

Northern Tableland commences in Queensland and terminates on the northern side of the Peel River Valley; its average height is 2,500 feet. The Central Tableland is bounded by the Warrumbungle and Liverpool Ranges on the north, and by the valleys of the Lachlan, Crookwell, and Wollondilly Rivers on the south. In the Central Tablelands, at Lithgow, the Commonwealth Small Arms Factory, large iron and steel works, and coal-mines are situated, and at Portland, cement works. The Southern Tableland extends northward from the Victorian border, and slopes gradually to the Crookwell River on the north-west and to the spurs of the Cullarin Range on the north-east. Its average height is slightly less than the Northern Tableland, although the Kosciusko Plateau, the most elevated portion of the State, is within its limits. Level upland plains occur throughout the Tableland Division and these are well adapted both to agricultural and pastoral pursuits. Large numbers of horses, cattle, and sheep are raised in all parts of the division. The farms of the Northern Tableland produce especially maize and potatoes; the principal crops of the Central Tableland are wheat, oats, lucerne, potatoes, and fruit; while oats flourish especially in the Southern Tableland.

The Western Slopes sweep with greater or less abruptness from the western limits of the tablelands to the head-waters of successive systems of inland rivers. In the Western Slopes wheat is grown extensively, and good crops of maize, oats, tobacco, grapes and other fruit are produced. The country is suitable for the breeding of sheep, cattle and horses.

From the South-western Slopes and Riverina district the greater portion of the wheat yield is obtained, the quantity in the season 1919-20 representing 76 per cent. of the total for the State.

The Central Plains constitute a well-defined area, distinct in character from the Western Plains, as through them flow the inland rivers. The Northern Division contains the Gwydir and the Namoi River systems; the Central Division, the Castlereagh, the Macquarie, and the Bogan; and the Southern, specifically designated the Riverina, the Lachlan, the Murrumbidgee, the Edwards, and the Murray.

The great Western Plain district stretches from the river-courses of the Barwon, the Bogan, and the Lachlan, to the western boundary of the State. The plains slope very gently from the bed of the Darling eastward towards the Great Dividing Range and westward towards the South Australian border. Only a few trifling elevations occur, and the plains are for the most part devoid of timber. They are watered by the rivers of the Murray-Darling system. The Darling and its tributaries are liable to considerable shrinkage in periods of dry weather, but in wet seasons they overflow their banks and flood the surrounding country for miles, rendering it extremely fertile. In the Western Division at Broken Hill the rich silver, lead, and zinc mines are situated, and the Cobar copper and gold mines are also in this division.

The surface of the plains consists of rich red and black soils, the former being particularly rich in plant-food. The black soil formations represent the silted-up channels of old rivers, which, when flooded, spread a fertile silt over the surrounding district. The black soil plains occupy large areas along the middle courses of the Castlereagh, the Namoi, and the Gwydir Rivers.

In the Central Plains and Riverina Division sheep, cattle, and horses are raised in large numbers. Sheep-breeding is the principal industry in the Western Division of the State. Wheat is the chief crop in the Central Plains and Riverina, but oats, grapes for wine making, citrus and other fruits, are cultivated.

Capital City of New South Wales.

Sydney, the capital city of New South Wales, and the seat of Government, is situated on the shores of Port Jackson. It is the oldest and largest of the Australian towns, and is the main commercial and industrial centre of New South Wales. The great bulk of the sea trade of the State passes through Sydney, where all the main railways converge and numerous large manufacturing establishments are conducted.

Observatory.

Sydney Observatory, lat. $33^{\circ} 51' 41.1''$ south, long. $151^{\circ} 12' 23.1''$ east, established in the year 1856, is a State institution. Since 1907, when the Federal Weather Bureau was established, the work of the Observatory has been of an astronomical character. The principal instruments are the transit circle, astrograph, equatorial, and seismograph. Owing to the unsuitableness of the atmosphere in Sydney the astrograph has been removed to Pennant Hills. The principal scientific work is the determination of the position, distribution, and movement of stars in the region allotted to Sydney (viz., 52° to 65° south declination) in the great international scheme. In addition, occasional observations, such as those of comets, are made with the equatorial, and systematic records of earth tremors are sent to the Earthquake Committee of the British Association for the Advancement of Science. Practical and popular work embraces the determination and notification of the standard time of the State; correspondence of an educational character on astronomical matters, and day and evening reception of visitors interested in astronomy.

GEOLOGY.

Information in regard to the classification of the sedimentary rocks found in New South Wales appeared in previous issues of this Year Book, and readers are invited to refer thereto.

CLIMATE.

METEOROLOGICAL observations in New South Wales are directed from Sydney as the centre of a subdivision of Australia, which includes the greater part of New South Wales; a special climatological station is maintained also at Dubbo, and there are many reporting stations throughout the State. Bulletins and weather charts are issued daily from the Meteorological Bureau, and rain maps and isobaric charts are prepared.

Signals are displayed in Sydney to give storm warnings and to indicate fair weather, rain, and cold or heat waves; forecasts are telegraphed daily to towns in country districts, and the city forecasts are published in the early editions of the press.

The weather in New South Wales is determined chiefly by anticyclones, or areas of high barometric pressure, with their attendant tropical and Antarctic depressions, in which the winds blow spirally outward from the centre or maximum. These anticyclones pass almost continuously across the face of the continent of Australia from west to east, and the explanation of the existence of such high-pressure belts lies probably in the fact that this area is within the zone in which polar and equatorial currents meet and for some time circulate before flowing north and south. The easterly movement depends on the revolution of the earth.

A general surging movement occasionally takes place in the atmosphere, sometimes towards, and sometimes from, the equator. The movement causes sudden changes in the weather—heat when the surge is to the south, and very cold weather when it moves towards the equator. Probably, these

sudden displacements of the air systems are due to thermal action, resulting in expansion or contraction in the atmospheric belts to the north and south of Australia.

New South Wales is peculiarly free from cyclonic disturbances, although occasionally a cyclone may reach the State from the north-east tropics or from the Antarctic low-pressure belt which lies to the south of Australia, or may result from monsoonal disturbances.

The seasons occur as follows:—Summer—December, January, and February; autumn—March, April, and May; winter—June, July, and August; spring—September, October, and November.

January is the hottest and July the coldest month, and the temperatures of autumn and spring are approximately the mean of the whole year.

In the summer months the prevailing winds on the coast of New South Wales blow from the north, with an easterly tendency which extends to, and in parts beyond, the highlands; in the western districts the winds are usually from the west. Southerly winds, which are characteristic of the summer weather on the coast, occur most frequently during the months from September to February, and between 7 p.m. and midnight. These winds, which are deflected sea breezes, cause a rapid and welcome fall in temperature, and are sometimes accompanied by thunderstorms.

During winter, the prevailing direction of the wind is westerly. In the southern areas of the State the winds are almost due west, but proceeding northwards there is a southerly tendency, while on reaching latitudes north of Sydney the direction is almost due south. When they reach the north-eastern parts of the State, these winds are deflected in a westerly direction, and are merged in the south-east trade winds north of latitude 30°. During the cold months of the year, Australia lies directly in the great high-pressure stream referred to previously, and the high pressure when passing over the continent tends to break up into individual anti-cyclonic circulations.

Generally, the wet season extends over the first six months of the year, although occasionally the most serviceable rains come in the spring. The coastal districts receive the heaviest falls, ranging from 30 inches in the south to 70 inches in the north. Despite their proximity to the sea, the mountain chains are not of sufficient elevation to cause any great condensation; so that, with slight irregularities, the average rainfall gradually diminishes towards the western limits of the State, the figures ranging from a mean of about 50 inches on the seaboard to 10 or 20 inches on the Western Plains.

A classification of areas in New South Wales in accordance with the annual rainfall shows the following distribution:—

Annual Rainfall.		Area.	Annual Rainfall.		Area.
Inches.		Sq. Miles.	Inches.		Sq. Miles.
Over 70	...	663	20 to 30	...	77,202
60 to 70	...	1,765	15 ,, 20	...	57,639
50 ,, 60	...	4,329	10 ,, 15	...	77,268
40 ,, 50	...	15,804	Under 10	...	44,997
30 ,, 40	...	30,700			
			Total	...	310,372

The distribution of rainfall is dependent on three factors—(1) the energy present in the atmospheric systems, (2) the rate of movement of the atmospheric stream, and (3) the prevailing latitudes in which the anticyclones are moving.

The chief agencies for precipitating rainfall are Antarctic depressions, monsoonal depressions, and anticyclonic systems. Antarctic depressions are the main cause of the good winter rains in the Riverina and on the South-western Slope. A seasonal prevalence of this type of weather would cause a low rainfall on the coast and tablelands, and over that portion of the inland district north of the Lachlan River. A monsoonal prevalence ensures a good season inland north of the Lachlan, but not necessarily in eastern and southern areas. An anticyclonic prevalence results in good rains over coastal and tableland districts, but causes dryness west of the mountains.

Generally, June is the wettest month in all southern districts west of the highlands; in other parts of the interior the month of greatest humidity is January, February, or March. On the Northern Tablelands, the Central Western Slope, and Central Western Plains, the highest monthly average is recorded in January. February is the wettest month on the North-western Plains and over the country to the north of the Darling and east of the Paroo; and March in the far north-west quarter and over the central Darling country between Tilpa and Pooncarie. In the coastal districts, every month, except November, is represented in some part as the wettest.

CLIMATIC DIVISIONS.

The territory of New South Wales may be divided into four climatic divisions—the Coast, the Tablelands, the Western Slopes of the Dividing Range, and the Western Plains.

In the Coastal division, which lies between the Pacific Ocean and the Great Dividing Range, the rainfall average is comparatively high.

Sydney is situated half-way between the extreme northern and southern limits of the State. Its mean annual temperature is 63° Fahrenheit. The mean range is only 17°, calculated over a period of sixty-one years, the mean summer temperature being about 71°, and the mean winter temperature 54°.

The following table shows the average meteorological conditions of Sydney based on the experience of the sixty-one years ended 1919:—

Month.	Hourly Average Reading of Standard Barometer, corrected to 32° Fah.; Standard Gravity and Mean Sea Level.	Temperature (in shade).			Rainfall.			
		Mean Standard.	Average Reading of Maximum Thermometer.	Average Reading of Minimum Thermometer.	Average.	Greatest.	Least.	Average number of days Rain
January ...	29·978	71·7	78·5	64·9	inches. 3·57	inches. 15·26	inches. 0·42	14·0
February..	29·899	71·2	77·4	64·9	4·55	18·57	0·34	14·2
March ...	30·079	69·3	75·5	63·0	5·11	18·70	0·42	15·0
April ...	30·129	64·6	71·0	57·9	5·43	24·49	0·06	13·4
May ...	30·073	58·6	65·0	52·0	5·21	23·03	0·18	15·1
June ...	29·992	54·5	60·5	48·2	5·00	16·30	0·19	12·7
July ...	30·143	52·5	59·0	45·8	4·83	13·21	0·12	12·5
August ...	30·094	55·0	62·3	47·6	3·09	14·89	0·04	11·4
September ...	30·152	59·1	66·6	51·5	2·92	14·05	0·08	12·0
October ...	29·899	63·5	71·1	55·9	2·97	11·14	0·21	12·7
November ...	29·956	67·0	74·4	59·6	2·89	9·88	0·07	12·5
December ...	29·926	70·1	77·2	62·9	2·62	8·47	0·23	12·9
Annual ...	30·027	63·1	69·9	56·2	48·19	82·76	23·01	158·4

The North Coast districts are favoured with a warm, moist climate, the rainfall being from 40 to 70 inches annually. The mean temperature for the year is from 66° to 69°, the summer mean being 75° to 78°, and the winter mean 56° to 59°. On the South Coast the rainfall varies from 30 to 60 inches, and the mean temperature ranges between 57° and 63°, the summer mean being from 66° at the foot of the ranges to 70° on the sea coast, and the winter from 48° to 54° over the same area.

Coastal rains come from the sea with both south-east and north-east winds, being further augmented in the latter part of the year by thunderstorms from the north-west.

The following table shows the meteorological conditions of the principal stations in the Coastal Division, arranged in the order of their latitude. These stations are representative of the whole division, and the figures are the average of a large number of years:—

Station.	Least Distance from East Coast.		Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
				Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
Lismore	miles.	feet.	°	°	°	°	°	°	inches.	
	13	52	67·2	75·4	57·0	22·5	116·2	23·0	50·35	
Grafton	22	40	67·6	76·3	57·4	25·9	114·0	24·9	38·44	
Singleton	40	135	64·1	76·1	52·1	20·3	113·9	22·0	29·00	
West Maitland... ..	18	40	64·2	74·7	53·0	21·1	114·0	28·0	34·01	
Newcastle	1	34	64·6	72·3	55·4	15·1	110·5	31·0	46·95	
Emu	36	87	62·7	73·2	50·4	16·2	107·6	26·8	29·88	
Sydney	5	146	63·1	71·0	54·0	13·7	108·5	35·9	48·02	
Wollongong	0	54	63·0	70·1	54·8	16·8	113·4	31·9	43·72	
Nowra	6	30	62·8	71·1	54·0	19·9	109·5	32·6	38·09	
Moruya Heads... ..	0	50	61·0	68·1	53·0	19·1	114·8	26·3	36·45	
Bega	8	50	60·3	69·6	50·0	26·6	109·0	20·0	32·83	
Eden	0	107	60·0	67·7	51·8	14·2	106·0	29·3	34·16	

Taking the coast as a whole, the difference between the mean summer and mean winter temperature is about 17° only.

On the Northern Tableland the rainfall is consistent, ranging from 30 inches in the western parts to 40 inches in the eastern. The temperature is cool and bracing, the average for the year being between 54° and 60°; the mean summer temperature lies between 65° and 70°; and the mean winter between 43° and 45°. The Southern Tableland is the coldest part of the State, the mean annual temperature being about 56°. In summer the

mean ranges from 57° to 68°, and in winter from 34° to 44°. At Kiandra, the elevation of which is 4,640 feet, the mean annual temperature is 44·4°. Near the southern extremity of the tableland, on the Snowy and Muniong Ranges, the snow is present generally throughout the year.

The statement below shows, for the Tablelands, similar particulars to those already given for the Coastal Division:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Tenterfield	80	2,827	53·8	69·0	47·2	24·4	107·1	11·9	32·48
Inverell	124	1,980	60·0	71·8	47·3	29·2	110·6	13·4	30·40
Glen Innes	90	3,518	56·4	67·2	44·1	25·3	107·3	14·4	31·81
Armidale	81	3,333	56·3	67·5	44·1	24·4	105·2	11·2	32·58
Murrurundi	94	1,545	60·9	73·7	49·7	19·8	107·3	19·0	31·37
Cassilis (Dalkeith) ...	120	1,500	60·2	72·2	47·3	24·8	109·5	19·0	23·74
Muswellbrook	68	475	63·8	75·2	49·4	25·4	117·6	19·0	23·70
Mudgee	121	1,635	60·0	72·6	46·8	30·3	114·9	15·0	25·65
Bathurst	96	2,200	57·1	69·8	44·2	28·0	112·9	13·0	23·88
Kurrajong Heights ...	35	1,870	53·3	61·7	43·9	13·3	99·5	25·5	50·46
Katoomba	53	3,349	53·6	63·0	43·2	15·4	100·0	25·9	55·97
Gowra	126	987	61·6	76·0	47·9	27·5	113·0	22·5	23·94
Picton	22	549	61·3	72·3	50·1	26·6	114·0	19·7	30·62
Crookwell	81	2,000	52·0	64·7	39·4	23·7	100·8	12·1	32·42
Moss Vale	31	2,205	55·5	65·8	44·6	21·6	106·0	18·9	38·51
Goulburn	54	2,129	56·1	67·7	44·1	24·0	111·0	13·0	24·97
Yass	92	1,657	57·2	70·3	44·7	24·3	108·0	21·0	24·53
Kiandra	88	4,640	44·4	55·3	32·6	20·7	91·0	⁴ below zero	64·53
Cooma	52	2,637	54·2	66·0	41·9	27·7	112·0	11·0	19·07
Bombala	37	3,000	53·0	64·0	42·1	24·7	98·5	17·0	22·76

On the Western Slopes the rainfall is distributed uniformly, varying from 20 inches in the western parts to 30 inches in the eastern; the greater part of the wheat-growing area of the State is situated on these slopes, where the average rainfall is about 25 inches. The mean annual temperature ranges from 69° in the north to 60° in the south; in the summer from 81° to 74°, and in the winter from 53° to 47°.

North of the Lachlan River, good rains are expected from the monsoonal disturbances during February and March, although these may come as late as May, and at times during the remainder of the year. These monsoonal or seasonal rains are caused by radiation in the interior of Australia during the summer months, when the heat suspends the moisture accumulated chiefly from the Southern Ocean.

In the Riverina district, south of the Murrumbidgee generally, and on the South-western Slopes, fairly reliable rains, light but frequent, are experienced during the winter and spring months.

The next statement gives, for the principal stations on the Western Slopes, information similar to that shown for Coast and Tablelands:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
Moree	miles. 204	feet. 680	67·5	80·4	53·2	30·2	117·3	18·0	inches. 23·48
Warialda	162	1,106	61·6	73·9	47·9	34·0	111·0	18·0	23·40
Bingara	153	1,200	64·4	77·3	50·3	28·9	112·5	16·0	31·58
Narrabri	193	697	66·8	80·7	51·9	28·5	119·9	18·4	25·98
Gunnedah	156	874	65·6	79·1	50·9	28·8	114·0	24·0	24·51
Coonabarabran	185	1,710	60·0	73·0	46·4	32·3	111·9	11·4	28·76
Quirindi	115	1,278	63·9	76·5	48·5	27·1	113·6	17·0	37·92
Dubbo	177	863	63·6	77·5	49·5	27·9	115·4	16·9	22·40
Forbes	176	789	63·6	77·6	49·7	24·5	118·4	24·0	19·96
Young	140	1,416	59·4	73·6	45·8	26·2	113·9	20·3	25·42
Marsden	187	700	63·0	78·2	47·4	26·6	114·0	23·0	20·15
Murrumburrah	126	1,268	60·4	74·0	47·5	27·5	114·9	19·0	24·25
Wagga Wagga	158	615	62·2	76·2	48·7	25·3	119·0	18·4	21·51
Urana	213	400	62·3	76·2	48·1	22·6	117·0	18·4	17·18
Albury	175	531	60·8	74·3	47·7	27·3	117·3	19·9	27·94

The Western District consists of a vast plain, the continuity of which is broken only by the Grey and Barrier Ranges. Owing to the absence of mountains in the interior, the annual rainfall over a great part of this division, which lies in the zone of perpetual high pressure, does not exceed 10 inches. It increases from 8 inches on the western boundary to 10 and 15 inches along the Darling River, and 20 inches on the eastern limits. The mean annual temperature ranges from 69° in the north to 62° in the south; in the summer from 83° to 74°, and in the winter from 53° to 45°.

Although the summer readings of the thermometer in this district may be from 10° to 20° higher than those on the coast, the heat is not distressing. Excessive heat is experienced occasionally, and with many summers intervening, its occurrence is in all probability due to a temporary stagnation

in the easterly atmospheric drift. Under normal conditions, air entering Western Australia with a temperature of 70° or 80° would accumulate only 20° to 25° by contact with the radiation from the soil during its passage across the continent.

The winter, with an average temperature over 50°, accompanied by clear skies and an absence of snow, leaves little to be desired from the standpoint of health; while, also owing chiefly to the dryness of the climate, these inland regions produce the best merino wool in the world.

The meteorological conditions of the Western Plains will be seen from the following statement, corresponding to those given already for the other divisions of the State:—

Station.	Least Distance from East Coast.	Altitude.	Temperature (in Shade).						Rainfall— Mean Annual.
			Mean Annual.	Mean Summer.	Mean Winter.	Mean Daily Range.	Highest.	Lowest.	
	miles.	feet.	°	°	°	°	°	°	inches.
Brewarrina	345	430	68·7	82·8	54·1	26·4	120·0	28·0	15·51
Walgett... ..	286	522	68·0	82·1	52·9	25·7	122·2	23·2	18·66
Bourke	386	350	69·2	83·7	54·1	27·6	127·0	25·0	14·21
Wilcannia	473	246	66·4	80·3	52·2	26·1	120·8	21·8	10·33
Cobar	345	803	67·0	81·1	52·4	24·0	118·7	25·0	14·44
Broken Hill	555	1,000	64·7	77·8	51·2	23·6	115·9	28·5	9·89
Mount Hope	296	600	64·8	78·9	50·4	22·1	123·6	24·6	15·28
Condobolin	227	700	65·4	79·0	51·3	27·1	122·2	20·0	17·40
Wentworth	478	144	63·6	76·3	51·4	25·7	119·0	21·0	12·19
Hay	309	291	63·2	76·2	50·3	27·4	117·3	22·9	14·18
Euston	422	188	62·6	75·3	50·2	26·4	124·8	17·1	12·37
Deniliquin	287	268	62·0	74·8	49·5	25·3	121·1	18·0	16·23

TIDES.

A self-recording tide-gauge has been in operation at Fort Denison, in Port Jackson, since 1867. The average range of ordinary tides is 3 feet 4½ inches, and of spring tides 5 feet 1½ inches. In June, 1915, in January, 1912, and in December, 1910, the tide-gauge at Fort Denison recorded 6 feet 9 inches, which is practically the highest tide registered.

At Port Hunter, the average rise and fall of ordinary tides is 3 feet 4⅞ inches, and of spring tides 5 feet 5⅓ inches; the greatest range being 6 feet 6½ inches. The highest tide registered was 7 feet 4 inches in May, 1898.

For the coast the average rise of spring tides may be taken as 5 feet 6 inches.

CONSTITUTION AND GOVERNMENT.

ON the foundation of New South Wales as a British Colony in 1788 the Governor, under his Commission and Letters Patent, was empowered to make ordinances for the government of the settlement; subsequently he was authorised to impose a limited taxation by customs duties, and during the first thirty-five years of the colony's existence was possessed of virtually absolute administrative power.

In 1823 an Act was passed in the Imperial Parliament, providing "for the better administration of justice in New South Wales and Van Diemen's Land" by the creation of a Legislative Council, with a minimum of five and a maximum of seven members, nominated by the Governor. This Council acted as an advisory body to the Governor, with authority to assist him in making laws and ordinances. Five members were appointed under His Majesty's warrant of 1st December, 1823, viz.:—Wm. Stewart, Lieutenant-Governor; Francis Forbes, Chief Justice; Frederic Goulburn, Colonial Secretary; James Bowman, Principal Surgeon; John Oxley, Surveyor-General.

All laws or ordinances had to be submitted to a summoned meeting of this Council, and any action of the Governor contrary to the advice of the Council was referable to England for decision. The first meeting of the Council was held on 25th August, 1824. Practically coincident with the institution of this Legislative Council, which embodied the first form of constitutional government, a new Charter of Justice was proclaimed, and the system of trial by jury inaugurated.

The Legislative Council, as constituted in 1823, was subsequently increased in 1828 to fifteen members, and its functions were extended; but twenty years of its existence demonstrated the inefficacy of such a limited measure of constitutional government in the face of the expanding commercial and agricultural interests of a rapidly developing population.

REPRESENTATIVE GOVERNMENT.

In 1843 a measure of direct representation in the Legislative Council was given to the people of the Colony by means of an Imperial enactment of the previous year which defined the functions of the Council and the conditions under which Royal Assent was to be accorded to bills passed by it, and extended its membership to thirty-six, namely, twelve nominees of the Crown and twenty-four members elected by the people.

Eight years' experience of partly representative government proved the necessity for extension of popular representation. In 1851 the Australian Colonies Government Act of the Imperial Parliament gave authority to the existing Legislative Council to prepare a democratic Constitution for the colonies. At the same time, provision was made for the establishment of Port Phillip District as a separate colony. In 1853 a select committee of the Council, which then numbered fifty-four (thirty-six elective and eighteen nominee members), adopted a draft Constitution for a Legislature of two Houses, which, with minor amendments, was accepted by the Imperial Parliament in 1855. The New South Wales Constitution Act, 1855, conferred a fully responsible system of government, entire control of Crown lands devolving upon the New South Wales Parliament, which was empowered also, subject to the provisions of the Act, to make laws amending its Constitution.

The first elective Parliament was opened by Governor Denison, on 22nd May, 1856. The Constitution has been amended by many Acts, but the

essential form of the original Legislature remains intact, though its functions have been enlarged from time to time by Imperial enactments, such as those which empowered the State Parliament to deal with matters relating to coinage, copyright, extradition, naturalisation, shipping, &c. Since 1901, when the Commonwealth of Australia was inaugurated, legislative functions have been divided between the Parliaments of the Commonwealth and of the State. A consolidating Constitution Act was passed in 1902.

THE EXECUTIVE.

The executive government rests with a Governor representing the Crown, who acts on the advice of an Executive Council responsible to Parliament.

The Governor is the representative of the British Sovereign; he is appointed by the King, and his functions and powers are defined by his Commission and the Royal Instructions accompanying it. He acts as Viceroy as regards giving assents to Bills as passed by Parliament, or he may withhold his assent pending reference of a Bill to the Imperial Government. Bills of certain classes are reserved for Royal Assent. In his Executive capacity, the Governor summons, and acts under advice of the Executive Council, of which the members are Ministers of the Crown controlling administrative departments of the State. The Governor appoints Ministers and members of the Legislative Council, Judges, Justices of the Peace, Commissioners, and other officers and he may summon, prorogue, or dissolve any Parliament. His instructions provide that in the exercise of these functions, he is to act by the advice of the Executive Council, but he may disregard the advice; in such circumstances, however, he must make a full report for the information of the Secretary of State. The Imperial rule as to the circumstances under which a Government is bound to resign has been virtually adopted in New South Wales, and the undoubted right of the Governor, as the depositary of the Royal prerogative to refuse to grant a dissolution of Parliament if he think fit has been exercised more than once. The prerogative of mercy vested in him is exercised only with the advice of the Executive Council.

The term of office for which the Governor is appointed is five years, and his salary (£5,000 per annum), with certain allowances for his staff, is provided by the Constitution out of the revenues of the State.

THE STATE PARLIAMENT.

The Legislative Council.

Under the Constitution Act, 1902, the Governor may summon to the Legislative Council any person he thinks fit, provided such person is of the full age of 21 years, and is a natural-born or naturalised subject of His Majesty in Great Britain or in New South Wales. In the exercise of these powers he acts ordinarily by the advice of the Executive Council. At least four-fifths of the members summoned to this Council must be persons not holding any office of emolument under the Crown. The members have a life tenure of office, subject to certain qualifications, but are not entitled to remuneration for their services; as a matter of privilege, they are allowed to travel free on the State railways and tramways. The presence of one-fourth of the members, exclusive of the President, is necessary to form a quorum for the despatch of business. The Constitution Act contains no proviso as to the number of members; in December, 1920, there were 70. The President receives an annual salary of £1,200, and the Chairman of Committees £700.

The Legislative Assembly.

The Legislative Assembly consists of ninety elected members, each being an adult male British subject, and entitled to a vote at the Parliamentary

elections. Members of the Federal Legislature and of the Legislative Council, persons holding non-political offices of profit under the Crown, except in the navy or army are disqualified for membership. Under the provisions of the Constitution Amendment Act of 1916 any officer of the public service of New South Wales may be nominated and elected to the Legislative Assembly, but if elected must forthwith resign his position in the service. The Women's Legal Status Act, 1918, which received assent on 21st December, 1918, provides that a person shall not by reason of sex be deemed to be under any disability or subject to any disqualification to be elected and to act as a member of the Legislative Assembly.

Under an Act passed in 1920 each member receives the sum of £875 per annum by way of reimbursement for expenses incurred in the discharge of his Parliamentary duties. He also is allowed to travel free on the State railways and tramways, and receives a postage allowance for correspondence.

Payment of members of the Legislative Assembly was first made as from 21st September, 1889, by an Act passed in that year which fixed the remuneration at £300 per annum. This sum was increased to £500 per annum by an Act assented to on 17th September, 1912, and further increased to £875 per annum as from 1st November, 1920.

The seat of a member becomes vacant if the member be absent without permission for a whole session of the Legislature, becomes bankrupt, a subject of a foreign power, or convicted of a crime. The Speaker of the Legislative Assembly receives a salary of £1,675 per annum, and the Chairman of Committees £1,115 per annum. The leader of the Opposition receives £250 per annum in addition to his remuneration as a Member of Parliament.

Parliament may be dissolved at the discretion of the Governor, if the Government is defeated in the Assembly, otherwise it exists for three years.

The Constitution Act makes no distinction between the powers and privileges of the two Houses of Parliament beyond providing that all bills for appropriating revenue or imposing taxation must originate in the Assembly. It is tacitly agreed that the procedure in each House shall be conducted according to that of its prototype in the Imperial Parliament. When a disagreement arises between the two Houses each appoints "managers" to meet in conference upon the matters in dispute. There is no provision to meet a deadlock, but the overwhelming opinion that the Assembly represents the will of the people has been sufficient to prevent a deadlock.

STATE ELECTIONS.

The law relating to State elections is contained in the Parliamentary Electorates and Elections Act, 1912, as amended by an Act passed in 1918.

The Act of 1918 provides that at general elections the members of the Legislative Assembly shall be 90, to be elected in accordance with the principles of proportional representation. The first election under this system took place in 1920. The electoral districts were so arranged that each district within the metropolitan and adjacent area, and that containing the city of Newcastle, are represented by five members, and each of the remaining districts by three. In all there are 24 electorates—9 returning five members each and 15 returning three members each.

Legislation was passed in order to overcome the difficulty as to the filling of vacancies caused by deaths and resignations of members who represented districts under the present electoral law. A vacancy in a constituency is filled by the election of the unsuccessful candidate in that constituency at the last general election who represented the same party interest as the late member and whose count of primary preference votes at the election was highest on the list of unsuccessful candidates of the same party.

In 1920 a bill was introduced into Parliament by the Government to abolish the Proportional Representation Act and to revert to the method of single electorates. It was not, however, passed into law.

Adult British subjects are entitled to be enrolled as electors if resident in the Commonwealth for a continuous period of six months, in New South Wales for three months, and in the electoral district for one month. The hours of polling are from 8 a.m. to 7 p.m., polling day being a public holiday from mid-day; under the liquor laws hotels are closed during the hours of polling. Electors absent from their districts may record their votes at any polling-place in the State, and postal voting is allowed in the case of persons precluded from attendance at any polling-place by reason of illness or infirmity, distance over 15 miles, or travelling.

Lists of electors are collected annually by the police and revised in each district by a revision court consisting of a stipendiary or police magistrate. Supplementary lists are collected and revised wherever practicable before a general election.

Before voting, an elector is required to sign a declaration that he is the person referred to in the roll and that he has not already voted at the election. The regulations under the Proportional Voting System provide that the ballot papers for each electorate must contain the names of each candidate in alphabetical order and each voter is required to mark every candidate in the order of his preference.

The following table shows the voting at the elections held in New South Wales since the general election in 1894:—

Year of Election.	Voters on Roll.	Electors per Member.	Total Members returned.	Members unopposed.	Contested Electorates.					
					Electors on Roll.	Votes recorded.	Percentage of Votes recorded.	Informal Votes.	Percentage of Informal Votes.	
1894	298,817	2,390	125	1	254,105	204,246	80·38	3,310	1·62	
1895	267,458	2,139	125	8	238,233	153,034	64·24	1,354	·88	
1898	324,339	2,595	125	3	294,481	178,717	60·69	1,638	·92	
1901	346,184	2,769	125	13	270,861	195,359	72·13	1,534	·79	
1904 {	Males ...	363,062	7,661	90	2	304,396	226,057	74·26	3,973	·99
	Females ...	326,428								
1907 {	Males ...	392,845	8,288	90	5	370,715	267,301	72·10	13,543	2·87
	Females ...	353,055								
1910 {	Males ...	458,626	9,641	90	3	444,242	322,199	72·53	10,393	1·78
	Females ...	409,069								
1913 {	Males ...	553,633	11,533	90	3	534,379	385,838	72·20	14,439	2·10
	Females ...	484,366								
1917 {	Males ...	574,308	12,331	90	8	525,681	328,030	62·40	5,844	·94
	Females ...	535,522								
1920 {	Males ...	593,244	12,827	90	...	593,244	363,115	61·21	62,900	9·70
	Females ...	561,193								

Making due allowance for obstacles to voting, especially in sparsely-settled districts, the figures quoted indicate that a large percentage of the electors, particularly women, attach little value to the privilege. At the first election after enfranchisement, 66·5 per cent. of women recorded their votes; in 1907, 60·8 per cent.; at the elections of 1910 and 1913 about 65 per cent.; in 1917 the proportion was only 60·6 per cent., and in 1920, 50·9 per cent.

In the case of men, the highest proportion of votes, 80·4 per cent., was recorded at the first election shown in the table above, when popular interest was excited by a strenuous contest on the question of fiscal reform. At subsequent elections the percentage of votes decreased, the proportion at the three elections in 1907-13 being about 72 per cent. of men enrolled. In 1917 many of the electors were absent on war service, and the percentage of voters was low, viz., 62·4. In 1920 the percentage was 61·2. The knowledge that at the election in 1920 additional requirements were to be enforced such as the signing by the elector of a declaration before voting and the marking of a preference for every name on the ballot-paper doubtless caused many to absent themselves from the polling booths. In New South Wales there is no law compelling an elector to vote at a Parliamentary election.

The number of informal votes was high at the election in 1907, being 3 per cent. of the total votes recorded; at the 1910 election a change made in the method of marking the ballot-papers no doubt accounted for the percentage of informal votes being reduced to 1·78 per cent. The percentage rose to 2·1 in 1913; this was the first election at which absent voting was allowed, and many informalities occurred through the non-compliance by election-officers with the special conditions regarding the issue of ballot papers to electors outside the districts in which they were enrolled. In 1917 there were 5,844 informal votes, representing ·94 per cent. of the total votes recorded. In 1920 there were 62,900 informal votes representing the large proportion of 9·70 per cent. of the votes recorded, which requires some explanation. The system of proportional representation was adopted at this election under which ninety single-member electorates were changed to twenty-four plural-member electorates. Every electorate was contested, and in one there were twenty-one candidates for five seats. All voters were compelled to record their preference for every name shown in the ballot-papers; but many failed to mark the papers in accordance with the requirements of the Act. Postal voting was in operation at the election of 1920. There were 2,773 of these votes, of which 94 were informal.

DISTRIBUTION OF ELECTORATES.

After the federation of the Australian States the question of reducing the membership of the Legislative Assembly of New South Wales was submitted by a referendum to the electors in 1904, and, as a result, the number of representatives was reduced to 90, the voting being—for 125 members 63,171, for 100 members 13,316, and for 90 members 206,273 votes.

The present Electoral Act provides that electorates are to be redistributed whenever directed by the Governor. If the Governor, however, does not so direct, then a distribution is to take place after the expiration of nine years from the date of the last redistribution.

The following table shows the average number of persons represented by each member of the Assembly, and the proportion of the population enrolled

on the electoral lists at various dates on which the membership or franchise has been altered since the opening of the first Parliament, and at each year of election since 1901:—

Year of Election.	Number of Members.	Population per Member.	Percentage of Population Enrolled.
1856	54	5,200	15·8
1858	72	4,500	22·3
1880	108	6,900	25·2
1885	122	7,800	24·5
1891	141	8,100	26·7
1894	125	9,800	24·3
1901	125	10,900	25·3
1904	90	15,900	48·3
1907	90	17,000	48·8
1910	90	18,200	53·0
1913	90	20,400	56·6
1917	90	20,800	59·2
1920	90	21,800	60·2

The number of distinct electors cannot be ascertained for any period prior to the year 1894, and the figures in the last column have been calculated on the total number of votes to which the electors on the roll were entitled; they are, therefore, somewhat in excess of the actual proportions. At the census of 1901 the proportion of adult males in the total population was about 28 per cent., and of adults, males and females, 52 per cent. At the election in 1901 the proportion of the population enrolled was 25 per cent., and after the Women's Franchise Act, 1902, was passed it rose to 48 per cent. In 1910 the proportion was 53 per cent.; while at the Census date, 2nd April, 1911, the adult population represented 55·8 per cent. of the total. In March, 1917, the electors on the roll represented 59·8 per cent. of the total population, and at the general election in March, 1920, the proportion was 60·2 per cent.

A list of the Parliaments since 1889, when payment of members was instituted, is shown below:—

Number of Parliament.	Opened.			Dissolved.			Duration.			Sessions.
	Yr.	Mth.	Dy.	Yr.	Mth.	Dy.	yrs.	mths.	dys.	
14	27	Feb.	1889	6	June	1891	2	3	10	4
15	14	July	1891	25	June	1894	2	11	11	4
16	7	Aug.	1894	5	July	1895	0	10	28	1
17	13	Aug.	1895	8	July	1898	2	10	25	4
18	16	Aug.	1898	11	June	1901	2	9	26	5
19	23	July	1901	16	July	1904	2	11	23	4
20	23	Aug.	1904	12	July	1907	2	10	19	4
21	2	Oct.	1907	14	Sept.	1910	2	11	12	5
22	15	Nov.	1910	6	Nov.	1913	2	11	22	5
23	23	Dec.	1913	21	Feb.	1917	3	1	30	5
24	17	April	1917	18	Feb.	1920	2	10	8	4
25	27	April	1920	Still sitting	...	...	...	...	...	...

On account of war conditions and the disturbed state of public affairs it was deemed advisable to extend the 23rd Parliament to a period over the three years fixed by the Constitution Act and the Legislative Assembly Continuance Act, 1916, was passed to provide for a change from three years to four years. The Parliament, however, terminated after three years 1 month 30 days.

STATE MINISTRIES.

The various Ministries which have held office since the establishment of Responsible Government, together with the duration in office of each, are shown below:—

Ministry.		From—	To—	Duration.	
Number.	Name.			months.	days.
1	Donaldson	6 June 1856	25 Aug. 1856	2	20
2	Cowper	26 Aug. 1856	2 Oct. 1856	1	7
3	Parker	3 Oct. 1856	7 Sept. 1857	11	4
4	Cowper	7 Sept. 1857	26 Oct. 1859	25	20
5	Forster	27 Oct. 1859	8 Mar. 1860	4	11
6	Robertson	9 Mar. 1860	9 Jan. 1861	10	1
7	Cowper	10 Jan. 1861	15 Oct. 1863	33	6
8	Martin	16 Oct. 1863	2 Feb. 1865	15	18
9	Cowper	3 Feb. 1865	21 Jan. 1866	11	19
10	Martin	22 Jan. 1866	26 Oct. 1868	33	5
11	Robertson	27 Oct. 1868	12 Jan. 1870	14	17
12	Cowper	13 Jan. 1870	15 Dec. 1870	11	3
13	Martin	16 Dec. 1870	13 May 1872	16	28
14	Parkes	14 May 1872	8 Feb. 1875	32	26
15	Robertson	9 Feb. 1875	21 Mar. 1877	25	13
16	Parkes	22 Mar. 1877	16 Aug. 1877	4	26
17	Robertson	17 Aug. 1877	17 Dec. 1877	4	1
18	Farnell	18 Dec. 1877	20 Dec. 1878	12	3
19	Parkes	21 Dec. 1878	4 Jan. 1883	48	15
20	Stuart	5 Jan. 1883	6 Oct. 1885	33	2
21	Dibbs	7 Oct. 1885	21 Dec. 1885	2	15
22	Robertson	22 Dec. 1885	25 Feb. 1886	2	4
23	Jennings	26 Feb. 1886	19 Jan. 1887	10	25
24	Parkes	20 Jan. 1887	16 Jan. 1889	23	28
25	Dibbs	17 Jan. 1889	7 Mar. 1889	1	19
26	Parkes	8 Mar. 1889	22 Oct. 1891	31	15
27	Dibbs	23 Oct. 1891	2 Aug. 1894	33	11
28	Reid	3 Aug. 1894	13 Sept. 1899	61	11
29	Lyne	14 Sept. 1899	27 Mar. 1901	18	14
30	See	28 Mar. 1901	14 June 1904	38	18
31	Waddell	15 June 1904	29 Aug. 1904	2	15
32	Carruthers	30 Aug. 1904	1 Oct. 1907	37	2
33	Wade... ..	2 Oct. 1907	20 Oct. 1910	36	19
34	McGowen	21 Oct. 1910	29 June 1913	32	9
35	Holman	30 June, 1913	15 Nov. 1916	40	16
36	Holman	16 Nov. 1916	11 April, 1920	40	27
37	Storey	12 April, 1920	Still in office.	...	...

The Storey Ministry, which is in office, consists of the following members:—

Premier	Hon. JOHN STOREY, M.L.A.
Colonial Secretary and Minister for Housing ...	Hon. JAMES DOOLEY, M.L.A.
Minister for Agriculture	Hon. W. F. DUNN, M.L.A.
Secretary for Lands and Minister for Forests ...	Hon. P. F. LOUGHLIN, M.L.A.
Secretary for Mines and Minister for Labour and Industry.	Hon. G. CANN, M.L.A.
Colonial Treasurer	Hon. J. T. LANG, M.L.A.
Minister of Public Instruction and Local Government	Hon. T. D. MUTCH, M.L.A.
Attorney-General	Hon. E. A. McTIERNAN, M.L.A.
Secretary for Public Works & Minister of Railways	Hon. J. ESTELL, M.L.A.
Minister for Public Health and Motherhood ...	Hon. J. J. G. MCGIRR, M.L.A.
Minister for Justice	Hon. W. J. MCKELL, M.L.A.
Solicitor-General	Hon. R. SPROULE, M.L.C.
Vice-President of the Executive Council	Hon. E. J. KAVANAGH, M.L.C.

Under the provisions of the Parliamentary Representatives Allowance and Ministers' Salaries (Amendment) Act, 1920, the following annual payments from the Consolidated Revenue Fund are authorised:—

	£
The Premier	2,445
The Attorney-General	2,095
The Vice-President of the Executive Council (leader of the Government in the Legislative Council)	1,375
Nine other Ministers of the Crown, £1,945 each	17,505
Total	£23,420

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS.

As soon as practicable after the commencement of the first session of every Parliament, a joint committee of members of the Legislative Council and Legislative Assembly, called the Parliamentary Standing Committee on Public Works, is appointed by ballot. This Committee consists of three members of the Legislative Council, and four members of the Legislative Assembly, and has power, under the Public Works Act, to prosecute inquiries, to summon witnesses, and to compel the production of books, &c.

The Chairman receives by way of remuneration £3 3s. for each sitting of the Committee, and every other member £2 2s.

Proposals for public works of an estimated cost exceeding £20,000 must be submitted and explained by a Minister in the Legislative Assembly, and then referred to the Public Works Committee for report. The election of a Committee was suspended during war time and appointments were not made when the present Parliament was opened. Provision was made in an Enabling Act, passed in 1920, for the election to be held during the second session of the present Parliament.

COMMISSIONS AND TRUSTS.

In addition to the Ministerial Departments, various public services are administered by Commissions, Boards, and Trusts; the more important of these are—

- Railway Commissioners for New South Wales.
- Metropolitan Board of Water Supply and Sewerage.
- Hunter District Water Supply and Sewerage Board.
- Sydney Harbour Trust Commissioners.
- Water Conservation and Irrigation Commission.
- Housing Board.
- Commissioners of the Government Savings Bank of New South Wales.
- Board of Fire Commissioners of New South Wales.
- Metropolitan Meat Industry Board.
- Forestry Commission.

In each case the authority controls a specific service, and administers the statute law in relation to it.

COST OF PARLIAMENT.

The following statement shows the cost of Parliamentary Government in New South Wales during the five financial years 1916-1920:—

Head of Expenditure.	1916.	1917.	1918.	1919.	1920.
Governor—	£	£	£	£	£
Governor's salary	5,000	5,000	5,000	5,000	5,000
Official Secretary	400	400	400	400	440
Clerk ... ..	...	...	...	...	259
Private Secretary	350	350	...	...	...
Aide-de-Camp	350	290	...	...	...
Orderlies	796	85	210	255	267
Repairs and maintenance of Residences	1,653	1,399	886	1,019	2,274
Miscellaneous	1,547	2,570	2,780	2,374	923
Total	£ 10,096	10,094	9,276	9,048	9,163
Executive Council—					
Salaries of Officers ... ..	...	145	115	100	250
Other expenses ... ..	...	...	...	12	257
Total	£ ...	145	115	112	507
Ministry—					
Salaries of Ministers	11,040	11,040	11,040	11,040	10,924
Other expenses	1,298	988	2,291	843	801
Total	£ 12,338	12,028	13,331	11,883	11,725
Parliament—					
The Legislative Council—					
Railway passes	£ 6,070	6,929	8,432	8,849	10,430
The Legislative Assembly—					
Allowances to Members	40,335	37,681	40,607	40,743	37,392
Railway passes	10,387	11,262	10,841	11,705	13,821
Other expenses (Postage Stamps, &c.)	1,770	1,753	5,455	1,777	1,836
Total	£ 52,492	50,696	56,903	54,225	53,049
Miscellaneous—					
Fees and expenses of Parliamentary Standing Committee on Public Works	6,225	3,833	4	...	...
Salaries of Officers and Staff	21,454	21,339	22,656	21,927	23,654
Printing	14,967	17,158	13,110	10,452	13,219
Hansard (including Salaries)	7,121	6,969	6,925	7,162	7,147
Library	677	544	565	767	874
Water, power, light, and heat	575	462	552	505	630
Postage, stores, and stationery	947	596	2,606	686	1,169
Refreshment Rooms ... ..	...	...	...	...	...
Miscellaneous	3,339	2,489	1,329	2,109	2,215
Total	£ 55,305	53,390	47,747	43,611	48,908
Total Parliament	£ 113,867	111,015	113,082	106,685	112,387
Electoral Office and Elections—					
Salaries	1,123	1,832	1,307	1,301	1,629
Elections, Printing of Electoral Rolls, expenses of Electoral Registrars, and contingencies	*56,491	50,047	20,995	8,534	82,084
Total	£ 57,614	51,879	22,302	9,835	83,713
Royal Commissions and Select Committees					
Fees, &c.	4,114	6,171	3,872	10,466	{ 7,021
Miscellaneous ... ..	...	...	...	...	{ 11,587
Total	£ 4,114	6,171	3,872	10,466	18,599
GRAND TOTAL	£ 198,029	191,332	161,978	148,029	236,094
Per Head of Population	2s. 2d.	2s. 1d.	1s. 8d.	1s. 6d.	2s. 4d.

* Includes £30,244 for Liquor Referendum.

The cost of Parliamentary Government in 1919-20, namely, 2s. 4d. per head, represents 1.95 per cent. of the governmental expenditure during that year, that is excluding expenditure on business undertakings.

THE COMMONWEALTH.

The formal inauguration of the Commonwealth took place on 1st January, 1901, and under the Commonwealth of Australia Constitution Act, the Parliament of the Commonwealth is empowered to make laws on matters affecting the peace, order, and good government of the Commonwealth, particularly with respect to the following:—Trade and commerce with other countries and among States, taxation, bounties on production, borrowing money on public credit, postal, telegraphic and telephonic services, defence, light-houses, astronomical and meteorological observations, quarantine, fisheries, census and statistics, currency, banking, insurance, weights and measures, bills of exchange and promissory notes, bankruptcy, copyright, patents and trade marks, naturalisation and aliens, foreign corporations and trading, or financial corporations formed within the Commonwealth, marriage, divorce, invalid and old-age pensions, migration, external affairs, railway control in relation to defence and railway acquisition or construction, subject to the consent of the State, conciliation and arbitration in regard to disputes extending beyond the limits of one State.

To alter the Constitution, the law for the proposed alteration must be submitted to a referendum of electors not less than two nor more than six months after its passage through both Houses of Parliament, and must be approved by a majority of electors voting, in a majority of the States, as well as in the whole Commonwealth. The Constitution has been altered by the Constitution Alteration (Senate Elections) Act, 1906, and the Constitution Alteration (State Debts) Act, 1909.

The Parliament of the Commonwealth is empowered specifically to legislate on any matter referred to it by the Parliament or Parliaments of any State or States, but so that the law made shall extend only to the States which are parties to the reference.

Outside the specific functions of the Commonwealth the Constitution of each State continues as at the establishment of the Commonwealth, and the Parliament of New South Wales has legislative power in all matters not exclusively within the functions of the Commonwealth.

Commonwealth Executive Government.

The Crown is represented by the Governor-General of Australia, who is appointed by the King. The Senate and the House of Representatives are elective Chambers. As representative of the King, the Governor-General is Commander-in-Chief of the Naval and Military Forces. His office carries a salary of £10,000 per annum, and the amount is not alterable during his occupancy of office.

The Governor-General's powers and functions are assigned to him under his Commission, subject to the Constitution; as head of the Legislature he appoints the times for holding sessions of Parliament, prorogues Parliament, and dissolves the House of Representatives. In his Executive Government he is advised by the Executive Council, which is composed of members summoned by the Governor-General, being Ministers of the Crown administering Commonwealth Departments. The maximum amount specified for their salaries is £15,300 per annum.

THE COMMONWEALTH PARLIAMENT.

A session of the Parliament must be held once at least in every year, with a maximum interval of twelve months between sessions.

The Senate consists of thirty-six members, six of whom are elected for each State, the people in each State voting as in one electorate. The term of service of a Senator is six years; but, in accordance with the Constitution Act, the seats of half the number chosen at an election of a new Senate become vacant at the expiration of three years. An election is held triennially to fill the vacancies then occurring by effluxion of time. A system of preferential voting at Senate elections is in force in terms of the Commonwealth Electoral Act, 1919.

The House of Representatives, as far as practicable, contains twice as many members as the Senate, the number elected for the several States being in proportion to the respective populations, but with a specified minimum of five each. There are, at the present time, seventy-five members in this House, the number from New South Wales being 27; Victoria, 21; Queensland, 10; South Australia, 7; Western Australia, 5; Tasmania, 5. The number from New South Wales will probably be increased when the results of the census of 1921 are available.

The House of Representatives is liable to dissolution at the discretion of the Governor-General if the Ministry loses its majority, otherwise it exists for three years. In the event of the failure of the Senate and House of Representatives to agree on the subject of any proposed law, the Governor-General may dissolve both Chambers simultaneously, and if the new Houses disagree, the Governor-General may convene a joint sitting of the members of the Houses to deliberate and vote upon the proposed law, when resolutions, to be effective, must be carried by an absolute majority of all the members. This furnishes the first example within the British Empire of a provision for joint session to overcome a deadlock.

The qualifications of members of the Commonwealth Parliament are the same for both Houses; candidates for election must be adult British subjects natural born or naturalised for five years, resident within the Commonwealth for at least three years and entitled to vote. The allowance attaching to the office of member was originally £400 per annum, but was raised by Parliament in 1907 to £600 per annum and during the year 1920 to £1,000 per annum. To a Senator or member of the House of Representatives who holds office as a Minister of State, President of the Senate, Speaker of the House of Representatives, Chairman of Committees of the Senate, or Chairman of Committees of the House of Representatives, the allowance is £800 a year, in addition to the emoluments of his office. The Leader of the Opposition in the Senate receives an allowance of £200 a year, and the Leader of the Opposition in the House of Representatives £400 a year in addition to any other allowance. The seat of a member becomes vacant if he is absent without leave for two consecutive months of any session.

The qualifications of electors are the same for both Federal Houses. Electors must be adult British subjects, who have lived in Australia for six months continuously. Aboriginal natives of Australia, Asiatics, Africans, and Pacific Islanders, except natives of New Zealand, are disqualified unless entitled to vote at the election of a State Legislative Assembly.

Members of Expeditionary Forces and munition and other workers engaged under agreement with the Commonwealth Government, were entitled to vote while on service abroad.

The Commonwealth Electoral Act, 1918-19 provides for a system of preferential voting at elections for the House of Representatives.

FEDERAL ELECTIONS.

The following table shows the votes polled at the Senate Elections in the State of New South Wales. The last Federal Elections took place on 13th December, 1919:—

Election.	Electors Enrolled.		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Electors Enrolled to whom Ballot Papers were issued.		
	Men.	Women.	Men.	Women.		Men.	Women.	Total.
1901	329,093	...	220,573	...	38,674	67·02	...	67·02
1903	360,285	326,764	189,877	134,487	15,796	52·70	41·16	47·21
1906	392,077	345,522	229,654	151,682	28,916	58·57	43·90	51·70
1910	444,269	390,393	301,167	211,635	24,213	67·79	54·21	61·44
1913	554,028	482,159	405,152	312,703	48,195	73·13	64·85	69·28
1914	576,309	506,820	407,464	294,939	34,984	70·70	58·19	64·85
1917	566,345	528,489	430,514	343,143	29,625	76·02	64·93	70·66
1919	550,363	529,076	400,477	317,088	67,227	72·77	59·93	66·48

The votes recorded in the State of New South Wales at the elections of members of the House of Representatives were as follow:—

Election.	Electors Enrolled (Contested Divisions only).		Electors to whom Ballot Papers were issued.		Informal Ballot Papers.	Percentage of Electors Enrolled to whom Ballot Papers were issued.		
	Men.	Women.	Men.	Women.		Men.	Women.	Total.
1901	315,962	...	215,105	...	4,070	68·08	...	68·08
1903	303,254	274,763	164,133	118,381	7,834	54·12	43·08	48·88
1906	363,723	314,777	216,150	141,227	11,705	59·43	44·87	52·67
1910	431,702	379,927	294,049	207,868	8,002	68·11	54·71	61·84
1913	554,028	482,159	405,152	312,703	22,262	73·13	64·85	69·28
1914	491,086	429,906	351,172	257,581	14,816	71·51	59·92	66·10
1917	484,854	447,437	370,618	292,925	19,874	76·44	65·47	71·17
1919	527,779	508,129	385,614	308,183	26,517	73·06	60·65	66·97

The percentage of voters increased steadily at the elections during the period 1903-1913; the improvement was not continued in 1914, when the electoral contest was modified in consequence of the outbreak of war in Europe, but in 1917 the percentage was the highest since the inauguration of the Commonwealth Parliament.

FEDERAL MINISTRIES.

In the following statement is shown the various Ministries which have held office since the inauguration of the Commonwealth, also the duration of each Ministry:—

Ministry.		From—	To—	Duration.
Number.	Name.			
1	Barton	1 Jan., 1901 ...	23 Sept., 1903...	mths. dys. 32 23
2	Deakin	23 Sept., 1903...	26 April, 1904...	7 3
3	Watson	26 April, 1904...	17 Aug., 1904 ...	3 22
4	Reid-McLean	17 Aug., 1904 ...	4 July, 1905 ...	10 17
5	Deakin	4 July, 1905 ...	12 Nov., 1908 ...	40 8
6	Fisher	12 Nov., 1908 ...	2 June, 1909 ...	6 21
7	Deakin	2 June, 1909 ...	29 April, 1910...	10 27
8	Fisher	29 April, 1910...	20 June, 1913 ...	37 22
9	Cook	20 June, 1913 ...	17 Sept., 1914...	14 28
10	Fisher	17 Sept., 1914...	27 Oct., 1915 ...	13 10
11	Hughes	27 Oct., 1915 ...	14 Nov., 1916 ...	12 18
12	Hughes	14 Nov., 1916 ..	17 Feb., 1917 ...	3 3
13	Hughes	17 Feb., 1917 ..	8 Jan., 1918 ...	10 22
14	Hughes	10 Jan., 1918 ...	Still in Office.	...

FEDERAL REFERENDA.

Federal Referenda have been of three kinds—those held prior to the enactment of the Constitution in order to secure popular sanction to the terms of federation, those under section 128 of the Constitution providing for its amendment, and those held for the purpose of obtaining the opinion of the electors on important matters for the guidance of Parliament.

Though at the first referendum on the question of federation a substantial majority in favour of the bill as drafted by the Convention was obtained, a statutory vote of 80,000 in New South Wales in favour of the measure was not secured, and the bill was therefore not accepted. After modifications had been made to accord with the desires of the people of New South Wales, the proposed Constitution was again submitted to the popular vote and accepted by a large majority polled principally in the younger States:—

Date.	Referendum.	State of New South Wales.			Australia.			
		For.	Against.	Majority	For.	Against.	Result	Majority.
1898	Federation	71,595	66,228	5,367	219,712	108,363	...	111,349
1899	Federation	107,420	82,741	24,679	422,788	161,077	A	261,711

The Referendum (Constitution Alteration) Act, 1906-19, provides the necessary machinery for the submission to the electors of any proposed law for the alteration of the Constitution.

The following statement shows the votes recorded in the State of New South Wales and in the Commonwealth at the various referenda which have been taken under the abovementioned Act:—

Date.	Referendum.	State of New South Wales.			Commonwealth of Australia.			
		For.	Against.	Majority	For.	Against.	Result.	Majority.
1906	Senate Elections...	286,888	55,261	231,627	774,011	162,470	A	611,541
1910	Financial Agreement ...	227,650	253,107	25,457	645,514	670,838	R	25,324
1910	State Debts ...	159,275	318,412	159,137	715,053	586,271	A	128,782
1911	Legislative Powers ...	135,968	240,605	104,637	483,356	742,704	R	259,348
1911	Monopolies ...	138,237	238,177	99,940	488,668	736,392	R	247,724
1913	Trade and Commerce ...	317,848	359,418	41,570	958,419	982,615	R	24,196
1913	Corporations ...	317,668	361,255	43,587	960,711	986,824	R	26,113
1913	Industrial Matters ...	318,622	361,044	42,422	961,601	987,611	R	26,010
1913	Railway Disputes ...	316,928	361,743	44,815	956,358	990,046	R	33,688
1913	Trusts ...	319,150	358,155	39,005	967,331	975,943	R	8,612
1913	N'n'lisiation of Monopolies	301,192	341,724	40,532	917,165	941,947	R	24,782
1919	Legislative Powers ...	259,751	390,450	130,699	911,357	924,160	R	12,803
1919	N'n'lisiation of Monopolies	227,156	365,847	138,691	813,880	859,451	R	45,571

A. Accepted. R. Rejected.

In 1916 and in the following year referenda were taken in relation to a proposal that the Government be empowered during the war to compel citizens to serve with the military forces outside the Commonwealth. In 1916 the proposal was rejected in New South Wales, Queensland, and South Australia, and in 1917 in all States except Western Australia and Tasmania:—

Date:	Referendum.	State of New South Wales.			Commonwealth of Australia.		
		For.	Against.	Majority Against.	For.	Against.	Majority Against.
1916	Military Service ..	356,805	474,544	117,739	1,087,557	1,160,033	72,476
1917	Military Service...	341,256	487,774	146,518	1,015,159	1,181,747	166,588

SEAT OF FEDERAL GOVERNMENT.

The Federal Capital Territory, formerly part of the State of New South Wales, is situated in the upper basin of the Murrumbidgee River, being watered by its tributaries, Molonglo and Cotter. The site chosen for the capital city, is 5 miles distant from Queanbeyan, with which it is connected by rail.

The agreement under section 125 of the Commonwealth Constitution Act, between the State of New South Wales and the Commonwealth, for the surrender and acceptance of territory for the seat of Federal Government was ratified, and an ordinance issued on 22nd December, 1910, for the Provisional Government of the Territory. On 12th March, 1913, the official ceremony took place in connection with the establishment of the seat of Government and the selection of Canberra as the name of the capital city announced. All laws hitherto in force in the Territory (except those imposing duties on estates of deceased persons) remain in force and continue to be administered by the State authorities. All revenue belongs to the Commonwealth. The authority of State magistrates, gaolers, and police continues, and all offenders are tried in the Courts of the State. Licenses to sell intoxicating liquors are not granted, and existing licenses may be renewed for the same premises only.

Although the site was chosen in 1908 the seat of Government is still in Melbourne, Victoria.

DEFENCE.

Upon the inauguration of the Commonwealth the duty of providing for the defence of Australia devolved upon the Federal Government, and the Parliament of the Commonwealth has paramount power, subject to Imperial approval to legislate for the naval and military defence of Australia, and for the control of the forces to execute and maintain the Federal laws. The Constitution provides that the States may not raise or maintain forces, but enjoins the Commonwealth to protect every State against invasion, and on the application of the Executive Government of the State, against domestic violence.

A system of universal training was brought into operation on 1st January, 1911, persons who reached the age of 18 years in or before the year 1911 being exempted.

The prescribed annual training is as follows :—

Rank.	Age.	Service.	Training.
Junior Cadets	years. 12-14	years. 2	90 hours each year.
Senior Cadets	14-18	4	40 drills each year—4 whole days, (four hours), 12 half-days (two hours), and 24 night drills (one hour). Minimum service, 64 hours per annum.
Citizen Forces— Naval Forces, Artillery and Engineer Arms, and Army Service Corps.	18-25	7	Drills equivalent to 25 whole days (six hours) of which, at least, 17 days must be in camps of continuous training.
Other	18-25	7	Drills equivalent to 16 whole days (six hours), of which, at least, 8 days must be in camps of continuous training.
Citizen Forces	25-26	1	One registration or one muster parade.

Members of Senior Cadets and Citizen Forces who have not attained a required standard of efficiency during each annual training must attend an equivalent additional training for each year in which they failed to qualify as efficient.

Exemptions from training in time of peace may be granted on account of medical unfitness, or distance from training places, also in cases where attendance would impose great hardship. Persons who have been on war service are not required to undergo training, and those not substantially of European origin are exempt except from duties of a non-combatant nature.

In time of war the following are liable for service in the order mentioned :—

1. From 18 to 35 years of age—All unmarried men or widowers without children.
2. From 35 to 45 years of age—All unmarried men or widowers without children.

3. From 18 to 35 years of age—All married men or widowers with children.
4. From 35 to 45 years of age—All married men or widowers with children.
- 5 All men aged 45 to 60 years.

The Commonwealth is organised for Defence purposes into six military districts, corresponding as far as practicable with the political divisions into States. The second military district represents the State of New South Wales, excepting the North Coast district, the Barrier district, which are attached to Queensland and South Australia respectively, and the Deniliquin, Moama, and Corowa districts attached to Victoria.

The following table contains information regarding the military forces of the Commonwealth on 30th June, 1920; the figures do not include the members of oversea Expeditionary Forces.

Classification.	Military District.						Total.
	1st. Queens- land.	2nd. New South Wales.	3rd. Victoria.	4th. South Australia.	5th. Western Australia.	6th. Tasmania.	
Permanently employed	316	807	985	193	226	164	2,691
Citizen Soldiers ..	12,947	37,621	29,712	19,383	3,959	4,396	99,018
Engineer and Railway Staff Corps	8	11	9	5	9	4	46
Army Nursing Service	32	88	26	...	204	2	352
Area Officers	28	42	39	14	11	7	141
Rifle Clubs	12,322	16,377	14,261	5,641	7,064	4,066	59,731
Senior Cadets	12,439	35,580	28,513	9,784	5,749	3,453	95,518
Unattached list of Officers	73	80	110	59	9	12	343
Reserve of Officers ...	209	146	487	277	494	43	1,656
Chaplains	78	96	61	26	45	21	327
Total	38,452	90,848	74,203	26,382	17,770	12,168	259,823

JUNIOR CADETS.

The training of Junior Cadets embraces physical training, elementary marching drill, and the attainment of a certain standard of efficiency in not less than one of the following subjects:—Miniature rifle shooting, swimming, running in organised games, first aid. In schools in the naval training areas instruction is given also in mariners' compass and elementary signalling. The training is commenced on 1st July of the year in which the cadet reaches the age of 12 years and is conducted by school teachers, who are instructed for this purpose by a staff of instructors maintained by the Defence Department.

Junior Cadets are not required to register, but are examined medically. Particulars regarding the medical examinations during the training year ended 30th June, 1920, are given in the following table:—

Military District.	Boys medically examined.			Percentage of total examined.	
	Total.	Medically fit.	Unfit and temporarily unfit.	Medically fit.	Unfit and temporarily unfit.
1st—Queensland	9,007	8,677	330	96·3	3·7
2nd—New South Wales ...	30,646	30,005	641	97·9	2·1
3rd—Victoria	23,329	22,806	533	97·8	2·2
4th—South Australia ...	8,841	8,620	221	97·5	2·5
5th—Western Australia ...	6,226	6,098	128	97·9	2·1
6th—Tasmania	2,689	2,645	44	98·4	1·6
Commonwealth	80,738	78,851	1,887	97·7	2·3

SENIOR CADETS.

Boys are required to register for military training as Senior Cadets in January and February, and to commence training on 1st July of the year in which they reach the age of 14 years. After medical examination they are organised in naval or military units, and receive instruction in moral and mental training, physical training, recreational training, military training, comprising the elements of drill and musketry, and voluntary subjects, such as swimming, life-saving, first-aid, knotting and lashing, and other subjects suitable to boys, but are not required to attend camp. The minimum efficient service of Senior Cadets is 64 hours per annum, of which 36 hours is performed in the employer's time, the remainder in the leisure time of the cadet. The following return shows the registrations and medical examinations of Senior Cadets during the training year ended 30th June, 1920:—

Military District	Total Registrations.	Medically examined.	Medically fit.		Exemptions granted.	Number actually in Training.
			Number.	Percentage of medically examined.		
1st—Queensland	20,973	19,111	17,215	91·0	4,348	12,439
2nd—New South Wales ...	13,764	51,459	47,518	92·3	6,477	35,580
3rd—Victoria	40,311	39,684	32,396	91·7	2,701	18,513
4th—South Australia ...	14,986	14,395	13,348	92·7	2,099	9,784
5th—Western Australia ...	8,411	8,272	7,517	90·9	625	5,743
6th—Tasmania	5,633	4,961	4,451	89·7	1,016	3,453
Commonwealth	144,078	137,882	126,445	91·7	17,402	95,518

It will be seen that a small proportion failed to pass the medical examination, and that proportion would be further reduced by the exclusion of lads deemed only temporarily unfit.

CITIZEN FORCES.

On 1st July of the year in which the Senior Cadets reach the age of 18 years they are transferred, after medical examination, to the Citizen Forces, and serve for eight years. Except in the last year of this service (when only one muster parade is necessary) the continuous training is 25 days per annum for specialist and technical corps, and 16 days per annum for other corps.

NAVAL DEFENCE.

The Naval Defence of Australia was maintained by the Imperial Navy under agreement between the Imperial Government and the Governments of Australia and New Zealand until 1913, when the Imperial squadron was replaced by Australian war vessels. The sea-going fleet of the Australian Navy consists of six submarines, six new destroyers, two sloops, one light cruiser, and one training cruiser. The battle cruiser "Australia" is to be employed as a gunnery and torpedo drill ship, and the "Melbourne" becomes the flagship. A light cruiser, six river class destroyers, a sloop and armed yacht are in reserve, but some of these vessels will be exercised with the sea-going forces. A light cruiser is in course of construction. Provision has been made for aircraft in conjunction with naval operations.

The naval forces consist of the permanent forces who engage for continuous service, and the reserves and the trainees under the universal training system.

The strength of the Naval Forces on 31st December, 1919, was 638 officers and 9,728 men, and there were 117 cadet midshipmen at the Naval College, and 214 boys on the training ship.

The British Government has presented to the Commonwealth as a free gift sixteen vessels and material, of an approximate value of £2,400,000.

WAR CONTINGENTS.

Although service in the military forces beyond Commonwealth territory is not obligatory, in time of war contingents of volunteers have been sent from Australia to co-operate with the Imperial Forces.

Previous to Federation a war contingent numbering 770 men with 218 horses was despatched from New South Wales to the Soudan campaign, in 1885. The strength of the military contingents from all the Australian States to the South African war, which commenced in 1899, numbered 848 officers and 15,327 other ranks, and 16,314 horses. Of this total New South Wales sent 314 officers, 5,796 other ranks, and 5,872 horses. A naval contingent, consisting of 260 volunteers from New South Wales, and 200 from Victoria, and a gunboat from South Australia, proceeded to China at the time of the Boxer rebellion in 1900 to assist the British forces.

EUROPEAN WAR.

Naval and Military Operations.

Upon the outbreak of war in August, 1914, the control of the Australian Navy was transferred to the British Admiralty, and an offer to despatch and maintain a fully equipped expeditionary force for service abroad was accepted by the Imperial Government, the local forces being immediately mobilised for home defence.

The first expedition, consisting of military and naval forces, sailed from Australia on 19th August, 1914, to seize and occupy German possessions in the Pacific; German New Guinea and neighbouring islands were occupied and were garrisoned by a special force organised for service in the tropics and all former German islands south of the equator are now administered by the Commonwealth.

The Australian Imperial Expeditionary Forces were despatched to Egypt, where the first convoy landed in December, 1914; the Australians assisted in the defence of Egypt against the Turkish invasion in February, 1915, and subsequently were actively engaged in the Dardanelles, in Europe, and in other theatres of the war. In France and Flanders there were five divisions of Australians, and these troops gained special distinction at Fleurbaix, Pozières, Bapaume, Peronne, Bullecourt, Messines, Passchendaele, and Amiens. Meanwhile the Australian Light Horse, associated with New Zealanders in the Anzac Mounted Division, were successfully engaged in the campaign in Egypt and Palestine.

From the outbreak of war on 4th August, 1914, to the Armistice on 11th November, 1918, the total enlistments of soldiers for the Australian Imperial Force were 412,066, and the total embarkations were 331,781. The enlistments in the various military districts were as follows:—

Military Districts.*	Number.	Per-centage.	Rate per cent. of —	
			Total Population.	Males, aged 18-44 years.
New South Wales ..	161,821	39.3	8.7	39.3
Victoria	11,305	27.0	7.8	38.2
Queensland	57,084	13.8	8.4	37.3
South Australia ...	34,566	8.4	7.9	37.2
Western Australia	32,028	7.8	9.8	37.3
Tasmania	15,262	3.7	7.8	37.2
Total	412,066	100.0	8.4	38.2

* The boundaries of the Military Districts differ from those of the States.

The birthplaces and religions of the troops who embarked are shown below:—

Birth-place.	Number.	Percentage of Total.	Religions Denomination.	Number.	Percentage of Total.
New South Wales ...	88,250	26.6	Church of England ...	162,774	49.1
Victoria	92,553	27.9	Presbyterian	49,631	15.0
Queensland	28,253	8.5	Roman Catholic	63,705	19.2
South Australia ...	27,761	8.4	Methodist	33,706	10.1
Western Australia ...	8,042	2.4	Jews	1,214	.4
Tasmania	13,104	3.9	Other Denominations	20,751	6.2
United Kingdom ...	64,221	19.4	Total	331,781	100.0
New Zealand	4,214	1.3			
Other British Countries	2,246	.7			
Foreign	3,137	.9			
Total	331,781	100.0			

The casualties in the Australian Imperial Force to 31st July, 1920, were: Deaths from wounds or disease, 59,302; casualties from wounds or gas (gross total) 166,819; other casualties (gross total) 88,176. Total, 314,297.

Immediately after the declaration of war the Australian war vessels were actively employed in the destruction of German Pacific wireless stations and in search for enemy warships known to be cruising in the Pacific. The search was suspended in order to assist in the convoy of the New Zealand Expedition to Samoa and to take part in the Australian expedition against German New Guinea. During the latter operations the submarine AE1 was lost whilst engaged on patrol work; the cause of the disaster being unknown. The German gunboat "Komet," and the Government yacht "Nusa," with other prizes were captured; the "Komet," having been renamed "Una," is now attached to the Australian navy.

Whilst the Australian war vessels were escorting the first Australian and New Zealand Imperial Expeditionary Forces to Egypt, news was received of the presence of the German cruiser "Emden" at Cocos Island; the H.M.A.S. "Sydney" proceeded to Cocos Island, and after a short engagement, on the 9th November, 1914, completely disabled the "Emden," which was driven ashore on North Keeling Island and became a total wreck.

The battle cruiser "Australia" joined the Grand Fleet in the North Sea during 1915, and was made flagship of a battle-cruiser division. The light cruisers "Sydney" and "Melbourne" also joined the Grand Fleet in 1917; previously they were engaged in patrol work in the North Atlantic. The destroyers and other Australian war vessels travelled great distances in the performance of the duties allotted to them. The submarine, AE2, was lost in May, 1915, whilst operating in the sea of Marmora.

REPATRIATION OF SOLDIERS AND SAILORS.

The Department of Repatriation has been created by the Commonwealth Government to conduct the work of re-establishing the returned soldiers and sailors in civil occupations. Legislation has been enacted in the State and Commonwealth Parliaments to facilitate this work. The State Acts include the Returned Soldiers' Settlement Acts, 1916, with amendments 1917, and 1919 and the Closer Settlement (Amendment) Act, 1919, which make special provision for the settlement of these men on the land; financial assistance may be granted to them, and training farms established. The Voluntary Workers (Soldiers' Holdings) Act, 1917, provides for Crown grants of land and for advances of money for the purpose of providing homes for disabled members of the Commonwealth Forces, or for the dependents of those who have died. The Returned Soldiers and Sailors Employment Act, 1919, gives preference in employment to returned soldiers and sailors, and provides for their reinstatement in positions held prior to enlistment. Information in regard to cottages built for returned soldiers is given in a later chapter of this Year Book.

Of the Commonwealth Acts, The Australian Soldiers' Repatriation Fund Act, 1916, provided for the administration of a fund raised by public subscription for assisting soldiers and sailors and their dependents; the Australian Soldiers' Repatriation Act, 1917-18, authorises the Repatriation Commission to make recommendations for regulating the granting of assistance and benefits to soldiers upon discharge, and to soldiers' dependents, and provides

for the appointment of a State Repatriation Board for each State. Under the War Service Homes Acts, 1918-1920, assistance may be granted to enable Australian soldiers and sailors, munition workers and war workers and their female dependents to acquire homes.

The Australian Imperial Force Canteens Funds Act 1920, created a fund consisting of the surplus moneys of canteens, established in connection with the Australian Imperial Force, in the United Kingdom, France and Egypt, and on troopships, and of canteens established for the use of Garrison Institutes in Australia. The trustees of this Fund grant assistance and benefits to widows and orphans, widowed mothers, and other immediate dependents of deceased soldiers, and to seriously disabled soldiers.

Under the War Gratuity Acts 1920, sailors and soldiers who served in the war, and embarked from Australia before 11th November, 1918, received a gratuity from the Commonwealth of 1s. 6d. per day for their service, the period in each case being calculated from the date of embarkation to the Declaration of Peace, 28th June, 1919. Sailors who did not serve in a sea-going ship, and soldiers who did not leave Australia, received 1s. per day.

POPULATION.

EARLY ENUMERATIONS.

THE first census of New South Wales was taken during the month of November, in the year 1828, when 36,598 persons were enumerated, of whom 27,611 were males and 8,987 were females.

After 1828 there was a rapid increase in population, induced by the steady development of the Colony, and by the expansion of settlement which followed the opening of the country by exploration. A system of assisted immigration was introduced on a scale of annually increasing dimensions, and attained definite strength in the year 1832, so that at the census of 1833 the population had increased to 60,794, being an advance of over 24,000 on the number in 1828, or of 66 per cent. during the period of five years.

The enumerations shown below are those for the Colony of New South Wales within the boundaries existing at the time of taking the census.

Date of Census.	Males.	Females.	Total.	Increase.		
				Number.	Per cent.	
1828, November ...	27,611	8,987	36,598	...	...
1833, September 2 ...	44,644	16,150	60,794	24,196	66·1	
1836, September 2 ...	55,539	21,557	77,096	16,302	26·8	
1841, March 2 ...	87,298	43,558	130,856	53,760	69·7	
1846, March 2 ...	114,769	74,840	189,609	58,753	44·9	
1851, March 1 {	Incl. Victoria } Excl. Victoria }	155,845	112,499	268,344	78,735	41·5
		109,643	81,356	190,999
1856, March 1 ...	150,488	119,234	269,722	78,723	41·2	

With the rapid expansion of settlement a great demand for labour was created, and the high rates of wages attracted a large influx of unassisted immigrants. The most powerful factor in promoting the development of Australia was, however, the discovery of rich goldfields in 1851.

Victoria was founded in July, 1851, by the separation of the District of Port Phillip, with a population of 77,345, from New South Wales. For purposes of comparison, the population at the census of 1851 has been shown in the above table, both inclusive and exclusive of Victoria.

After the census year of 1856 there was yet another reduction in the territory of New South Wales, when in 1859 Queensland, with a population of 16,907, was separated.

A further, though comparatively small, reduction in area and in population took place on the 1st January, 1911, when the Federal Capital Territory was transferred to the Commonwealth.

CENSUS ENUMERATIONS, 1861-1911.

At the census taken in New South Wales on the 7th April, 1861, the ascertained population was 350,860. Thereafter the numbers were determined decennially, and the last census was taken on the 3rd April, 1911, when the population had increased to 1,648,746. This number does not include the population of the Federal Capital Territory, which at the census of 1911 numbered 997 males and 727 females, or 1,724 persons, of whom 10 were aborigines. The population of New South Wales at each census period from 1861 to 1911 is stated below, and the estimated population as at 30th June, 1920. Aboriginal natives are included, except in 1861, when they were not enumerated; their number in 1911 was 2,012 (1,152 males and 860 females).

Year.	Males.	Females.	Total.	Increase since Previous Census.
1861	198,488	152,372	350,860	...
1871	275,551	228,430	503,981	153,121
1881	411,149	340,319	751,468	247,487
1891	612,562	519,672	1,132,234	380,766
1901	712,456	646,677	1,359,133	226,899
1911	858,850	789,896	1,648,746	289,613
1920	1,021,605	1,004,680	2,026,285	377,539

The relative increase from census to census may be measured according to the several methods shown in the following statement. In the first column the population in 1861 is taken as basis.

Year.	Index Number of Population.	Increase since previous Census.		Persons per Square Mile.
		During Period.	Average Annual Rate.	
1861	100	per cent. ...	per cent. ...	1·12
1871	144	43·64	3·69	1·61
1881	214	49·11	4·08	2·41
1891	323	50·67	4·19	3·64
1901	387	20·04	1·84	4·38
1911	470	21·31	1·95	5·32
1920	578	22·90	2·25	6·55

The following statement shows the population of each State of the Commonwealth at the last census, in comparison with the estimated population as at the 30th June, 1920, and the average annual rate of increase during the period. The figures are exclusive of aborigines of full-blood.

State.	Census Population, 1911.	Estimated Population, June, 1920.	Proportion in Each State.		Average Annual Rate of Increase since Census, 1911.
			1911.	1920.	
New South Wales ...	1,646,734	2,024,273	per cent. 36·96	per cent. 38·23	per cent. 2·26
Victoria	1,315,551	1,504,260	29·53	28·41	1·46
Queensland	605,813	737,085	13·60	13·92	2·14
South Australia	408,558	472,432	9·17	8·92	1·58
Western Australia	282,114	334,176	6·33	6·31	1·85
Tasmania	191,211	216,643	4·29	4·09	1·26
Northern Territory ...	3,310	4,243	0·08	0·08	2·72
Federal Capital Territory	1,714	2,151	0·04	0·04	2·49
Commonwealth ...	4,455,005	5,295,263	100·00	100·00	1·89

SEX DISTRIBUTION.

Prior to the outbreak of war in 1914, and the consequent enlistment of eligible men for service, the number of males in New South Wales had always exceeded the number of females. In the early days the disparity was very marked, but there has been a gradual tendency towards an equal sex distribution. The distribution of the sexes at each census since 1861 and at the middle of 1920 was as follows :—

Year.	Proportion of Males.	Proportion of Females.	Males per 100 Females.
	per cent.	per cent.	No.
1861	56·57	43·43	130
1871	54·67	45·33	121
1881	54·86	45·14	121
1891	54·14	45·86	118
1901	52·42	47·58	110
1911	52·09	47·91	109
1920	50·42	49·58	102

From 1871 to 1881 the proportion of males remained constant at about 55 per cent., but immigration was checked towards the end of the next decade, and in 1891 the proportion of males had decreased slightly. During the following period there was very little immigration, and in 1901 the difference between the sexes had become less than at any previous period,

the proportion of males being 52·42 per cent., or 110 males to every 100 females. At the census of 1911 the percentages were—males 52·09, females 47·91, or 109 males to every 100 females. At the middle of 1920 it was estimated that there were 102 males per 100 females. Owing to the absence of males of military age the ratio decreased from 111 in 1913 to 98 males per 100 females in 1917 and 1918.

ESTIMATES OF POPULATION.

Reliable estimates of the population are required during the intercensal periods for many purposes affecting the welfare of the community. Apart from its value as the standard by which other statistics are measured, the population is used as the basis of important political and financial arrangements between the Government of the Commonwealth and the individual States, as, for instance, in the distribution amongst the States of representation in the Federal Parliament, and in the determination of the amount of revenue to be paid back to each State by the Commonwealth.

The elements of increase of the population are the excess of births over deaths, which is termed "natural increase," and the excess of immigration over emigration. The registers of births and deaths ensure a reliable return of the natural increase, but it is unfortunate that the records of arrivals and departures are defective, as in a young and progressive country the element of migration is extremely variable.

The records of overland migration are not perfect, but they give with approximate accuracy the gain or loss to the State across its borders. In the case of the sea traffic, however, the returns are less reliable, as there are persons whose departure is not recorded. The usual practice has been to assume that arrivals as recorded are correct, and to add to the recorded departures, as an allowance for the unrecorded, a certain percentage of those departures based on the experience of the preceding intercensal period. This method is not altogether satisfactory, as when the census is taken it is found that the estimate differs more or less from the census figure, and it becomes necessary to adjust the estimates for all the years between census enumerations, so that they may be compatible with census results.

At different periods Conferences of the Statisticians of the several States of the Commonwealth have been held for the purpose of devising a uniform method of estimating population.

The estimated population of New South Wales, including aborigines, at the end of each of the last ten years, was as follows:—

Year.	Estimated Population at End of Year.			Annual Increase.		Mean Population.
	Males.	Females.	Total.	Numerical.	Per cent.	
1911	889,311	809,345	*1,698,736	62,240	3·80	1,664,500
1912	935,979	842,983	1,778,962	80,226	4·72	1,738,600
1913	962,749	869,707	1,832,456	53,494	3·01	1,809,400
1914	967,033	894,995	1,862,028	29,572	1·59	1,853,400
1915	953,162	917,253	1,870,415	8,387	0·45	1,868,200
1916	923,113	934,807	1,857,920	(—)12,495	(—)0·67	1,866,300
1917	934,252	954,877	1,889,129	31,209	1·68	1,874,400
1918	956,237	971,937	1,928,174	39,045	2·07	1,909,500
1919	1,009,743	991,430	2,000,173	71,999	3·73	1,963,600
1920†	1,021,605	1,004,680	2,026,285	26,112‡	1·31‡	...

* Exclusive of 1,724 persons, the population of the Federal Capital Territory, which has been excluded in all subsequent years. (—) Denotes a decrease of population. † 30th June. ‡ Six months.

THE SOURCES OF INCREASE.

The following statement shows the extent to which each source contributed to the growth of the population during the census periods from 1861; in calculating the increase from 1901 to 1911, the population of the Federal Capital Territory has been taken into consideration, and aborigines have been included.

Period.	Increase.			Average Annual Rate of Increase.		
	By Excess of Births over Deaths.	By Excess of Immigration over Emigration.	Total Increase.	By Excess of Births over Deaths.	By Excess of Immigration over Emigration.	Total.
				per cent.	per cent.	per cent.
1861-71	106,077	47,044	153,121	2·68	1·27	3·69
1871-81	140,382	107,105	247,487	2·49	1·95	4·08
1881-91	211,301	169,465	380,766	2·51	2·05	4·19
1891-1901	226,676	223	226,899	1·84	Nil.	1·84
1901-11	247,865	41,748	289,613	1·69	0·30	1·95
1911-20*	292,522	85,017	377,539	1·78	0·55	2·25

* Nine years and three months.

The rate of natural increase fell steadily throughout each intercensal period, and reached its lowest point in 1903, when it was only half the average annual rate during the period 1861-71. The fall was caused by the declining birth-rate, as the death-rate had shown constant improvement. Since 1903, however, the rate of natural increase has risen. During the period 1911-20 the excess of births over deaths reached 1·78 per cent. During individual years of the period 1911-20 the rate fluctuated. In 1916 it fell to 1·73 per cent., a result no doubt largely owing to the withdrawal from the community for service of a considerable number of married and prospective married men of military age. In 1917 there was a marked improvement, the rate of natural increase rising to 1·84 per cent. It fell again, however, in 1918 to 1·67 per cent., and in 1919 the rate, on account of the abnormal number of deaths from influenza, was the lowest on record, viz., 1·13.

In the year 1891 immigration ceased, and during the next decade the population progressed solely by reason of the natural increase, as the excess of arrivals was only 223. The balance of migration was, moreover, affected by the rush of men to Western Australia after the discovery of gold in 1894, and by the departure of over 5,000 troops to the war in South Africa, from 1899 to 1901. The troops returned to New South Wales in 1902, and in 1905 State assistance to immigrants was restored, so that the experience of 1901-11 was an improvement on that of the ten years prior to 1901.

During the years up to 1913 arrivals exceeded departures, but the experience of the next four years differed materially, as is shown in the following table, which gives the number of arrivals in and departures from New South Wales by sea and by land during the last ten years, allowance being made for those unrecorded. In 1918 and 1919 the men who had been on active service returned to the State :—

Year.	Arrivals.				Departures.			
	Interstate.		From other Countries.	Total.	Interstate.		To other Countries.	Total.
	By Land.	By Sea.			By Land.	By Sea.		
1911	198,458	71,262	70,405	340,125	197,088	66,922	44,373	308,383
1912	221,609	75,872	87,916	385,397	213,268	71,179	53,831	338,278
1913	234,441	71,490	75,259	381,190	234,914	63,923	56,261	360,098
1914	257,016	75,875	67,268	400,159	259,488	71,875	74,062	405,425
1915	275,955	65,736	44,362	386,053	269,747	58,811	82,333	410,941
1916	303,030	55,423	39,688	398,141	293,736	51,624	97,497	442,857
1917	234,673	40,095	35,063	309,831	224,029	36,587	52,504	313,120
1918	193,164	28,868	116,447	338,479	263,239	25,493	42,562	331,294
1919	221,365	19,498	93,276	334,139	218,696	17,191	48,396	284,293
1920*	141,834	17,953	38,985	198,777	139,612	15,660	32,648	187,920

* Six months.

The large movement of population each year can hardly be described as immigration or emigration in the ordinary sense in which those terms are used, as it is due largely to the arrival and departure of tourists and business men. Of the total movement, more than 75 per cent. is with the other Australian States, and one-third of the movement with countries outside Australia is with New Zealand.

The war had a marked effect on the increase of population, as during the five years 1914-18 the net loss of population to various countries was 70,974. New South Wales gained during this period 52,909 persons from the other Australian States, 3,321 from New Zealand, 1,261 from the United Kingdom, 335 from India; and lost to British possessions other than Australia and New Zealand, and to foreign countries, 128,800, but 113,471 of these were soldiers. The gain by immigration from the United Kingdom in 1914 amounted to 4,510, in 1915 to 793, and in 1918 to 5; but during 1916 and 1917 there were net losses of 801 and 3,246 respectively, owing to the departure of large numbers of munition workers. During 1918 the excess of arrivals over departures amounted to 7,185. In 1919 the State gained 49,853 by migration. As, however, the excess of arrivals over departures of members of the expeditionary forces was 51,637, a net loss of ordinary population was sustained.

After the revival of the assisted immigration policy in 1905 there had been a steadily-increasing excess of arrivals from the United Kingdom, amounting in 1912 to 25,278. Owing to a great improvement in labour conditions in Great Britain, and keener competition among Oversea Dominions for British emigrants, the gain from the United Kingdom in 1913 was less than in 1912. During 1914, in consequence of the War, the addition to the population from this source numbered only 4,510; in 1915 the excess had dwindled to 793; and during the years 1916-19 the excess of departures over arrivals numbered 5,535.

STATE-ASSISTED IMMIGRATION.

Recognising the need of a more rapid increase in population, in order to develop the vast resources and latent wealth of the country, the State Government arranged in 1905 for the systematic advertisement in the United Kingdom of the advantages offered to immigrants. The cost of the passage to desirable settlers was partly paid by the Government; and residents of New South Wales were enabled to arrange, by nomination, assisted passages for relatives and friends.

Under an agreement with the States, the Federal Government co-operated in the scheme by undertaking the advertisement of the resources of Australia, while the selection of immigrants was conducted by the representatives of the individual States, which also arranged the assisted passages.

The number of persons assisted to immigrate during the ten years 1910-19 is shown hereunder.

Year.	Total Assisted Immigrants.			Nominated by Relatives or Friends in New South Wales (Included in Preceding).		
	Males.	Females.	Total.	Males.	Females.	Total.
1910	3,039	2,017	5,056	1,406	1,530	2,936
1911	5,880	4,042	9,922	3,647	3,279	6,926
1912	8,361	6,595	14,956	5,205	5,477	10,682
1913	4,181	5,682	9,863	3,336	4,999	8,335
1914	2,463	3,161	5,624	1,574	2,440	4,014
1915	535	1,161	1,696	495	825	1,320
1916	185	470	655	184	395	579
1917	68	188	256	63	167	230
1918	31	168	199	31	168	199
1919	16	52	68	15	52	67

Full details relating to assisted immigration are shown in the chapter on Employment and Industrial Arbitration.

THE DISTRIBUTION OF POPULATION.

The distribution of population estimated as at the 31st December, 1919, together with the proportion in each Division and the average population per square mile, is shown in the following table:—

Division.	Area.	Estimated Population, 31st Dec., 1919.		
		Total.	Proportion in Each Division.	
	sq. miles.		per cent.	per sq. mile.
Sydney	5	108,500	5.4	21,700.0
Suburbs	180	720,200	36.0	4,001.0
Metropolis	185	828,700	41.4	4,479.5
Country Municipalities	2,853	482,860	24.1	169.2
*Shires	180,531	675,440	33.8	3.7
Western Division (Part unincorporated).	125,893	13,057	0.7	0.1
Lord Howe Island	5	116	0.0	23.2
Total, New South Wales ...	309,467	2,000,173	100.0	6.5

* The Ku-ring-gai Shire, area 36 sq. miles, population 16,790, is included with the suburbs of the metropolis.

The population of the metropolis represents more than two-fifths of the total population; less than one-quarter resides in the country municipalities, and over one-third in the other incorporated areas.

The area of the Federal Capital Territory, transferred to the Commonwealth, is about 900 square miles. At the 31st December, 1919, its estimated population was 1,919.

URBAN AND RURAL POPULATION.

In 1871 the rural population was over 53 per cent. of the total, but in 1911 the proportion had fallen to 25 per cent. In the following table the population at each census from 1871 is divided into urban, quasi-urban, rural, &c., and the proportion of each group to the total is shown:—

Divisions.	1871.	1881.	1891.	1901.	1911.
1. Metropolitan Area... ..	137,776	224,939	333,283	480,976	636,353
2. Municipalities outside the Metropolitan Area.	64,910	139,066	304,905	370,934	415,641
3. Quasi-urban localities or settlements (viz., those having a population of 500 and more).	32,127	62,933	51,963	81,484	175,303
4. Remainder of State (rural)	266,766	321,303	378,099	413,326	411,281
5. Total	501,579	748,241	1,118,250	1,346,720	1,638,578
6. Federal Capital Area	*	*	*	*	1,724
7. Shipping	2,402	3,227	5,649	8,026	8,051
8. Lord Howe Island... ..	*	*	55	100	105
9. Aborigines	*	*	8,280	4,287	2,012
10. Total Population, New South Wales.	503,981	751,468	1,132,234	1,359,133	1,650,470
Proportion per cent. to total (5) of—					
1. Metropolitan	27·4	30·2	34·3	35·7	38·8
2. Municipalities	12·9	18·5	27·3	27·5	25·4
3. Quasi-urban	6·4	8·4	4·6	6·1	10·7
Total, Urban	46·7	57·1	66·2	69·3	74·9
4. Rural	53·3	42·9	33·8	30·7	25·1
	100·0	100·0	100·0	100·0	100·0

* Included in (4) Rural.

THE POPULATION OF THE METROPOLIS.

The metropolis includes Sydney, the forty municipalities which surround it, and the Ku-ring-gai Shire, as well as the islands of Port Jackson, and embraces an area of 185 square miles. The boundaries may be described roughly as follow: On the east, the sea-coast; on the south, the waters of Botany Bay and George's River; on the west, the western boundaries of Hurstville, Canterbury, Enfield, Strathfield, Homebush, Concord, and Ryde; on the north, the northern boundaries of Eastwood and Ryde,

the western and eastern boundaries of Ku-ring-gai Shire, the north-eastern boundary of Willoughby, and the northern boundary of Manly. The habitations within these limits are fairly continuous.

The following statement shows the population of each municipality of the metropolis, and of Ku-ring-gai Shire, at the census of 1911, and as at the 31st December, 1920 :—

Municipality.	Population.		Municipality.	Population.	
	Census, April, 1911.	Estimated, 31st Dec., 1920.		Census, April, 1911.	Estimated, 31st Dec., 1920.
City of Sydney*...	119,771	108,000	Manly	10,465	15,750
Alexandria ...	10,123	11,780	Marrickville ...	30,653	39,640
Annandale ...	11,240	12,810	Mascot	5,836	9,810
Ashfield	20,431	31,960	Mosman	13,243	18,900
Balmain	32,038	33,920	Newtown	26,498	28,480
Bexley	6,517	13,490	North Sydney ...	34,646	43,860
Botany	4,409	5,990	Paddington ...	24,317	26,440
Burwood	9,380	14,960	Petersham	21,712	25,300
Canterbury ...	11,335	33,500	Randwick	19,463	42,260
Concord	4,076	10,260	Redfern	24,427	25,400
Darlington ...	3,816	3,900	Rockdale	14,095	23,220
Drummoyne ...	8,678	17,330	Ryde	5,281	12,460
Eastwood... ..	968	1,880	St. Peter's	8,410	12,270
Enfield	3,444	7,590	Strathfield	4,046	6,720
Ersleville	7,299	7,840	Vaucluse	1,672	3,150
Glebe	21,943	23,020	Waterloo	10,072	11,700
Homebush	676	1,620	Waverley	19,831	32,260
Hunter's Hill ...	5,013	6,640	Willoughby	13,036	27,180
Hurstville	6,533	12,750	Woollahra	16,989	23,320
Kogarah	6,953	15,750	Ku-ring-gai Shire	9,458	18,010
Lane Cove	3,306	7,010			
Leichhardt ...	24,254	28,970	Total	636,353	857,190

*Includes shipping and the islands of Port Jackson.

The metropolitan population is unevenly distributed. At the census of 1911 two-fifths of the inhabitants resided within an area of less than 7,000 acres, having a density from 30 to 90 per acre, one-third occupied about 24,000 acres, with an average density of 10, and the remainder were scattered over about 88,000 acres, having a density of a little over 1 per acre.

The population of the metropolis at census periods and on the 31st December, 1920, is shown in the following table, together with the proportion which the metropolitan population bears to that of the whole State:—

Year.	Census Population.			Males per cent. of total Population.	Males per 100 Females.	Proportion of Population of Whole State.
	Males.	Females.	Total.			
1871	68,266	70,913	139,179	49·05	96·21	per cent. 27·62
1881	114,936	112,230	227,166	50·60	102·41	30·23
1891	197,550	189,884	387,434	50·99	104·04	34·22
1901	241,700	246,232	487,932	49·54	98·16	35·90
1911	312,074	324,279	636,353	49·04	96·24	38·55
1920	*	*	857,100	*	*	41·43†

* Not available.

† Proportion at end of 1919.

A comparison of the populations of the chief cities (including suburbs) of the States of the Commonwealth is shown herewith.

Metropolis.	Census, 1911.			Estimated Population, 31st Dec., 1919.	Proportion of Population of Whole State.
	Males.	Females.	Total.		
Sydney	305,728	323,775	629,503	828,700	per cent. 41·43
Melbourne	277,956	311,015	588,971	743,000	49·67
Brisbane	67,628	71,852	139,480	189,576	26·14
Adelaide	90,578	99,068	189,646	256,660	54·82
Perth	53,231	53,561	106,792	142,000	42·81
Hobart	18,487	21,450	39,937	43,050	19·86

The census populations given above are exclusive of shipping, and for this reason the population of Sydney differs from that shown in the previous table.

THE COUNTRY DISTRICTS OF NEW SOUTH WALES.

In the opening stages of the history of New South Wales settlement followed the main roads, but with the establishment of the railway the population settled within reach of the railway lines. In the coastal area, where the bulk of the people dwells, the development of the towns has more than kept pace with the general population. Thus, in the Valley of the Hunter, with its large agricultural, mining, and manufacturing industries, population has made rapid strides. Newcastle and suburbs, for instance, increased from 7,810 in 1861 to 54,991 in 1901, and the estimated population in 1919 was 62,900. Though Wollongong has increased considerably in population, the Illawarra District as a whole, notwithstanding its rich deposits of coal and the fertility of its pasture-lands, has stagnated, if not declined; whilst the dairy, maize, and sugar-growing districts of the Clarence and Richmond Rivers have increased generally in their urban population. A number of industrial works have been established around Lithgow, which has become an important centre of the western coalfields, and the site of a small-arms and munitions factory. On the 30th June, 1920, the country districts contained 1,183,385 inhabitants, or 58·4 per cent. of the total estimated population.

The following statement shows the population of the country municipalities of New South Wales containing more than 2,000 inhabitants as at 31st December, 1919, and the corresponding figures at the census of 1911:—

Municipality.	Census, 1911.	Estimated, Dec., 1919.	Municipality.	Census, 1911.	Estimated, Dec., 1919.
Albury	6,309	7,000	Lismore	7,381	8,850
Armidale	4,738	5,550	Lithgow	8,196	10,900
Auburn	5,559	11,910	Liverpool	3,933	4,060
Ballina	2,061	2,850	†Maitland	11,313	12,400
Bankstown	2,039	7,000	Moree	2,931	3,300
Bathurst	8,575	9,100	Mudgee	2,942	3,100
Bega	1,969	2,050	Murrumburrah	2,136	2,850
Broken Hill... ..	30,972	22,950	Murwillumbah	2,206	3,950
Casino	3,420	4,950	Muswellbrook	1,861	2,200
Cobar... ..	4,430	2,600	†Narrabri	3,320	3,700
Cooma	2,063	2,100	Narrandera	2,374	2,500
Coonamble	2,262	2,700	Newcastle, includ- ing Suburbs.	55,380	62,900
Cootamundra	2,967	3,500	Orange	6,721	7,500
Corowa	2,063	2,200	Parkes	2,935	3,650
Cowra	3,271	4,500	Parramatta	12,465	12,630
Cudjgegong	2,678	2,650	Penrith	3,682	3,850
Deniliquin	2,494	2,550	Prospect and Sher- wood.	3,932	6,090
Dubbo	4,452	5,200	Quirindi	2,240	2,800
Dundas	1,136	2,330	Singleton	2,996	3,100
Forbes	4,436	5,300	Smithfield and Fair- field.	2,226	3,520
Glen Innes	4,080	5,150	Tamworth	7,145	8,250
Goulburn	10,023	11,000	Temora	2,784	3,800
*Grafton	5,888	6,850	Tenterfield	2,792	3,050
Granville	7,231	12,030	Ulmarra	1,832	2,050
Gunnedah	3,005	3,850	Wagga Wagga	6,419	7,650
Hay	2,461	2,200	Wellington	3,958	4,750
Illawarra, Central	5,000	5,400	Windsor	3,466	3,700
Illawarra, North	5,157	6,000	Wollongong	4,660	5,900
Inverell	4,549	5,750	Yass	2,136	2,200
Junee... ..	2,531	2,900	Young	3,139	3,750
Katoomba	4,923	7,400			
Kempsey	2,862	3,450			
Lidcombe	5,418	8,770			

* Includes South Grafton. † East West. ‡ Includes West Narrabri.

PERSONS OF NON-EUROPEAN RACES.

Legislative measures to restrict the influx of coloured aliens were passed in New South Wales in the early days of self-government. Public feeling was first aroused by the entry of large numbers of Chinese, and the enactments imposed limitations on the immigration of this race only. Subsequently, however, these restrictive powers were extended to regulate the influx of all coloured aliens.

At the establishment of the Commonwealth the control of the conditions relating to immigration was transferred to the Federal Parliament. The Federal legislation relating to the restriction of immigration does not aim at the exclusion of the people of any particular race or colour, but of undesirable immigrants generally. Under its provisions no person is allowed to land who fails to pass a dictation test in any European language chosen by the Customs Officers. This test has not been applied to any desirable immigrants of European nationality. Paupers, criminals, lunatics, and other persons likely to be a source of danger to public health or morals, are excluded.

Provision is made also to prevent the immigration of labourers under contract to perform manual labour if their arrival has any connection with

an industrial dispute, or if the contract-rate of wages is less than that current in the district where the work is to be performed.

At the census of 1911 the number of persons of non-European races, other than aborigines, residing in New South Wales was 13,140, and was representative of the very small proportion of 8 per 1,000 of the total population. The most numerous were the Chinese, who constituted 70 per cent. of the coloured aliens, Hindus and Syrians following in the order given.

The Chinese.

The Chinese were first attracted to this State by the gold discoveries. At the census of 1861 they numbered 12,988, exclusive of half-castes, who were not enumerated until 1891. From 1861 to 1871 the number declined, probably on account of the diminution in the gold-yield and the discovery of richer goldfields in the neighbouring States; but in 1878 there was a steady increase in the arrivals from China, and this lasted until about 1888, when an effective check was given to their immigration by the Chinese Restriction and Regulation Act.

The following table shows the number of Chinese (including half-castes) in Australia at each census since 1891 :—

State.	1891.	1901.	1911.
New South Wales (including Federal Capital Territory) ...	14,156	11,263	9,358
Victoria	9,377	6,956	5,601
Queensland	8,574	9,313	6,714
South Australia (including Northern Territory)	3,997	3,455	1,698
Western Australia... ..	917	1,569	1,872
Tasmania	1,056	609	529
Total, Commonwealth	38,077	33,165	25,772

At the census of 1911 there were 3 Chinese in the Federal Capital area, and 1,339 in the Northern Territory.

The arrivals of Chinese in New South Wales during 1919 numbered 786 and the departures 791.

THE ABORIGINES.

It is difficult to form a correct estimate of the number of aborigines; but though there is reason to believe that they were formerly numerous, they have decreased rapidly before the advance of settlement and systematised occupation.

Governor Phillip estimated the aboriginal population, about the year 1790, at 1,000,000, of which number about 3,000 lived between Broken and Botany Bays. The latter estimate was very likely correct, but the first Governor doubtless based his calculation on the assumption that the resources of the unlooked Continent were as great as those of the strip of settlement immediately under his notice.

The aborigines were never properly counted until the census of 1891, when they were classed as full-blood and half-caste. In 1901 the full-blood and

nomadic half-caste only were counted. In reckoning the quota to determine the number of Members to which the State is entitled in the House of Representatives (in accordance with the provisions of the Commonwealth Constitution Act), aboriginal natives of Australia are not included. It has been decided that only full-bloods are aborigines within the meaning of the Act, and consequently in 1901 and 1911 half-castes were included in the general population. The number shown in the following table for the census of 1911 represents only those who were employed by whites, or who were living in the vicinity of white settlements at the date of the census. In 1861 aborigines were not enumerated; in 1871 and 1881 the wandering tribes were passed over, and those only who were civilised, or who were in contact with Europeans, were enumerated and included in the general population. The number of full-blood aborigines in New South Wales at each census is shown below; the figures for 1911 are exclusive of the Federal Capital Territory, in which were enumerated 10 aborigines—5 males and 5 females.

Census.	Males.	Females.	Total.
1871	709	274	983
1881	938	705	1,643
1891	4,559	3,721	8,280
1901	2,451	1,836	4,287
1911	1,152	860	2,012

In 1891 the number of half-castes was 1,663 males and 1,520 females. In 1901 the number of both full-bloods and half-castes was 4,093 males and 3,341 females, and of these 509 were nomads—259 males and 250 females. In addition to the 2,012 full-bloods at the census of 1911, half-castes were enumerated numbering 4,512, of which total 2,335 were males and 2,177 were females.

The Board for the Protection of Aborigines many years ago was constituted to safeguard the interests of the aboriginal population, and reserves were dedicated in different parts of the State, dwellings erected, and the means of livelihood organised. The residents on these reservations are encouraged in the tillage of the soil, and supplied with tools and seeds, and their children are educated. Under an Act passed in 1909 the control of the reserves was vested in the Board, and its powers of administration were considerably amplified with a view to the amelioration of the conditions of the aborigines. Information relating to the work of the Board will be found in a later chapter on Social Condition.

NATURALISATION.

Under the Commonwealth Naturalisation Act, which came into operation on 1st January, 1904, the issue of naturalisation certificates became a function of the Commonwealth Government.

Since 1849 certificates have been granted in New South Wales to 16,572 persons. Germans numbered 6,386; Swedes, 1,666; Russians, 1,070; Danes, 1,116; Italians, 895; and French, 761. Only two Chinese have been naturalised in New South Wales since 1887, but prior to that year 908 had obtained certificates.

Records of the occupations of persons naturalised show that labourers, seamen, miners, cooks, carpenters, farmers, engineers, fruiterers, and firemen were the most numerous, in the order given.

VITAL STATISTICS.

REGISTRATION OF BIRTHS, DEATHS, AND MARRIAGES.

Civil registration of births, deaths, and marriages was inaugurated in New South Wales in March, 1856, when a general registry was established, and a Registrar-General appointed by the Governor. The laws relating to registration were consolidated by the Registration of Births, Deaths, and Marriages Act, 1899, and the Acts relating to marriage by the Marriage Act, 1899.

New South Wales is divided into 210 registry districts, in each of which a District Registrar has been appointed.

All births must be registered by the parent within sixty days. After the expiration of sixty days no birth may be registered unless, within six months, a declaration is furnished by the parent, or by some person present at the birth. Within six months of the arrival in New South Wales of a child under the age of 18 months, born outside the State, the birth may be registered upon declaration by the parent, if the parents intend to reside in New South Wales. Still-births are not registered.

Notice of the death of any person must be supplied to the District Registrar by a relation of the deceased, or by the householder or tenant of the house or place in which the death occurs.

Marriages may be celebrated only by District Registrars or by ministers of religion registered for that purpose by the Registrar-General. In the former case, the parties to be married must sign, before the Registrar of the district in which the intended wife ordinarily resides, a declaration that they conscientiously object to be married by a minister of religion, or that there is no minister available for the purpose of performing the marriage.

Marriage with a deceased wife's sister is valid in New South Wales.

MARRIAGES.

The number of marriages celebrated in New South Wales during 1919 was 15,818, corresponding to a rate of 8·06 per 1,000 of the population. This shows a marked increase on the previous year, when the number of marriages was 13,199, and the rate 6·91.

The following table shows the average annual number of marriages and the rates per 1,000 of the population during each quinquennium since 1870:—

Period.	Average Number of Marriages.	Rate per 1,000 of Population.	Period.	Average Number of Marriages.	Rate per 1,000 of Population.
1870-74	4,091	7·77	1895-99	8,700	6·74
1875-79	4,987	7·88	1900-04	10,240	7·37
1880-84	6,738	8·39	1905-09	12,050	7·97
1885-89	7,679	7·67	1910-14	15,978	9·20
1890-94	7,954	6·80	1915-19	15,345	8·09

Until the year 1891 the increase in the number of marriages was remarkably steady, but in 1892 there was a decline, which continued until 1895, when the figures again took an upward movement, though the proportion married per 1,000 of the population did not reach the 1891 level until

1900. In 1901 the rate was the highest since 1886, but in the next two years it declined again considerably. From 1904 to 1912 there was a constant improvement. Compared with the rates of the quinquennium 1905-09, the marriage rate of 1914 disclosed an advance of over 17 per cent. It is probable that the high rate for 1915 was due, in part, to a number of marriages contracted by soldiers prior to their departure for the war, and the decline in 1916, 1917 and 1918 to the withdrawal of marriageable men from the total population. The increase in 1919 is coincident with the return of men from active service.

Of the bachelors marrying in New South Wales only $4\frac{1}{4}$ per cent. are outside the ages 20-44, and of the spinsters less than $1\frac{1}{2}$ per cent. are outside the ages 15-39. Adopting these therefore as the marriageable ages of the sexes, the following table shows, at the census years 1871 to 1911, the proportion of bachelors and of spinsters married per 1,000 unmarried males and females within the specified groups.

Year.	Proportion of Bachelors Married during Year per 1,000 Unmarried Males Aged 20 to 44.	Proportion of Spinsters Married during Year per 1,000 Unmarried Females Aged 15 to 39.
1871	65.60	87.07
1881	65.21	82.32
1891	57.85	71.28
1901	65.92	62.69
1911	79.11	74.96

Up to 1891 the female rate was the higher, but after that year the male rate exceeded the female, as a result of the increase in the proportion of females in the population.

The marriage rate is an intimate reflex of the comparative prosperity of a country, and a high marriage rate is an obvious proof of the existence of a considerable proportion of marriageable persons in the community. From each point of view the facts in respect to New South Wales are satisfactory.

The following statement shows the marriage rate per 1,000 of the population in each State of the Commonwealth of Australia and in New Zealand in 1919:—

State.	1914-18.	1919.
South Australia	8.25	8.46
New Zealand	7.31	8.38
<i>New South Wales</i>	8.35	8.06
Victoria	7.72	7.98
Queensland	7.91	7.62
Tasmania	6.85	7.16
Western Australia	6.86	6.78

MARK SIGNATURES IN MARRIAGE REGISTERS.

The number of persons who signed the marriage register with marks in the year 1919 was 106, equal to 3.35 per 1,000 persons married.

In 1870 the proportion of signatures made with marks was as high as 18.23 per cent. of the whole, and this significant decrease in illiteracy is emphatic evidence of the efficiency of the State system of public instruction.

MARRIAGES ACCORDING TO DENOMINATIONAL RITES.

Of every hundred marriages performed in New South Wales, about ninety-seven are celebrated by ministers of religion licensed under the authority of the Registrar-General. The number of marriages at which clergymen officiated during the year 1919 was 15,101 and of those contracted before District Registrars 717, or a proportion respectively of 95·5 and 4·5 per cent.

As compared with the previous quinquennial period, the returns relating to marriages solemnised by the Church of England and the Roman Catholic denominations showed increased rates for the year 1919. The following table gives the number and proportion per cent. of marriages registered by the several denominations during 1919, in comparison with the preceding quinquennium:—

Denomination.	Marriages, 1914-1918.	Proportion per cent.	Marriages, 1919.	Proportion per cent.
Church of England	33,809	43·20	6,983	44·14
Roman Catholic	15,354	19·62	3,201	20·24
Presbyterian... ..	10,416	13·31	2,064	13·05
Methodist	10,492	13·40	1,874	11·85
Congregational	2,200	2·81	362	2·29
Baptist	1,343	1·72	246	1·55
Hebrew	224	0·29	41	0·26
All Other Sects	2,056	2·63	330	2·09
District Registrars	2,365	3·02	717	4·53
Total Marriages	78,262	100·00	15,818	100·00

CONDITION BEFORE MARRIAGE.

During the year 1919 of the males married, 14,650 were bachelors, 980 were widowers, and 188 were divorced. Of the females, 14,673 were spinsters, 950 were widows, and 195 were divorced. The proportion of males re-married was 7·38 per cent., and of females 7·24 per cent.

The following table shows at quinquennial intervals since 1881 the proportion of first marriages and of re-marriages, per 10,000 married:—

Period.	Bachelors.	Widowers and Divorced Men.	Spinsters.	Widows and Divorced Women.
1881	9,087	913	9,044	956
1886	9,137	863	9,156	844
1891	9,229	771	9,216	784
1896	9,184	816	9,172	828
1901	9,270	730	9,268	732
1906	9,262	738	9,332	648
1911	9,407	593	9,456	544
1916	9,377	623	9,362	638
1917	9,245	755	9,267	733
1918	9,211	789	9,219	781
1919	9,262	738	9,276	724

AGE AT MARRIAGE.

Of the 15,818 couples married in 1919, the ages of 15,815 bridegrooms and 15,813 brides were recorded.

The following statement shows the average age at marriage both of bridegrooms and of brides for each of the last ten years. The difference between the ages at marriage of males and females is now about 3½ years, the males being the older.

Year.	Average Age of—		Average Age of—		Year.	Average Age of—		Average Age of—	
	All Bridegrooms.	Bachelors.	All Brides.	Spinsters.		All Bridegrooms.	Bachelors.	All Brides.	Spinsters.
	years.	years.	years.	years.		years.	years.	years.	years.
1910	29·0	28·2	25·3	24·6	1915	28·7	28·0	25·5	25·0
1911	28·8	28·0	25·3	24·7	1916	29·1	23·4	26·1	25·2
1912	28·9	28·4	25·3	25·0	1917	29·7	28·5	26·0	25·0
1913	28·8	27·8	25·5	24·7	1918	29·5	28·0	25·5	24·5
1914	28·8	27·9	25·6	25·0	1919	29·2	28·2	25·7	24·7

The average age at marriage, of both bridegrooms and brides, has remained practically constant during the last ten years, although there is now a tendency to delay marriage on the part of both sexes.

The foregoing figures relate to all persons marrying during the year, and to those contracting unions for the first time. During 1919 the average marrying age of bachelors was about twelve months lower than of all bridegrooms, as was also that of spinsters than of all brides.

THE MARRIAGES OF MINORS.

The number of persons under 21 years of age who were married during 1919 was 3,805, or 12·03 per cent. of the total. The following are the figures at decennial intervals since 1881 :—

Year.	Minors.		Percentage of—	
	Bridegrooms.	Brides.	Bridegrooms.	Brides.
1881	149	1,660	2·37	26·42
1891	177	2,085	2·09	24·65
1901	351	2,546	3·33	24·15
1911	701	3,499	4·59	22·92
1919	741	3,064	4·68	19·37

Compared with the early years the proportion of minors increased among bridegrooms up to the year 1912, when it gradually decreased for five years, the proportion for 1916 being 3·32 per cent. During the next three years the rates were 4·04, 5·19, and 4·68 respectively. The proportion of minors decreased continuously, with infrequent fluctuations, among brides.

BIRTHS.

The number of births registered during 1919 was 48,528, equal to a rate of 24·71 per 1,000 of the population, which is 11·5 per cent. below the average for the previous five years, and is the lowest rate on record. The number registered during 1914, namely 53,615, was the highest recorded in New South Wales for any single year. The birth-rate fell away sharply after 1888, and declined continuously till 1903, but after that year there was an improvement, and the rate in 1912 was the highest since 1895. There was a decline in the birth-rate during the war years, 1914 to 1918 inclusive, coincident with the decline in the marriage-rate.

The following table shows the average annual number of births and the birth-rate per 1,000 of the total population in quinquennial periods since 1870.

Year.	Average Births.	Birth-rate per 1,000 of Population.	Year.	Average Births.	Birth-rate per 1,000 of Population.
1870-74	20,733	39·36	1895-99	37,042	28·68
1875-79	24,388	38·51	1900-04	37,498	26·99
1880-84	30,417	37·89	1905-09	41,788	27·56
1885-89	36,877	36·85	1910-14	50,190	28·90
1890-94	39,550	33·80	1915-19	51,331	27·07

The rates shown in this table are calculated by the usual crude method of relating the births to the total population. It is unsatisfactory, for several reasons, so to measure the birth-rate. A preferable method for purposes of strict analysis is to relate the mothers of various ages to the total number of women at corresponding ages, or to relate the births to the number of women of child-bearing ages.

These methods can be followed with exactitude only at census dates, since at any other time it is very difficult to make a reliable estimate of the number living at various ages, on account of migration and other influences.

The birth-rates per 1,000 women living at various groups of reproductive ages, from 15 to 45 years, have been calculated for the three census periods 1891, 1901, and 1911, and are shown in the following table :—

Ages of Mothers (years).	1891.	1901.	1911.	Decrease per cent. in rates, 1891 to 1911.
15-19	35·30	30·87	33·75	4·4
20-24	170·90	134·65	141·45	17·2
25-29	247·48	177·95	187·35	24·3
30-34	238·81	168·42	161·20	32·5
35-39	196·15	136·60	122·27	37·7
40-44	96·61	70·79	54·51	43·6
15-44	161·74	117·46	118·50	26·7

The crude birth-rate declined sharply after 1889, and has never recovered the figure at which it then stood, and from the above table it will be seen that the decline has been general at all age-groups. There was a slight increase in the general rate between 1901 and 1911, but at ages over 30 the decline has been continuous since 1891.

The birth-rate per 1,000 of the population of each State of the Commonwealth and of New Zealand is given in the following table :—

State.	1914-18.	1919.
Queensland	28·89	26·23
Tasmania	28·20	25·12
<i>New South Wales</i>	<i>27·93</i>	<i>24·71</i>
South Australia	27·11	24·27
Victoria	24·02	21·57
New Zealand	25·28	21·54
Western Australia... ..	26·43	21·44

BIRTH-RATES—METROPOLIS AND REMAINDER OF THE STATE.

During the year 1919 the births recorded in the metropolitan district of New South Wales numbered 18,635, and in the remainder of the State 29,843, or 23·05 and 25·89 per 1,000 of the population respectively. Prior to the year 1893 the metropolitan birth-rate was the higher, but since then, with the exception of the year 1913, the country has consistently shown a higher rate.

Period.	Number of Births.			Births per 1,000 of Population.		
	Metropolis.	Remainder of State.	New South Wales.	Metropolis.	Remainder of State.	New South Wales.
1880-84	49,058	103,026	152,084	40·16	36·90	37·89
1885-89	65,866	118,517	184,383	41·50	34·69	36·85
1890-94	68,754	128,998	197,752	34·11	33·63	33·80
1895-99	61,224	123,986	185,210	26·73	29·75	28·68
1900-04	63,694	123,795	187,489	25·16	28·05	26·99
1905-09	72,409	136,529	208,938	25·50	28·80	27·56
1910-14	95,529	155,423	250,952	28·26	29·32	28·90
1915-19	100,216	156,439	256,655	25·77	27·97	27·07

THE SEXES OF CHILDREN.

Of the 48,528 children born during the year (exclusive of those still-born), 24,886 were males and 23,642 were females, the proportion being 105 males to 100 females. In no year, as far as observation extends, have the female births exceeded in number those of males, although the difference has sometimes been very small. The preponderance of births of male children in New South Wales during a number of years is shown in the following table :—

Year.	Males.	Females.	Total.	Year.	Males.	Females.	Total.
1870-74	10,577	10,156	20,733	1895-99	18,979	18,063	37,042
1875-79	12,477	11,911	24,388	1900-04	19,134	18,364	37,498
1880-84	15,567	14,850	30,417	1905-09	21,406	20,382	41,788
1885-89	18,898	17,979	36,877	1910-14	25,728	24,462	50,190
1890-94	20,324	19,226	39,550	1915-19	26,317	25,014	51,331

The excess of males over females born during the past fifty-nine years has ranged from 2 per cent. in 1875, 1876, and 1901, to about 8·7 per cent. in 1864, the average being 5 per cent.

The proportion of males born during the war years was very little different from that in the pre-war years.

It is noteworthy that in the case of illegitimate births, the births of males have always maintained the ascendancy, save in the quinquennial period 1885-89 and in the year 1915, when the births of females predominated slightly.

The following table shows the number of males born to every 100 females, both in legitimate and illegitimate births, during the last forty-nine years :—

Year.	Legitimate Births.	Illegitimate Births.	All Births.	Year.	Legitimate Births.	Illegitimate Births.	All Births.
1870-74	104·3	101·0	104·1	1895-99	105·0	105·4	105·1
1875-79	104·6	108·8	104·8	1900-04	104·3	102·8	104·2
1880-84	104·9	103·9	104·8	1905-09	105·0	104·9	105·0
1885-89	105·4	98·8	105·1	1910-14	105·2	105·1	105·2
1890-94	105·7	105·4	105·7	1915-19	105·3	104·0	105·2

ILLEGITIMACY.

The number of illegitimate births in 1919 was 2,534, equal to 5.22 per cent. of the total births. A statement of the illegitimate births in New South Wales, distinguishing between the metropolis and the remainder of the State, is given herewith.

Year.	Number of Illegitimate Births.			Ratio per cent. to Total Births.		
	Metropolis.	Remainder of State	New South Wales.	Metropolis.	Remainder of State.	New South Wales.
1900	1,222	1,383	2,605	10.08	5.53	7.01
1905	1,530	1,382	2,912	11.11	5.37	7.37
1910	1,530	1,370	2,900	9.44	4.67	6.37
1915	1,480	1,201	2,681	7.09	3.75	5.07
1916	1,334	1,167	2,501	6.40	3.74	4.80
1917	1,383	1,150	2,533	6.82	3.57	4.83
1918	1,460	1,194	2,654	7.48	3.83	5.23
1919	1,385	1,149	2,534	7.41	3.85	5.22

The smaller proportion of illegitimate births in the extra-metropolitan area is doubtless partly due to the fact that prospective mothers journey to the metropolis, not only for the sake of the advantages of lying-in at one of the public maternity hospitals, but to avoid the publicity of their unfortunate condition.

THE LEGITIMATION ACT OF 1902.

In 1902 an Act was passed to legitimise 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 Act, any child who comes within the scope of its intentions, born before or after the passing thereof, is deemed to be legitimised from birth by the post-natal union of its parents, and entitled to the status of offspring born in wedlock. Since the passing of the Act there have been 5,304 registrations. The number in each of the last ten years is shown in the following table:—

Year.	Registrations.	Year.	Registrations.
1910	288	1915	416
1911	394	1916	420
1912	405	1917	390
1913	298	1918	447
1914	393	1919	398

PLURAL BIRTHS.

During the year 1919 there were 537 cases of plural births. The children thus born numbered 1,075 (exclusive of two still-births), and included 534 cases of twins (541 males and 525 females), and three cases of triplets (1 male and 8 females). Of these 537 cases, 25 were classified as illegitimate. The number of children born at plural births formed 2.22 per cent. of the total births.

The following table shows the number of cases of twins, triplets, and quadruplets born in New South Wales during the last ten years, excluding those still-born, and distinguishing legitimate and illegitimate:—

Cases of—	Legitimate.	Illegitimate.	Total.
Twins	5,247	246	5,493
Triplets	46	3	49
Quadruplets ...	1	...	1

The total number of confinements recorded during the ten years was 502,054; hence the rates per million confinements were:—10,941 cases of twins, 98 of triplets, and 2 of quadruplets; otherwise stated, there were 11 plural births in every 1,000 confinements.

NATURAL INCREASE.

The excess of births over deaths, or "natural increase" during 1919 was 22,143, the lowest since 1903. During 1919 the birth-rate was the lowest on record, and the death-rate the highest since 1891.

The following table shows the natural increase of population during the ten years, 1910 to 1919, for the metropolis, for the remainder of the State, and for the whole of New South Wales:—

Year.	Natural Increase.					Increase per cent. of Population at end of previous Year.
	Metropolis.	Remainder of State.	Whole of State.			
			Males.	Females.	Total.	
1910	9,839	19,503	14,094	15,248	29,342	1·84
1911	10,856	19,642	14,504	15,994	30,498	1·86
1912	12,459	20,648	15,526	17,581	33,107	1·95
1913	12,597	19,805	15,091	17,311	32,402	1·82
1914	13,218	21,620	16,433	18,405	34,838	1·90
1915	12,682	20,593	15,648	17,627	33,275	1·79
1916	12,700	19,521	15,114	17,107	32,221	1·72
1917	12,760	21,738	16,529	17,969	34,498	1·86
1918	11,664	20,196	15,084	16,776	31,860	1·65
1919	6,778	15,365	9,617	12,526	22,143	1·15

On account of the more favourable death-rates, the rate of natural increase prior to the war period had been improving slightly for about 15 years. The increase per 1,000 of population for the five years, 1915–19, however, was 12 per cent. lower than that for the previous quinquennium.

Although male births are more numerous than those of females, the increase of population from the excess of births over deaths is greatly in favour of the latter. The male population certainly exceeds the female, but there is a correspondingly larger number of deaths among males. There is also a greater mortality among male than among female children, a cause from which alone the natural excess of male births is almost neutralised. During the ten years which closed with 1919, the number of females added to the community by excess of births over deaths exceeded the males by 18,904, or 12·8 per cent.

During the year 1919 the birth and death-rates of all the Australian States compared unfavourably with those of the preceding quinquennium. Consequently the natural increase dropped considerably, as is shown below. The rates are per 1,000 of population.

State.	Natural Increase, 1914–18.	Natural Increase, 1919.
Tasmania	18·63	14·75
Queensland	18·45	13·81
South Australia	16·47	12·26
New Zealand	14·79	12·03
New South Wales	17·79	11·27
Western Australia	17·11	10·34
Victoria	12·65	8·35

DEATHS.

The deaths during 1919 numbered 26,385, equal to a rate of 13·44 per 1,000 of the population, which is the highest recorded since 1891, and is 30 per cent. above the average for the previous five years. Of the total, 15,269 were males and 11,116 females, the rate for the former being 15·51 and for the latter 11·35 per 1,000 living of each of the sexes. The average annual number of deaths from 1870 with the rate per 1,000 of population, in quinquennial periods, was as follows:—

Period.	Average Annual Number of Deaths.			Death-rate per 1,000 of Total Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1870-74	4,391	2,948	7,339	15·58	12·32	13·93
1875-79	6,199	4,360	10,559	17·99	15·10	16·67
1880-84	7,286	5,121	12,410	16·55	14·14	15·46
1885-89	8,461	6,043	14,504	15·43	13·36	14·49
1890-94	8,877	6,344	15,221	14·06	11·77	13·01
1895-99	9,002	6,514	15,516	13·11	10·77	12·01
1900-04	9,195	6,733	15,928	12·65	10·17	11·47
1905-09	9,076	6,583	15,659	11·52	9·04	10·33
1910-14	10,598	7,555	18,153	11·66	9·13	10·45
1915-19	11,919	8,613	20,532	12·52	9·12	10·83

The death-rate has fallen continuously for both sexes, but slightly more for males than for females. The death-rate for males is, however, about 25 per cent. higher than for females, the reason being that males are exposed to more and greater risks than females, and that male infants are the more delicate. It will be noticed that the death-rate had declined markedly from the period 1885-89 to 1918, coincidentally with the decline in the birth-rate. The falling birth-rate influenced the death-rate, inasmuch as it affected the age-constitution of the population by reducing the proportion living at the first five years, at which the mortality is high.

A table of the death-rates per 1,000 in each of the Australian States, and in New Zealand in 1919, is given herewith for purposes of comparison.

State.	1914-18.	1919.
New Zealand	10·49	9·51
Tasmania	9·57	10·37
Western Australia	9·32	11·10
South Australia	10·64	12·01
Queensland	10·44	12·43
Victoria	11·37	13·21
<i>New South Wales</i>	<i>10·14</i>	<i>13·44</i>

It should be noted that the rates for the Australian States are abnormally high on account of an epidemic of influenza experienced in 1919. Excluding deaths from this disease, New South Wales would have been fourth on the above list with a rate of 10·19 per thousand, Tasmania, Western Australia, and New Zealand showing corresponding rates of 9·31, 9·41, and 9·51 respectively.

DEATHS—METROPOLIS AND REMAINDER OF THE STATE.

It is not possible to show the exact difference between urban and rural mortality in New South Wales, but an approximate idea may be obtained from a comparison of the experience of the metropolis with that of the

remainder of the State, which is, of course, not absolutely rural, as a few large towns are contained therein. Separating the State, however, into these two broad divisions, during the year 1919 the record of deaths for the metropolis was 11,907, and for the remainder of the State 14,478, equivalent respectively to rates of 14·69 and 12·56 per 1,000 of the living. The average annual number of deaths and the rate per 1,000 in each of these divisions since 1880, in five-year periods, are given in the following table:—

Period.	Metropolis.		Remainder of the State.		New South Wales.	
	Average Number of Deaths.	Ratio per 1,000 Living.	Average Number of Deaths.	Ratio per 1,000 Living.	Average Number of Deaths.	Ratio per 1,000 Living.
1880-84	5,033	20·60	7,377	13·21	12,410	15·46
1885-89	6,181	19·47	8,323	12·18	14,504	14·49
1890-94	5,979	14·83	9,242	12·05	15,221	13·01
1895-99	5,634	12·30	9,882	11·86	15,516	12·01
1900-04	5,845	11·54	10,083	11·42	15,928	11·47
1905-09	5,979	10·53	9,680	10·21	15,659	10·33
1910-14	7,312	10·81	10,841	10·23	18,153	10·45
1915-19	8,727	11·22	11,805	10·55	20,532	10·83

The death-rate has improved steadily both in the metropolis and in the remainder of the State, but notably so in the former, where it is now very little higher than in the latter, whereas thirty years ago it was 50 per cent. in advance. The improvement dates from the quinquennium beginning with the year 1890, and is coincident with the installation of the modern system of sewage and the enforcement of the provisions of the Dairies Supervision Act of 1886. The marked decline in the rates for each Division and for the State as a whole is evident from the fact that the metropolitan rate for the period 1885-9 was 19·5 per 1,000, and for the year 1918 it was 10·02, or a difference of 50 per cent.; for the same periods the rates for the remainder of the State were respectively 12·2 and 9·8, or a difference of 19 per cent.; and for the whole State, 14·5 and 9·9, or a difference of 32 per cent. The epidemic of influenza in 1919 reduces the value of a comparison such as above.

THE MORTALITY OF INFANTS AND YOUNG CHILDREN.

A further measure of the mortality-rates in the metropolis and in the remainder of the State is obtained from a comparison of the death-rates of infants, which affords a most sensitive test.

Children under 1 Year.

During the year 1919 the children who died before completing the first year of life numbered 3,507, equivalent to a rate of 72·3 per 1,000 births. This rate is the highest since 1913, and is 12 per cent. above the average for the last decade, which, however, included several years of exceptionally low infantile mortality. In mitigation of the rate quoted for 1919, it should be remembered that that year was affected by the influenza epidemic. Also that the number of births during the year declined, so that it did not represent so accurately as formerly the population among which infant deaths occurred. To the total the metropolis contributed 1,483 deaths, or 79·4 per 1,000 births, and the remainder of the State 2,024, or 67·8 per 1,000 births.

The following table shows the average annual number of deaths of children under 1 year of age, in the metropolis and in the remainder of the State, and the proportion per 1,000 births, in quinquennial periods since the year 1880:—

Period.	Metropolis.		Remainder of State.		New South Wales.	
	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.	Deaths under 1.	Rate per 1,000 Births.
1880-84	1,707	174·0	1,956	94·9	3,663	120·4
1885-89	2,168	164·6	2,256	95·2	4,424	120·0
1890-94	1,908	138·8	2,471	95·8	4,379	110·7
1895-99	1,646	134·4	2,572	103·7	4,218	113·9
1900-04	1,416	111·2	2,399	96·9	3,815	101·7
1905-09	1,255	86·7	2,035	74·5	3,290	78·7
1910-14	1,437	75·2	2,211	71·1	3,648	72·7
1915-19	1,373	68·5	1,959	62·6	3,332	64·9

The remarkable improvement in the infantile mortality rate in the metropolis is partly due to the measures adopted to combat preventable diseases by more rigid health laws, and by education. The Infectious Disease Supervision Act became law in 1881, and in 1896 the Public Health Act was passed, while in 1902 all acts relating to Public Health were consolidated in the Public Health Act, 1902. A scheme for the preservation of infant health was formulated by the Sydney Municipal Council in 1903, and instructional pamphlets were circulated for the guidance of mothers in the care and feeding of young children. In the following year trained women inspectors were appointed to visit mothers in the populous parts of the city and in the surrounding suburbs. During the year 1904 infantile mortality showed a marked improvement on the rates experienced for about thirty years. A reference to the principal causes of death during the years immediately prior to and after the year in question will show that in all causes in which care and knowledge could have effect, a decrease was experienced.

Thus in 1904 the mortality from diarrhoea and enteritis dropped from 36·90 per 1,000 births in 1903 to 21·31; tubercular diseases from 3·06 to 1·58; and congenital debility from 15·54 to 12·98.

The decline in infantile mortality has persisted, especially in diarrhoeal diseases, as will be seen from the following table, which gives the mortality rate per 1,000 births in each year since 1900 from diarrhoeal diseases, and from the total less those diseases:—

Year.	Deaths under 1 year of age per 1,000 Births.			Year.	Deaths under 1 year of age per 1,000 Births.		
	Diarrhoeal Diseases.	All other Diseases.	Total.		Diarrhoeal Diseases.	All other Diseases.	Total.
1900	29·37	73·90	103·27	1910	20·54	54·07	74·61
1901	27·46	76·28	103·74	1911	16·82	52·67	69·49
1902	33·09	76·65	109·74	1912	22·37	48·93	71·30
1903	36·90	73·45	110·35	1913	23·27	55·07	78·34
1904	21·31	61·11	82·42	1914	19·88	49·84	69·72
1905	18·76	61·79	80·55	1915	17·28	50·85	68·13
1906	21·39	53·14	74·53	1916	15·02	52·82	67·84
1907	21·23	67·41	88·64	1917	10·79	46·69	57·48
1908	21·89	53·90	75·79	1918	9·25	49·92	59·17
1909	21·86	52·42	74·28	1919	17·45	54·82	72·27

In 1919 diarrhoeal diseases caused 24·2 per cent. of the deaths of infants under 1 year of age, but in 1903 the proportion was 33·4 per cent.

Further efforts to reduce infantile mortality led to the establishment of Baby Clinics in Sydney and Newcastle in 1914, and subsequently in Broken Hill. The Notification of Births Act, 1915, enables the health authorities to obtain early knowledge of the birth of a child, and empowers them to bring infants under their supervision immediately after birth, when measures for the prevention of illness are most efficacious. Details regarding the Baby Clinics will be found in a later chapter.

It is worthy of note that the experience of all the other States of the Commonwealth was similar to that of New South Wales inasmuch as a reduction in infantile mortality rates occurred in 1904, which has been maintained, and it was due to a large falling-off in the number of deaths from diarrhoeal diseases.

The death-rate is higher for male infants than for females, the rates in 1919 being 80·4 and 63·7 per 1,000 births respectively. The rates for each sex are shown in the following table in quinquennial periods since 1880 :—

Period.	Males.		Females.	
	Deaths under 1.	Rate per 1,000 Births	Deaths under 1.	Rate per 1,000 Births.
1880-84	1,992	127·9	1,671	112·5
1885-89	2,405	127·2	2,019	112·3
1890-94	2,413	118·7	1,966	102·3
1895-99	2,304	121·4	1,914	105·9
1900-04	2,077	108·5	1,738	94·6
1905-09	1,832	85·6	1,458	71·5
1910-14	2,037	79·2	1,611	65·8
1915-19	1,892	71·9	1,440	57·6

The death-rate of female infants has improved more than the male rate, having declined from 112·5 per 1,000 births in 1880-84 to 63·7 in 1919, or by 43·4 per cent., while the male rate has decreased from 127·9 per 1,000 births to 80·4, or by 37·1 per cent.

During the period reviewed, prior to 1919 the excess of the male infantile deaths fluctuated from 16·4 per 1,000 births in the quinquennium 1890-94 to 14·2 in 1918. In 1919 the excess reached its highest point, viz., 16·7 per 1,000 births.

Reference to the table on page 100 shows that the death-rate for male infants is higher than for female infants in regard to the causes to which the majority of infantile deaths are attributed, *i.e.*, premature birth, infantile debility, diarrhoea and enteritis.

Of the total number of deaths of infants under 1 year of age about one-third occur within a week of birth; at the end of the first month the proportion is over two-fifths; and at the end of three months, three-fifths. Approximately, one child in every 45 born dies within a week of birth. The following statement shows for 1919, in comparison with the average of the preceding quinquennium, the deaths per 1,000 births during each of the first four weeks after birth, and then for each successive month. The experience in the metropolis is distinguished from that in the remainder of the State, the sexes are taken together, and for the year 1919 the illegitimate children are distinguished from the legitimate for the State as a whole.

Age.	Metropolis.		Remainder of State.		New South Wales.				
	1914-18.	1919.	1914-18.	1919.	1914-18.	1919.			
						Legitimate.	Illegitimate.	Total.	
Under 1 week	23·8	26·1	24·5	26·2	24·0	25·4	39·9	26·2	
1 week	3·5	4·3	4·0	4·6	3·8	4·5	5·6	4·5	
2 weeks	2·2	2·4	2·5	2·5	2·4	2·3	4·3	2·4	
3 ,,	1·9	2·4	1·8	2·0	1·8	2·0	4·3	2·1	
Total under 1 month	31·4	35·2	32·8	35·3	32·0	34·2	54·1	35·2	
1 month	5·6	6·5	5·4	4·8	5·4	4·8	17·4	5·5	
2 months	4·3	5·6	3·6	3·2	3·8	3·5	15·8	4·1	
3 ,,	4·3	5·2	2·9	3·5	3·4	3·6	13·8	4·1	
4 ,,	3·4	5·0	3·1	3·0	3·2	3·4	11·5	3·8	
5 ,,	2·8	4·4	2·7	3·0	2·7	3·3	8·3	3·6	
6 ,,	3·1	3·8	2·6	2·9	2·8	3·0	6·3	3·2	
7 ,,	2·6	2·9	2·3	2·4	2·4	2·5	4·7	2·7	
8 ,,	2·5	2·7	2·4	2·5	2·4	2·5	4·3	2·6	
9 ,,	2·3	2·9	2·1	2·6	2·2	2·7	3·9	2·7	
10 ,,	2·2	2·8	2·0	2·0	2·1	2·3	2·4	2·3	
11 ,,	2·3	2·4	2·0	2·6	2·1	2·4	3·9	2·5	
Total under 1 year ...	66·8	79·4	63·9	67·8	64·5	68·2	146·4	72·3	

In the first week of life the mortality is six times as great as in the second, and in the second about twice as great as in the fourth. During the second month the mortality falls rapidly, and thereafter gradually. Comparing the mortality in the metropolis and in the remainder of the State, the usual experience is that generally more children die in the former. In 1919 the

rate per 1,000 births was 79.4 in the metropolis, and 67.8 in the remainder of the State. During the previous quinquennial period the metropolitan rate was 4.5 per cent. higher than that for the remainder of the State.

The table shows a great waste of life among illegitimate children, the mortality under 1 year being 146.4 per 1,000, as compared with 68.2 among legitimate children. The largest proportional excess is not immediately after birth, but about three months later. During the first week the mortality of illegitimates exceeded that of legitimates by 57 per cent.; thereafter it increased until, in the second month, the excess was 351 per cent.; after this it dropped irregularly, until in the eleventh month it amounted to 63 per cent.

A further dissection of the experience in regard to infantile mortality since 1901, according to the age at death, discloses the striking fact that relatively deaths under one week have actually increased, although the infantile mortality rate as a whole has declined considerably. The following table shows at various ages in the first twelve months the number of deaths per 1,000 births. Since 1901 death-rates of children under 1 week have increased by 28 per cent., while the rates of all children under 12 months have decreased by 30 per cent. At ages over 1 week the mortality rate has declined by 25 to 50 per cent.

Year.	Under 1 week.	1 week and under 1 month.	1 month and under 3 months.	Total under 3 months.	3 months and under 6.	6 months and under 12.	Total.
1901	20.5	12.2	22.1	54.8	22.4	26.5	103.7
1902	21.3	12.3	22.2	55.8	24.8	29.1	109.7
1903	21.2	11.3	19.5	52.0	26.3	32.1	110.4
1904	21.8	9.7	14.9	46.4	15.8	20.2	82.4
1905	24.3	10.9	13.0	48.2	15.9	16.5	80.6
1906	21.8	9.0	11.8	42.6	14.3	17.6	74.5
1907	23.1	11.3	17.8	52.2	15.8	20.6	88.6
1908	21.5	9.5	11.9	42.9	15.9	17.0	75.8
1909	21.3	9.8	11.6	42.7	14.9	16.7	74.3
1910	21.1	9.2	13.4	43.7	14.3	16.6	74.6
1911	22.3	9.9	11.9	44.1	11.7	13.7	69.5
1912	21.5	8.4	10.6	40.5	13.1	17.7	71.3
1913	22.9	9.5	11.8	44.2	14.7	19.4	78.3
1914	23.5	8.8	10.1	42.4	11.6	15.7	69.7
1915	25.1	7.6	9.4	42.1	9.3	16.7	68.1
1916	23.5	8.3	10.3	42.1	10.0	15.7	67.8
1917	22.9	7.4	8.5	38.8	7.6	11.1	57.5
1918	25.1	7.8	8.0	40.9	7.9	10.4	59.2
1919	26.2	9.0	9.6	44.8	11.5	16.0	72.3

The following statement furnishes a comparison of the rates of infantile mortality in the Australian States, in New Zealand, and in various other countries. The rates indicate the deaths under one year per 1,000 births.

State.	Year.	Rate.	Country.	Year.	Rate.
Queensland	1919	72·4	Chile	1914	286
New South Wales	"	72·3	Roumania	1914	187
Victoria	"	68·0	Ceylon	1915	171
Tasmania	"	64·6	Italy	1913	137
South Australia	"	64·0	Finland	1915	104
Western Australia	"	61·3	Scotland	1916	97
New Zealand	"	45·3	Denmark	1915	95
			* United States	1917	94
			Ontario, Canada	1917	92
			England and Wales	1916	91
			Netherlands	1915	87
			Ireland	1916	83

* Registration Area.

Of the rates shown in the foregoing table, that for New Zealand is the best; but the rates for Australasia generally are greatly superior to those prevailing in the other countries for which records are available.

Children under 5 Years.

As among children under 1 year old, so there has been a great improvement in the death-rate of children under 5 years of age. At every period shown in the following table the metropolitan rate, however, was the higher, being in some cases over 50, and never below 7 per cent. in excess until 1917, when the excess was only 1·5 per cent.

The following table shows the mortality in each Division, in periods of five years since 1890, of children under 5 years of age :—

Period.	Metropolis		Remainder of State.		New South Wales.	
	Average Annual Number.	Rate per 1,000 Living.	Average Annual Number.	Rate per 1,000 Living.	Average Annual Number.	Rate per 1,000 Living.
1890-94	2,674	48·45	3,546	32·06	6,220	37·52
1895-99	2,206	40·77	3,487	30·97	5,693	34·15
1900-04	1,846	35·17	3,210	29·64	5,056	31·44
1905-09	1,612	27·61	2,723	23·39	4,335	24·80
1910-14	1,895	25·47	2,986	21·77	4,881	23·07
1915-19	1,905	20·59	2,771	18·56	4,676	19·34

The improvement in the metropolis has been greater than in the remainder of the State, the rate having decreased since 1890 by 65 per cent. in the former, and in the latter by 49 per cent. Outside the metropolis the rate did not vary to any significant extent until 1904, when there was a marked decline, which has been continuous. Compared with the mortality rate of a quarter of a century ago, during the year 1919 there was a saving of 28 lives in every 1,000 children under 5 years of age in the metropolis, and of 14 in the remainder of the State.

The following table shows for 1919, and for the quinquennial period preceding, the death-rates of illegitimate children under one year and under five years of age, as compared with those of legitimate children of like ages:—

Age.	Legitimate.		Illegitimate.		Total.	
	Deaths.	Rate per 1,000 Living.	Deaths.	Rate per 1,000 Living.	Deaths.	Rate per 1,000 Living.
Under 1 year—						
1914-18	15,134	60·88	1,756	133·57	16,890	64·53
1919	3,136	68·18	371	146·41	3,507	72·27
Under 5 years—						
1914-18	21,229	18·57	2,184	38·42	23,413	19·51
1919	4,459	19·57	445	42·26	4,904	20·58

The foregoing figures show the poor chance of survival afforded to the illegitimate as compared with that of the legitimate infant, since at each of the ages specified the death-rate of the former was twice that of the latter; and it is a fact of the utmost gravity that in the year 1919 of the children illegitimately born, one-seventh died before completing the first year of existence.

THE INDEX OF MORTALITY.

In order to compare the death-rates of New South Wales with those of the other Commonwealth States on a uniform basis, allowance must be made for the age-constitution of the populations, and the death-rate (index of mortality) of each has been calculated on the basis that its population contained the same proportion at each of five age-groups (under 1, 1-19, 20-39, 40-59, and 60 and over) as was contained in the population of Australia as a whole at the census of 1911. Similarly, in obtaining the index of mortality of each capital city, the population of those ages of all the capital cities at the census of 1911 was taken as a basis.

The indices of mortality during 1919 were as follow, the crude rates also being shown for purposes of comparison:—

State.	Index of Mortality.	Crude Death-rate.	City.	Index of Mortality.	Crude Death-rate.
Tasmania	10·53	10·37	Perth	11·86	10·51
South Australia ...	11·72	12·01	Adelaide	13·30	13·54
Western Australia ...	12·38	11·10	Sydney	14·84	14·69
Victoria	12·71	13·21	Melbourne	15·29	15·57
Queensland	12·90	12·42	Brisbane	16·04	15·64
New South Wales ...	13·52	13·44	Hobart	15·69	15·69

THE CAUSES OF DEATH.

The system of classification adopted in this most important section of vital statistics is that employed by the Registrar-General in England, which is in accordance with the International List of Causes of Death, based on the second decennial revision by the International Commission at Paris in 1909.

In the following table will be found the principal causes of death arranged in order of fatality, together with the average number of deaths from similar causes during the previous quinquennium, due allowance having been made for the increase in population :—

Causes of Death.	Number, 1919.	Average Number, 1914-18.	Increase (+) or Decrease (-) in 1919.	Causes of Death.	Number, 1919.	Average Number, 1914-18.	Increase (+) or Decrease (-) in 1919.
			per cent.				per cent.
Influenza	6,387	175	+ 3,549.7	Suicide	221	233	- 5.1
Diseases of the Heart	2,295	2,120	+ 8.2	Diabetes	221	213	+ 3.8
Cancer	1,734	1,539	+ 12.7	Other Diseases of the Digestive System	198	207	- 4.3
Diarrhœa and Enteritis	1,588	1,378	+ 15.2	Hernia, Intestinal Obstruction	196	184	+ 6.5
Pneumonia	1,406	1,295	+ 8.6	Other Puerperal Diseases	193	198	- 2.5
Senility	1,384	1,267	+ 9.2	Appendicitis	149	152	- 2.0
Phthisis	1,216	1,166	+ 4.3	Diseases of the Stomach	139	177	- 21.5
Prematurity	951	930	+ 5.5	Convulsions of Infants	136	152	- 10.5
Accident	937	1,024	- 8.5	Whooping-cough	133	150	- 11.3
Bright's Disease, Acute and Chronic	937	998	- 6.1	Typhoid Fever	129	188	- 31.4
Developmental Diseases	794	854	- 7.0	Diphtheria	127	272	- 53.3
Other Diseases of the Nervous System	709	664	+ 6.8	Meningitis	113	140	- 19.3
Cerebral Hæmorrhage	662	655	+ 1.1	Cirrhosis of Liver	111	139	- 20.1
Bronchitis	655	568	+ 15.3	Other Tubercular Diseases	85	106	- 19.8
Other Diseases of the Circulatory System	567	474	+ 19.6	Puerperal Septicæmia	70	107	- 34.6
Other General Diseases	551	590	- 6.6	Tubercular Meningitis	66	73	- 9.6
Other Genito-Urinary Diseases	297	314	- 5.4	Alcoholism	57	65	- 12.3
Other Diseases of the Respiratory System	288	301	- 4.3	Other Epidemic Diseases	54	74	- 27.0
				Peritonitis	50	53	- 5.7
				Cerebro-spinal Meningitis	29	90	- 67.8
				Erysipelas	27	9	+ 200.0
				Scarlet Fever	17	57	- 70.2
				Measles	8	109	- 92.7
				Infantile Paralysis	7	14	- 50.0
				Small-pox ... ..	...	1	...
				Plague ... ..	...	1	...
				All other Causes	461	439	+ 5.0
				Total	26,385	19,915	+ 32.5

The number of deaths in 1919 was 6,470 (or 32.5 per cent.) more than shown by the experience of the previous five years ; and of the ten numerically highest fatal causes, influenza, cancer, and diarrhœa and enteritis showed marked increases on the average number for the previous quinquennium.

TYPHOID FEVER.

The number of deaths from typhoid fever during the year 1919 was 129, equivalent to 0.66 per 10,000 living. The number was 31 per cent. less than the average for the preceding five years. This is essentially a preventable disease, and does not obtain a foothold where a proper system of sanitation has been installed and ordinary health precautions have been taken ; a great improvement has been attained during the three past decades.

The number of deaths from typhoid fever, and the equivalent rates per 1,000 of population since 1884, are stated below.

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	1,356	5·12	1,115	5·13	2,471	5·13
1889-93	959	3·11	714	2·74	1,673	2·94
1894-98	1,107	3·27	731	2·46	1,838	2·89
1899-1903	1,054	2·93	733	2·25	1,787	2·61
1904-08	748	1·93	507	1·42	1,255	1·69
1909-13	773	1·76	464	1·56	1,237	1·47
1914-18	569	1·20	330	0·71	899	0·96
1919	76	0·77	53	0·54	129	0·66

The decrease between 1888 and 1893 was very marked, and may be traced to the operation of the provisions of the Dairies Supervision Act, which became law in 1889. From that year until 1903 the rate was fairly even, and did not greatly decline, but during the next quinquennium there was a considerable decrease in both the number and the rate of deaths from typhoid.

The following statement shows the rate for the metropolis and for the remainder of the State during the last twenty-four years. Owing to a superior system of sewage, and to greater attention to sanitary inspection, the rate of the metropolis has almost invariably been lower than that of the remainder of the State, but was higher during 1919.

Period.	Metropolis.		Remainder of State.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	507	2·26	1,331	3·24
1899-1903	426	1·72	1,361	3·12
1904-08	334	1·21	921	1·97
1909-13	363	1·12	874	1·69
1914-18	319	0·84	530	1·04
1919	61	0·75	68	0·59

The greater number of deaths from typhoid occur in the summer and autumn. In 1919 there were 36 deaths during the summer months of December, January, and February; and 40 during the autumn months of March, April, and May.

SMALLPOX.

After a considerable period of immunity, smallpox, of the mildest type, became epidemic in Sydney during the year 1913. In the absence of severe symptoms, the disease escaped detection until it had become distributed throughout the metropolitan area, and thence, in a few instances, to other parts of the State. The total number of cases notified during the outbreak, was 2,398, of which 119 occurred in 1917, the last case being notified in October of that year. Five patients died, but in each case death was probably due to some other cause.

Vaccination is not compulsory in New South Wales, and a very small proportion of the people submit voluntarily to the operation unless an

epidemic threatens. This cavalier attitude towards the dread scourge of smallpox may be attributed to a general feeling of security from infection on account of the distance from those countries in which the disease is more or less endemic. The duration of voyages from such places has been considerably diminished, and consequently the risk of sufferers from smallpox entering the State or the Commonwealth undetected by the inspectors of the Quarantine Department has been greatly increased.

During the year 1913, in consequence of an outbreak of smallpox (practically restricted to Sydney), a popular demand for vaccination became insistent, a number of depôts were opened, and about 425,000 persons were vaccinated by Government medical officers and by private medical practitioners.

MEASLES.

During the year 1919 the deaths due to measles amounted to 8, a number equal to a rate of 0·04 per 10,000 living. The rate for males was 0·04 and for females 0·04. The following statement shows the deaths from this cause, and the rate per 10,000 living, for each sex, arranged in quinquennial periods since 1884 :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-8	166	0·63	165	0·76	331	0·69
1889-93	393	1·28	369	1·41	762	1·34
1894-98	338	1·00	324	1·09	662	1·04
1899-1903	160	0·44	219	0·67	379	0·55
1904-08	82	0·21	107	0·30	189	0·25
1909-13	309	0·71	267	0·67	576	0·69
1914-18	301	0·63	221	0·48	522	0·56
1919	4	0·04	4	0·04	8	0·04

The rate in 1919 shows a decrease of 92·7 per cent. as compared with that of the preceding quinquennium. The high rates during the second and third quinquennial periods, and in the year 1915, were due to severe outbreaks in 1893, 1898, and 1915.

Measles is a disease chiefly affecting children, and is periodically epidemic. It was epidemic in 1898-9, when 719 deaths were recorded; in 1912, when there were 371 fatal cases; and in 1915, when there were 324. Of the number first cited, 233 were deaths of children under 5 years of age, and 54 were those of children under 1 year of age. During the year 1919 deaths from measles of children under 1 year of age numbered 2, and bore the proportion of 0·04 per 1,000 births for New South Wales, the proportions for the metropolis and the remainder of the State being respectively 0·05 and 0·03. In the same year, deaths from the same cause of children under 5 years of age numbered 7, and bore the proportion of 0·03 per 1,000 children living of the same age-group for New South Wales. The proportions for the metropolis and the remainder of the State were respectively 0·03 and 0·03.

SCARLET FEVER.

In 1919 the number of deaths from this disease was 17, equivalent to a rate of 0·09 per 10,000 of the population. The number of deaths in the metropolis was 7, and in the remainder of the State 10—showing respectively rates of 0·09 and 0·09 per 10,000. The rate for 1919 of deaths from this

cause was 70 per cent. below the rate for the preceding quinquennium. Since 1884 the deaths from scarlet fever and the rates for each sex have been as follow :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	287	1·08	342	1·57	629	1·30
1889-93	185	0·60	236	0·90	421	0·74
1894-98	162	0·48	218	0·73	380	0·60
1899-1903	84	0·23	114	0·35	198	0·29
1904-08	88	0·23	91	0·26	179	0·24
1909-13	41	0·09	57	0·14	98	0·12
1914-18	112	0·24	161	0·35	273	0·29
1919	7	0·09	10	0·09	17	0·09

Like measles, scarlet fever is an epidemic disease which mainly affects children, the rate generally being somewhat higher for females than for males. During 1919 it caused the deaths of 7 children under the age of 5 years, 3 of whom were females. Though not nearly so fatal as formerly, its sporadic recrudescence demands constant vigilance on the part of the authorities responsible for the health of the State. The death-rate from this cause of mortality has fluctuated since the years 1893 and 1894, when it was very heavy, ranging from 0·06 in 1912 to 0·63 in 1898.

WHOOPING-COUGH.

Whooping-cough is another disease which mainly affects children, and to which, like scarlet fever, females are more susceptible than males. During the year 1919 the deaths from this cause numbered 133, of which 60 were of boys and 73 of girls. Of the total number, 73 were infants, and of the remainder all but 4 were under 5 years of age. The rate was 0·68 per 10,000 living, or 12 per cent. below the average of the preceding quinquennium. The deaths and rates for each sex since 1884 are given below.

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	327	1·24	472	2·17	799	1·66
1889-93	495	1·61	666	2·55	1,161	2·04
1894-98	343	1·01	502	1·69	845	1·33
1899-1903	573	1·59	726	2·23	1,299	1·90
1904-08	369	0·95	445	1·25	814	1·10
1909-13	377	0·86	436	1·09	813	0·97
1914-18	335	0·71	382	0·83	717	0·77
1919	60	0·61	73	0·75	133	0·68

Whooping-cough may justly be regarded as a permanent menace and a constantly recurring ailment of infancy and childhood, for the table shows only spasms of declension, followed by increases in the death-rate, which is

maintained by epidemic outbreaks, one such occurring in 1907, when 594 cases proved fatal, and the rate was the highest since 1878. An examination of the table on page 101 showing the seasonal prevalence of diseases indicates that whooping-cough is most fatal during the months of October, November, December, and January.

DIPHTHERIA AND CROUP.

Diphtheria, under which heading membranous croup is included, was the cause of 127 deaths in 1919, while croup, so defined, caused 8. The rate for the total (135) was 0·69 per 10,000 living, or 52 per cent. below the rate for the preceding quinquennium. Metropolitan deaths from these diseases numbered 45, and those in the remainder of the State 90, the respective corresponding rates per 10,000 living in each division being 0·56 and 0·78. The following table shows the number of deaths and the rates in quinquennial periods since 1884 :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	1,069	4·04	980	4·51	2,049	4·25
1889-93	1,433	4·65	1,399	5·36	2,832	4·98
1894-98	712	2·10	710	2·39	1,422	2·24
1899-1903	310	0·86	299	0·92	609	0·89
1904-08	367	0·95	338	0·95	705	0·95
1909-13	604	1·38	640	1·59	1,244	1·48
1914-18	659	1·39	682	1·47	1,341	1·43
1919	66	0·67	69	0·70	135	0·69

In the early years the rate was high, and showed little improvement until 1893, since which year it has declined markedly; so much so, that in 1908 it was less than one-fourth of the rate eight years before. During the next quinquennium it tended upwards, the rate for 1913 being the highest for fourteen years. The experience of the decennial period 1910-1919 shows the disease to be most fatal during the months of April, May, June, and July. Ninety-six per cent. of the persons who died from diphtheria during 1919 were under 10, and about 77 per cent. were under 5 years of age.

INFLUENZA.

During 1919, New South Wales experienced an epidemic of this disease, particulars of which are dealt with later, on page 103.

TUBERCULOUS DISEASES.

Of the total deaths in New South Wales during the year 1919 the number ascribed to the several classified forms of tuberculous disease was 1,367, or 5·18 per cent. of the actual bill of mortality for the State, and equal to 6·96 per 10,000 living—a rate 1·6 per cent. above the average for the preceding quinquennium.

Tuberculosis of the Lungs.

Tuberculosis of the lungs, or phthisis, was the cause of 1,216 deaths, or 89 per cent. of the number due to tuberculosis during the year 1919, and it stands seventh in the order of the fatal diseases of the State. The mortality rate per 10,000 living was 6·19, the male rate being 7·56, and the female rate, 4·82. During the decade 1876-85, the rate increased from 9·30 in the second to 11·63 in the last year of the series; but in 1886 a decline, slightly interrupted during individual years, set in, and in 1917 the rate was the lowest on record. In 1919 the rate rose to 6·19, being 4·21 per cent. greater than the rate for the previous quinquennium, which was 5·34.

The improvement in the death-rate of the victims of phthisis may be ascribed to increased stringency in the admission of immigrants and visitors; to the application under official supervision of regulations minimising the dangers of phthisic infection attending certain industries; and to the extension of the precautionary and curative methods which have been introduced as results of the modern school of research and experiment.

The following table shows the deaths from tuberculosis of the lungs and the rates for each sex since 1884:—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,132	11·83	2,022	9·30	5,154	10·69
1889-93	3,269	10·61	1,925	7·38	5,194	9·13
1894-98	3,191	9·43	1,983	6·68	5,174	8·15
1899-1903	3,322	9·24	2,304	7·08	5,626	8·21
1904-08	2,985	7·72	2,184	6·13	5,169	6·96
1909-13	3,203	7·29	2,231	5·68	5,434	6·52
1914-18	3,373	7·11	2,194	4·74	5,567	5·94
1919	744	7·56	472	4·82	1,216	6·19

The decrease in the number of deaths from phthisis and other forms of tuberculosis may to a large extent be ascribed to the effect of the Acts relating to the supervision of dairies (1886), of diseased animals and meat (1892), the maintenance of public health (1896), and the inspection of foods sold for human consumption (1908). The Board of Health was empowered thereby to supervise dairies and dairy products, and to prohibit the sale of tuberculous meat. The powers conferred by the Pure Food Act of 1908 made the finding of a diseased cow in a dairy herd *prima facie* evidence that her milk had been sold for food, and provided for prosecution for selling diseased milk.

The following table shows the deaths and the mortality-rates of phthisis for the metropolis and the remainder of the State. In the quinquennial period 1894-98 the rate for the former was 47 per cent. higher than that for the latter division; but since that period the extra-metropolitan rate has fluctuated but little, while owing to the progressive establishment of hospitals for the treatment of consumptive patients that of the metropolis itself has improved markedly, the decline amounting to 52 per cent. The higher rate for the remainder of the State is due largely to the transfer of phthisis patients from the metropolis to institutions situated in the country. Of 177 deaths occurring at the Waterfall Sanatorium in 1919, 115 were from the metropolis. Transferring this number from the remainder of state to the metropolis the rates would be 7·18 and 5·50, instead of 5·76 and 6·50.

Period.	Metropolis.		Remainder of State.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1894-98	2,302	10·26	2,872	6·99
1899-1903	2,490	10·03	3,136	7·18
1904-08	2,184	7·89	2,985	6·40
1909-1913	2,171	6·70	3,335	6·45
1914-18	2,006	5·25	3,561	6·41
1919	467	5·76	749	6·50

Pulmonary tuberculosis is a notifiable disease within the City of Sydney, in the area controlled by the Hunter District Water Supply and Sewerage Board, and in the Katoomba Municipality and Blue Mountain Shire. The compulsory observance of health regulations, the ventilation of business and residential buildings and places of amusement, the destruction in recent years of very many unhealthy tenements, the abolition of congested areas, the re-alignment of streets on a more generous scale, and the creation of broad new thoroughfares, have resulted in the disappearance of a number of those urban conditions favourable to the culture of a disease like phthisis.

A comparison of death-rates from phthisis in the Australian States and New Zealand is given below. The rates are stated per 1,000 of the total population, and do not take account either of age or sex, which are material factors.

State.	Death-rate per 1,000 of Total Population.	
	1914-18.	1919.
New Zealand	0·54	0·53
Tasmania	0·50	0·55
Queensland... ..	0·49	0·57
<i>New South Wales</i>	0·59	0·62
Victoria	0·70	0·71
South Australia	0·75	0·74
Western Australia	0·73	0·91

New South Wales stands in a mid-position with regard to the States of the Commonwealth, but compares favorably with the more closely-settled States.

Tuberculosis of Meninges.

During the year 1919 tuberculosis of meninges caused 66 deaths, which is equal to a rate of 0·34 per 10,000 living. Of the total number, 41 were males; the rates for males and females respectively being 0·42 and 0·26 per 10,000 living of each sex. 62 per cent. of the deaths occurred in the metropolis. Most of the victims were children, 65 per cent. being under the age of 5 years.

Abdominal Tuberculosis.

Included under this heading are deaths due to tabes mesenterica, and in 1919 the number recorded was 34, of which 15 were those of females. The rate shown was 0·17 per 10,000 living. The disease is confined chiefly to children, and of those who died during the year, 8, or 24 per cent., were under 5 years of age. The deaths of children under 5 years of age in 1915 were 13, equal to 37 per cent. of the total; in 1916, 11, or 33 per cent.; in 1917, 12, or 30 per cent.; and in 1918, 9, or 23 per cent. Of the total deaths during 1919, 13 occurred in the metropolis and 21 in the remainder of the State, the rates per 10,000 living being 0·16 and 0·18 respectively. The death-rate for the whole State of children under 5 years of age was 0·03 per 1,000 living.

Other Tuberculous Diseases.

To tuberculous diseases other than those above specified were due 51 deaths, equivalent to a rate of 0·26 per 10,000 living.

CANCER.

In 1919 the deaths from cancer numbered 1,734, equal to a rate of 8·83 per 10,000 living, and 12·6 per cent. above the average of the quinquennial period preceding. The total included 936 males and 798 females, the rates being 9·51 and 8·15 per 10,000 living of each sex respectively.

Classified according to the parts of the body affected and arranged in order of fatality, cancer caused the following deaths:—Stomach and liver, 681; peritoneum, intestines, and rectum, 261; female genital organs, 164; breast, 124; mouth, 100; skin, 79; and other organs, 325.

The following table shows the deaths and rates per 10,000 living of each sex since 1884:—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000
1884-88	859	3·25	732	3·37	1,591	3·30
1889-93	1,262	4·10	1,038	3·98	2,300	4·04
1894-98	1,719	5·09	1,387	4·68	3,106	4·89
1899-1903	2,295	6·38	1,877	5·77	4,172	6·09
1904-08	2,671	6·91	2,418	6·73	5,089	6·85
1909-13	3,362	7·66	2,860	7·12	6,222	7·40
1914-18	3,886	8·19	3,458	7·47	7,344	7·84
1919	936	9·51	798	8·15	1,734	8·83

In New South Wales the male rate is usually the higher, which is contrary to the experience of the United Kingdom.

The ages of the 1,732 persons who died from cancer during 1919 ranged from 5 months to 96 years, but the disease is essentially one of advanced age, 97 per cent. being 35 years and over.

Cancer is probably the most feared of all diseases, inasmuch as no specific remedy is known, and in all countries for which records are kept the death-rate is increasing.

In the following table the rates, based on the whole population, are given for the Australian States and New Zealand. The comparison is uncorrected for age-incidence, and is therefore somewhat crude.

State.	Death-rate per 1,000 of Total Population.	
	1914-18.	1919.
Western Australia ...	0·65	0·79
Queensland ...	0·71	0·80
Tasmania ...	0·74	0·84
Victoria ...	0·89	0·87
New South Wales ...	0·78	0·88
New Zealand ...	0·84	0·91
South Australia ...	0·86	0·97

DIABETES.

The deaths due to diabetes in 1919 numbered 221, equal to a rate of 1·13 per 10,000 living, which is 4·63 above the average for the preceding quinquennium. The rate for males was 1·08 and for females 1·17 per 10,000 living of each sex. Most of the deaths occurred after middle life, 160 being those of persons over 45 years of age.

MENINGITIS.

The diseases included under the above heading, encephalitis, simple meningitis, and cerebro-spinal meningitis, caused 142 deaths during 1919, the corresponding rate being 0·72 per 10,000 living. Of this number 85 were males and 57 females, equivalent to rates per 10,000 living of each sex of 0·86 and 0·58 respectively. The deaths in the metropolis and country were 62 and 80, with corresponding rates, per 10,000 living, of 0·76 and 0·69. The rate for 1919 was 38 per cent. lower than that of the previous five years.

The disease principally affects children; 69 or 49 per cent. of those who died during 1919 were under 5 years of age.

The deaths caused by cerebro-spinal meningitis during 1919 numbered 29.

HÆMORRHAGE OF THE BRAIN.

To cerebral hæmorrhage and apoplexy, during the year 1919, were due 662 deaths, of which 338 were those of males and 324 those of females. The rate was 3·37 per 10,000 living, or 3·43 for males and 3·31 for females.

The following table shows the number of deaths and the rates for both sexes from cerebral hæmorrhage and apoplexy in quinquennial periods since 1884. :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	778	2·97	467	2·15	1,245	2·58
1889-93	796	2·58	618	2·37	1,414	2·48
1894-98	943	2·79	710	2·39	1,653	2·60
1899-1903	1,050	2·92	788	2·42	1,838	2·68
1904-08	1,303	3·31	1,039	2·91	2,342	3·15
1909-13	1,627	3·71	1,439	3·58	3,066	3·65
1914-18	1,693	3·57	1,431	3·09	3,124	3·33
1919	338	3·43	324	3·31	662	3·38

CONVULSIONS OF CHILDREN.

Convulsions of children (under 5 years of age) caused 136 deaths during 1919, or 0·69 per 10,000 living at all ages, which is 12 per cent. below the average for the previous quinquennium.

Appended is a table showing the deaths and the rates for both sexes for every fifth year since 1875.

Year.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1875	297	9·34	205	7·69	502	8·59
1880	388	9·75	297	8·98	685	9·40
1885	428	8·38	392	9·41	820	8·84
1890	328	5·47	274	5·45	602	5·46
1895	280	4·19	243	4·17	523	4·18
1900	203	2·84	168	2·63	371	2·74
1905	119	1·57	92	1·32	211	1·45
1910	103	1·23	71	0·91	174	1·08
1915	91	0·95	67	0·74	158	0·85
1919	79	0·83	57	0·58	136	0·69

Being limited to children under 5 years of age, the rates are better stated proportionately to that age-period. On this basis the death-rate in 1919 was 0.57 per 1,000 living as compared with 0.61 of the previous quinquennium. Of the total deaths during 1919, 97 occurred during the first year of life, the equivalent rate being 2.00 per 1,000 births. The deaths of males were more numerous than of the females, the numbers during the first year of life being 64 and 33 respectively, and for all children under 5 years of age 79 males and 57 females. The rate for the metropolis was considerably lower than that for the remainder of the State. The continuous decline in this cause of infantile mortality is indicative of increasingly definite and exhaustive diagnoses of the diseases of children.

INSANITY.

Classed as a distinct disease of the nervous system, insanity comprises general paralysis of the insane and other forms of mental aberration.

The number of deaths from this cause was 188 in the year 1919. The death-rate per 10,000 living was 1.33 for males, and 0.58 for females.

Practically all the persons in New South Wales coming within this classification are under treatment in the various mental hospitals. At the end of 1919 there were 7,544 persons under official control and receiving treatment—a proportion per 1,000 of the population of 3.8 or slightly in advance of the average for the preceding quinquennium, which was 3.6.

The percentage of deaths of insane persons in New South Wales is comparatively light. The following table has been computed on the basis of the average number of patients resident in mental hospitals :—

Period.	Males.		Females.		Total.	
	Deaths in Mental Hospitals.	Proportion of Average Number Resident.	Deaths in Mental Hospitals.	Proportion of Average Number Resident.	Deaths in Mental Hospitals.	Proportion of Average Number Resident.
		per cent.		per cent.		per cent.
1894-98	782	6.86	366	5.18	1,148	6.21
1899-1903	1,021	7.77	465	5.54	1,486	6.91
1904-1908	1,280	8.24	613	6.00	1,893	7.35
1909-1913	1,540	8.56	741	6.24	2,281	7.64
1914-1918	1,739	8.59	914	6.70	2,653	7.83
1919	513	12.17	285	9.74	798	11.17

DISEASES OF THE HEART.

Diseases of the heart were the cause of 2,295 deaths during 1919, showing a rate of 11.69 per 10,000 living, which was 8 per cent. above the average for the preceding five years. Of the total deaths 1,263 were of males and 1,032 of females, the corresponding rates per 10,000 living of each sex being 12.83 and 10.54. In the metropolis the rate was 14.8 per cent. higher than in the remainder of the State.

The ages of persons who died during 1919 ranged up to 108 years, and 94 per cent. of those who succumbed were over 45 years of age.

The deaths and the death-rates of each sex since 1884 are shown below :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,149	8.12	1,390	6.39	3,539	7.34
1889-93	2,250	7.30	1,357	5.20	3,607	6.34
1894-98	2,434	7.19	1,478	4.98	3,912	6.16
1899-1903	2,917	8.11	1,932	5.94	4,849	7.08
1904-1908	3,791	9.81	2,727	7.65	6,518	8.77
1909-1913	5,054	11.51	3,633	9.05	8,687	10.33
1914-1918	5,950	12.54	4,168	9.01	10,118	10.80
1919	1,263	12.83	1,032	10.54	2,295	11.69

The classified causes of the total number of deaths include pericarditis, endocarditis, organic diseases of the heart, and angina pectoris. The apparent increase in mortality due to diseases of the heart is probably the result of more specialised biological knowledge, and of the greater attention given to pathological diagnoses. Many deaths formerly recorded as being caused by senile decay would now doubtlessly be assigned to some cardiac trouble.

BRONCHITIS.

Bronchitis caused 655 deaths during 1919, equal to a rate of 3.34 per 10,000 living. Of the total 323 were males and 332 females, the corresponding rates per 10,000 of each sex being 3.28 and 3.39. The rate for the State was 15.6 per cent. higher than that experienced during the previous five years. Deaths in the metropolis numbered 261, while 394 succumbed in the remainder of the State. The corresponding rates were 3.22 and 3.42 per 10,000 living. Of the total deaths 203 were caused by acute bronchitis, the remainder being due to the disease in its chronic form. Of those persons who died of acute bronchitis 39 per cent. were under 5 years of age, while 88 per cent. of those who succumbed to chronic bronchitis were over 55 years of age. Experience shows the disease to be most prevalent during the months of June, July, August, and September.

PNEUMONIA.

Pneumonia, including broncho-pneumonia, was the cause of 1,406 deaths during 1919, the equivalent rate per 10,000 living being 7.16, which was 8.5 per cent. above the average for the preceding quinquennium. Of the total, 778 were males and 628 females. The male and female rates per 10,000 living were 7.90 and 6.41 respectively. The deaths in the metropolis numbered 554, and those in the remainder of the State, 852. The rate in the remainder of the State was 8.2 per cent. higher than that in the metropolis. An analysis of the deaths according to age shows that pneumonia is most destructive in its attacks on young people and adults in the decline of life.

Of the persons who died from pneumonia during 1919, 31 per cent. were under 5 years of age and 34 per cent. over 50 years of age. The following table gives deaths and rates, according to sex, since the year 1884 :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	2,032	7·63	1,301	5·98	3,333	6·91
1889-93	2,158	7·00	1,373	5·26	3,531	6·21
1894-98	2,514	7·43	1,528	5·15	4,042	6·37
1899-1903	3,191	8·87	2,000	6·15	5,191	7·58
1904-1908	2,816	7·28	1,824	5·12	4,640	6·24
1909-1913	2,983	6·79	1,931	4·81	4,914	5·85
1914-1918	3,779	7·96	2,402	5·19	6,181	6·60
1919	778	7·90	628	6·41	1,406	7·16

The greatest mortality from pneumonia occurs in the cold weather, and in 1919 there were from this cause 742 deaths, or 53 per cent. of the total number in the four months ranging from June to September.

There has been little reduction in the mortality for some years. There was a drop after 1888, but the rate subsequently increased, with a few fluctuations, to the highest point on record, 9·73 per 10,000 living in 1902. The general rate since the year cited has been much lower, that for 1919 being 26 per cent. below.

DISEASES OF THE DIGESTIVE SYSTEM.

Diseases of the digestive system accounted for the deaths of 1,335 males and 1,096 females during 1919, the respective rates per 10,000 living being 13·56 and 11·19. The rate corresponding to the total deaths in the State was 12·38 per 10,000 living, and was 6 per cent. above that experienced during the previous five years. Deaths resulting from diseases of the digestive system were caused in the main by diarrhoea and enteritis, with hernia and intestinal obstruction, appendicitis, typhlitis, and cirrhosis of the liver next in order of fatality.

DIARRHOEA AND ENTERITIS.

In 1919 these two diseases were the cause of 1,588 deaths, or 8·09 per 10,000 living, the rates for males being 8·85 and for females 7·32. The general rate was 15 per cent. above the average for the preceding quinquennium. The following table gives the deaths and the rates of males and females since 1884 :—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,412	12·89	3,043	14·02	6,460	13·40
1889-93	3,451	11·20	2,851	10·92	6,302	11·07
1894-98	4,042	11·94	3,638	12·26	7,680	12·09
1899-1903	4,422	12·29	3,901	11·99	8,323	12·15
1904-1908	3,714	9·61	3,000	8·41	6,714	9·03
1909-1913	4,257	9·90	3,471	8·65	7,728	9·21
1914-1918	3,622	7·65	2,957	6·39	6,579	7·02
1919	871	8·85	717	7·32	1,588	8·09

There was a considerable drop in the rate after 1888, due probably to the beneficial operations of the Dairies Supervision Act. During the next fifteen years there was a gradual increase, followed by a marked improvement in 1904, an improvement which has been consistently maintained.

According to the classification, deaths from these diseases are divided into two groups, one including children under 2 years of age, and the other all persons 2 years of age and over. In the first group there were 1,122, or 71 per cent. of the total, and in the second 466.

Of the total deaths from diarrhoea and enteritis 651, or 41 per cent., occurred in the three summer months of January, February, and December; and 464, or 29 per cent., in the autumn months of March, April, and May. As a rule, about 50 per cent. of the deaths occur in the summer quarter of the year.

APPENDICITIS.

To this cause 149 deaths were ascribed in 1919, the rate being 0.76 per 10,000 living, which is slightly lower than the average of the preceding quinquennium. Appendicitis is much more fatal to males than to females, the rate for the former in 1919 being 1.00, and for the latter 0.52 per 10,000 living.

CIRRHOSIS OF THE LIVER.

In 1919 the deaths from cirrhosis of the liver numbered 111, the rate being 0.57 per 10,000 living—20 per cent. below the average for the previous quinquennial period. This disease is more prevalent among males than females—the rate for the former in 1919 being 0.75, and for the latter 0.38 per 10,000 living in each sex.

BRIGHT'S DISEASE.

During 1919 there were 1,234 deaths due to diseases of the genito-urinary system, of which number 869 were caused by Bright's disease and 68 by acute nephritis. Taking these two diseases together, the rate was 4.77 per 10,000 living, and for males and females 6.90 and 3.64 respectively, the general rate being 6 per cent. below that experienced during the previous quinquennium. The deaths due to these diseases in the metropolis were 475 and in the rest of the State 462, the corresponding rates per 10,000 living being 5.86 and 4.01. Experience shows that the fatality of these diseases increases slightly during the winter months.

The changes in the rates of Bright's disease and of acute nephritis are shown below.

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	626	2.37	386	1.78	1,012	2.10
1889-93	907	2.94	570	2.18	1,477	2.60
1894-98	1,291	3.81	821	2.77	2,112	3.33
1899-1903	1,659	4.61	996	3.06	2,655	3.88
1904-1908	2,056	5.32	1,199	3.36	3,255	4.38
1909-1913	2,649	6.03	1,539	3.84	4,188	4.98
1914-1918	3,080	6.49	1,682	3.64	4,762	5.08
1919	581	5.90	356	3.64	937	4.77

During the whole period covered by the foregoing table the rate both for males and for females has more than doubled. The male rate is about half as high again as the female. Not many persons under 35 die from nephritis, the proportions for 1919 being 12 per cent. for those under 35, and 88 for those over that age.

DEATHS IN CHILDBIRTH.

During 1919 the number of deaths of women resulting from various diseases and casualties incident to childbirth was 263, equivalent to a rate of 5·4 per 1,000 births or 1 death in every 185 births. Puerperal septicæmia caused 70 deaths, puerperal hæmorrhage 44, accidents of pregnancy 33, albuminuria and eclampsia 50, phlegmasia alba dolens, embolus, sudden death 26, and other casualties of childbirth 40. The experience of the decennial period 1910-19 shows that the average numbers of fatal cases per 1,000 births for married and for single women are 5·5 and 9·3 respectively, plural births being reckoned as single confinements.

Cause of Death.	Deaths.			Proportion per cent. due to each Cause.		
	Married.	Single.	Total.	Married.	Single.	Total.
Accidents of Pregnancy	278	26	304	10·52	10·28	10·50
Puerperal Hæmorrhage	361	12	373	13·66	4·74	12·88
Puerperal Septicæmia	965	103	1,068	36·51	40·71	36·88
Albuminuria and Eclampsia	499	41	540	18·88	16·20	18·65
Phlegmasia Alba Dolens, Embolus, Sudden Death.	193	9	202	7·30	3·56	6·97
Other Casualties of Childbirth	347	62	409	13·13	24·51	14·12
Total	2,643	253	2,896	100·00	100·00	100·00

More than any other cause of death during childbirth, puerperal septicæmia can be classed as a preventable disease, but nearly 37 per cent. of the deaths are due to this cause. During the last ten years the rates per 1,000 births were as follows :—

Year.	Puerperal Septicæmia.			Total Deaths in Childbirth.		
	Metropolis.	Remainder of State.	State.	Metropolis.	Remainder of State.	State.
1910	2·8	2·6	2·7	6·2	5·5	5·7
1911	2·6	2·0	2·3	6·4	5·5	5·9
1912	2·2	2·3	2·3	5·6	6·1	5·9
1913	3·8	1·9	2·7	7·4	5·6	6·3
1914	2·5	1·5	1·9	6·0	5·2	5·5
1915	2·2	1·8	2·0	5·0	5·2	5·1
1916	2·9	1·7	2·2	6·7	5·1	5·7
1917	1·6	2·1	1·9	6·4	6·1	6·2
1918	2·6	1·4	1·8	6·5	4·5	5·3
1919	2·4	·9	1·4	6·6	4·7	5·4

From the above it will be seen that the death-rate is almost invariably higher in the Metropolis than in the remainder of State. This is contrary to expectation, as the Metropolis has greater hospital facilities; but it would appear that it is less favorably situated as regards skilled assistance for women before or during childbirth.

The maternal mortality of New South Wales may be considered high, and shows no signs of declining. There has been a satisfactory reduction in infantile mortality, and a reduction in the death-rate of mothers would tend to lower still further the infantile rate, and insure more babies being born alive.

THE CAUSES OF INFANTILE MORTALITY.

The mortality of infants in New South Wales has been exceptionally low since 1904. An upward movement in 1907, when the rate was higher than in any of the three preceding years, was followed by a decline in the following year, a decline that was continued until 1911. In 1912 there was a slight increase as compared with the year before, but the rate was considerably lower than the average for the preceding quinquennium, notwithstanding the fact that it was a period of low mortality. In 1913 the rate was 78·3, and the highest since 1907. From 1914 the rate steadily declined, but in 1919, on account of the epidemic of influenza, an increase was experienced, the rate being 72·3.

Children are susceptible to the attacks of disease at the earliest age-periods of life, and about 1,000 children out of every 10,000 born in New South Wales die before reaching their fifth year, but the rates for preventable diseases are highest. There is, therefore, no doubt that many children succumb through parental ignorance of the proper food or treatment required.

The following statement shows the principal causes of the deaths of children—under 1 per 1,000 births and under 5 per 1,000 living—in 1919 and in the five years 1914–18, distinguishing deaths in the metropolis from those in the remainder of the State:—

Cause of Death.	Deaths under 1 per 1,000 Births.						Deaths under 5 per 1,000 Living.					
	Metropolis.		Remainder of State.		New South Wales.		Metropolis.		Remainder of State.		New South Wales.	
	1914-1918.	1919.	1914-1918.	1919.	1914-1918.	1919.	1914-1918.	1919.	1914-1918.	1919.	1914-1918.	1919.
Measles	0·4	0·1	0·3	0·0	0·4	0·0	0·5	0·0	0·2	0·0	0·3	0·0
Scarlet Fever	0·1	..	0·0	..	0·0	..	0·1	0·0	0·1	0·0	0·1	0·0
Whooping-cough	1·5	0·9	1·8	1·9	1·7	1·5	0·6	0·3	0·6	0·7	0·6	0·6
Diphtheria and Croup	0·7	0·3	0·3	0·2	0·5	0·2	0·8	0·4	0·7	0·5	0·8	0·4
Influenza	0·1	2·2	0·4	1·4	0·2	1·8	0·0	1·7	0·1	1·0	0·1	1·2
Tuberculosis—Meninges..	0·3	0·2	0·2	0·2	0·2	0·2	0·2	0·3	0·1	0·1	0·2	0·2
,, Abdominal	0·1	0·0	0·1	0·1	0·1	0·1	0·1	0·0	0·1	0·0	0·1	0·0
,, Other Organs	0·2	..	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1	0·1
Syphilis	0·7	1·0	0·2	0·2	0·4	0·5	0·2	0·2	0·1	0·0	0·1	0·1
Meningitis	0·9	0·6	0·7	0·7	0·8	0·7	0·5	0·3	0·4	0·3	0·4	0·3
Convulsions	1·4	1·2	2·7	2·5	2·2	2·0	0·4	0·4	0·7	0·7	0·6	0·6
Bronchitis	1·2	1·0	2·2	1·3	1·8	1·2	0·3	0·2	0·6	0·4	0·5	0·4
Broncho-pneumonia	3·8	4·3	2·6	2·8	3·1	3·3	1·5	1·5	1·0	1·0	1·2	1·2
Pneumonia	1·5	2·4	1·8	1·2	1·7	1·7	0·8	0·7	0·7	0·5	0·7	0·6
Diarrhoea and Enteritis ..	16·6	22·0	13·2	14·6	14·7	17·5	5·0	6·1	4·1	4·8	4·4	5·3
Congenital Malformations	4·0	4·9	3·3	2·8	3·5	3·6	0·9	1·1	0·8	0·6	0·8	0·8
Infantile Debility	8·7	7·7	8·0	8·2	8·3	8·0	2·0	1·6	1·7	1·7	1·8	1·6
Premature Birth	17·4	21·9	16·7	19·2	17·0	20·2	3·9	4·4	3·6	3·9	3·7	4·1
All Others	7·2	8·7	8·5	10·4	8·0	9·7	2·8	2·6	3·1	3·4	3·0	3·1
Total	66·8	79·4	63·1	67·8	64·5	72·3	20·7	21·9	18·8	19·7	19·5	20·6

The high mortality of infants is largely due to the deaths of children who are incapacitated, even at birth, either from immaturity or inherited debility, for the struggle for existence. Of children under 1, the deaths

from these causes in 1919 were equal to 31·8 per 1,000 births, or 44 per cent. of the total deaths of children under one. A table already given shows that the mortality during the first month of life is over half of the total mortality during the whole of the first year, and over 74 per cent. of this half proportion of the year's total mortality was due in 1919 to deaths from congenital debility or defects.

Among children under one year, diarrhœa and enteritis were responsible for 17·5 deaths per 1,000 births, and infectious diseases for 3·5, of which whooping-cough caused 1·5 and influenza 1·7. Respiratory diseases afflict children with fatal results, bronchitis in 1919 causing 1·2, broncho-pneumonia 3·3, and pneumonia 1·7 deaths per 1,000 births. The death-rate for these respiratory diseases was slightly below the rate for the previous quinquennium. Convulsions had a death-rate of 2·0, tuberculous diseases of 0·4, and meningitis (not tuberculous) of 0·7 per 1,000 births.

The greater number of fatal cases of children under 5 years of age is due to the same diseases which are fatal to children under 1, namely, diarrhœa and enteritis, premature birth, infantile debility, broncho-pneumonia, influenza, malformations, pneumonia, convulsions, whooping-cough, diphtheria, bronchitis, meningitis, tuberculosis, syphilis, measles, and scarlet fever in the order given.

A comparison has been made of the causes of death of infants in the different divisions of the State. The variation shown in the mortality-rate is from 49·9 in the Riverina to 97·2 in the Western Division. The following table shows the number of deaths of infants under 1 year of age per 1,000 births for principal diseases in the principal divisions of the State, based on the experience of the five years, 1915-19.

Cause of Death.	Metropolis.	Balance of Cumberlandland.	North Coast.	Hunter and Manning.	South Coast.	Northern Tableland.	Central Tableland.	Southern Tableland.	North-Western Slope.	Central-Western Slope.	South-Western Slope.	North-Western Plain.	Central-Western Plain.	Riverina.	Western Division.	Total Country.	Whole State.
Epidemic Diseases ..	3·3	2·9	2·5	3·0	2·1	4·4	4·5	5·5	2·1	3·7	1·8	3·0	3·1	3·1	6·9	3·3	3·3
Tuberculous Diseases ..	·5	·4	·4	·5	·4	·2	·3	·3	·7	·4	·4	·2	·3	·3	1·1	·4	·5
Veneral Diseases ..	·8	·9	·3	·2	·3	·1	·1	·1	·1	·4	·1	·2	·3	·4	·4	·3	·5
Meningitis ..	·8	·3	·5	·2	·7	·6	1·1	·6	·8	·3	·4	1·3	·6	·5	·4	·7	·7
Convulsions of Infants ..	1·3	3·2	2·7	2·4	2·7	2·5	2·2	2·9	3·4	3·0	2·1	1·0	3·1	1·4	3·6	2·6	2·0
Bronchitis ..	1·1	1·5	1·0	2·1	2·5	3·3	2·7	2·1	2·1	2·1	1·5	3·0	2·2	1·2	1·9	2·0	1·6
Pneumonia and Pleurisy	5·8	4·4	3·9	3·7	5·8	4·5	5·2	4·4	3·8	3·8	4·1	3·3	5·5	4·1	4·7	4·3	4·9
Gastritis and Diarrhœa and Enteritis.	17·0	12·1	8·5	15·6	9·7	8·9	13·6	11·4	12·3	13·9	8·3	14·5	9·8	10·2	33·6	12·9	14·5
Hernia ..	·6	·3	·6	·5	·8	·5	·6	·9	1·1	·5	·2	·3	·9	·4	·9	·6	·6
Congenital Malformations	4·3	3·8	3·3	3·2	2·4	3·6	3·9	3·1	4·5	2·7	3·4	1·8	2·1	2·3	4·5	3·3	3·7
Congenital Debility and Premature Birth.	26·2	21·8	19·5	23·3	21·6	21·5	27·8	26·8	25·1	23·5	22·5	25·4	25·7	17·0	33·1	24·4	25·1
Accidents of Birth and Other Diseases of Infancy.	3·8	3·0	5·0	4·5	6·5	3·8	4·3	4·7	5·4	4·6	4·0	3·3	5·2	4·9	2·3	4·4	4·2
Accidents ..	·5	1·2	·7	·9	·6	·1	·3	·8	·5	·8	·8	1·8	2·1	1·1	1·3	·8	·7
All other Diseases ..	2·5	2·2	2·7	2·3	2·5	3·2	3·3	3·1	2·1	3·8	2·6	2·3	3·7	2·5	2·5	2·7	2·6
Total ..	68·5	53·0	51·6	68·0	58·5	57·1	69·9	66·6	63·9	63·5	52·2	61·9	64·6	49·9	97·2	62·6	74·9

Medical opinion is that the districts which have a favourable summer rainfall will have the fewest cases of infantile diarrhœa, and that those districts which have not industrial centres will have a lower rate for premature birth and congenital debility than those which have; also, that in rural districts children will be reared under the most favourable circumstances.

These opinions are borne out by the above table. The highest rates are in the Metropolis, the Hunter and Manning, the Central Tableland, and the Western Division, all containing mining or industrial centres. The lowest rates are in the North Coast and the Riverina—purely rural divisions.

The Deaths of Illegitimate Children.

The following table shows the causes of death of illegitimate as compared with those of legitimate children. The figures represent the deaths of children under 1 year per 1,000 births in New South Wales during the year 1919.

Cause of Death.	Deaths under 1 per 1,000 Births.				
	Legitimate.	Illegitimate.	Males.	Females.	Total.
Measles	0·04	...	0·04	0·04	0·04
Scarlet Fever ... ..	...	...	...	...	...
Whooping-cough	1·43	2·76	1·49	1·52	1·50
Diphtheria and Croup	0·13	1·97	0·32	0·13	0·23
Influenza	1·74	1·97	1·85	1·65	1·75
Tuberculosis—Meninges	0·17	0·79	0·28	0·13	0·21
„ Abdominal	0·11	...	0·12	0·08	0·10
„ Other Organs	0·11	0·39	0·08	0·17	0·12
Syphilis	0·30	4·34	0·48	0·55	0·51
Meningitis	0·65	0·79	0·80	0·51	0·66
Convulsions	1·98	2·37	2·57	1·40	2·00
Bronchitis	1·11	2·76	1·37	1·01	1·19
Broncho-pneumonia	3·11	7·50	2·98	3·72	3·34
Pneumonia	1·61	2·37	1·97	1·31	1·65
Diarrhœa and Enteritis	15·70	49·33	19·65	15·14	17·45
Congenital Malformations	3·68	2·37	4·14	3·04	3·61
Infantile Debility	7·59	15·79	9·20	6·77	8·02
Premature Birth	19·57	31·97	22·58	17·73	20·22
All Others	9·15	18·94	10·53	8·76	9·67
Total	68·18	146·41	80·45	63·66	72·27

A greater mortality is characteristic of illegitimate than of legitimate children. Exclusive of diseases inherited from contaminated parents, continued neglect and lack of care are largely responsible for these higher death-rates of the illegitimate. Infantile debility, including congenital malformations and premature birth, showed 50·12 deaths per 1,000 births, as against the legitimate rate of 30·8; diarrhœa and enteritis 49·3 as compared with 15·7, respiratory diseases 13·0 as compared with 6·3, syphilis 4·3 as compared with 0·3, and epidemic diseases 7·1 as compared with 3·7.

A comparison of the rates for each sex shows that the male rates were the higher for all the principal causes of death, except whooping-cough and broncho-pneumonia.

THE SEASONAL PREVALENCE OF DISEASES.

The following tabulation shows the principal diseases and the seasons of the year during which their effects are most fatal to their victims. The figures are based on the experience of the ten years 1910–19, and show the

proportion of deaths per 1,000 from the diseases specified for each of the twelve months. In order to make the results of the computation comparable the returns have been adjusted so as to correct the inequality of the number of days in each month.

Month.	Typhoid Fever.	In- fluenza.	Diph- theria and Croup.	Whoop- ing- Cough.	Phthisis.	Pneu- monia.	Bron- chitis.	Diarrhoea, Enteritis, and Dysentery.	Bright's Disease.
January ...	131	6	70	127	77	54	45	143	75
February ..	159	6	71	72	76	43	40	128	73
March ...	133	19	85	60	74	46	43	107	69
April ...	111	167	115	66	82	62	58	97	77
May ...	87	82	120	54	83	70	78	68	84
June ...	72	230	110	49	86	102	122	43	94
July ..	50	280	106	51	89	131	158	33	98
August ...	35	81	74	69	93	123	135	29	96
September.	38	50	77	85	89	130	120	29	93
October ...	31	43	55	114	86	97	87	50	81
November.	59	19	62	114	84	78	65	118	82
December..	94	17	55	139	81	64	49	155	78
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The chief features of the above table are exhibited in the contrast between the figures relating to typhoid fever, diarrhoea and enteritis on the one hand, and to pneumonia and bronchitis on the other. In the first group the influence of the hot weather is the controlling factor; in the second, the cold. The warmest months in the year are January, February, and December; the coldest, June, July, and August. Phthisis varies little throughout the year, but the rates show that it is more fatal in the colder months. Bright's disease shows likewise a higher mortality during the cold weather. The seasonal influence on influenza was obscured by the epidemic of 1919.

DEATHS FROM VIOLENCE.

Deaths from this cause were 1,300, or 4.9 per cent. of the total deaths. This number includes 221 suicides, 937 accidents, 56 homicides, 15 war casualties, and 71 not classed (open verdicts). The rate, 6.62 per 10,000, was 5.2 per cent. lower than the rate for the preceding quinquennium, which was 6.98. In the year 1919 the males thus dying numbered 982, or 10.0 per 10,000 living, and the females 318, or 3.2 per 10,000, less than one-third of the male rate.

DEATHS FROM SUICIDE.

The number of persons who took their own lives in 1919 was 221, or a rate of 1·13 per 10,000 living, and about 5 per cent. below the average for the preceding quinquennium. The number of male suicides was 168, or a rate of 1·71 per 10,000 living, and of female 53, or a rate of 0·54 per 10,000 living—the male rate thus being three times that of the female.

The number of deaths from suicide and the rates per 10,000 living since 1884 are shown in the following table:—

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	428	1·62	96	0·44	524	1·09
1889-93	519	1·68	110	0·42	629	1·11
1894-98	679	2·01	169	0·57	848	1·34
1899-1903	651	1·81	142	0·44	793	1·16
1904-1908	719	1·86	160	0·49	879	1·18
1909-1913	857	1·95	238	0·59	1,095	1·30
1914-1918	888	1·87	223	0·48	1,111	1·19
1919	168	1·71	53	0·54	221	1·13

The means usually adopted for self-destruction by men are shooting, poisoning, cutting, and hanging. Women, as a general rule, avoid weapons and resort mostly to poison. Of every 100 cases of suicide that were consummated during the quinquennial period ending 1919, 28 were by the agency of poison, 29 by shooting, 16 by cutting, 14 by hanging, and 8 by drowning.

Experience shows that the suicidal tendency is largely influenced by the seasons, as the conduct of male victims clearly exhibits, for they are more prone to self-destruction in the first and the last quarters of the year. During the ten years ended 1919 the proportion of male suicides per 1,000 was, during the first quarter of the year, 267, during the last 258, during the third 245, and during the second 230. January, February, and December, the three hot months of the year, have usually the largest record of suicides.

Female suicides, classified for the same periods, show the highest proportion during the third quarter of the year the figures being 281 per 1,000 for the third quarter, 247 for the first, 230 for the second, and 240 for the fourth.

DEATHS FROM ACCIDENT.

During the year 1919 the number of fatal accidents was 937, viz., 705 of males and 232 of females, or equal to rates of 7·16 and 2·37 per 10,000 living of each sex, and the general rate was 4·77 per 10,000 living. Accidental deaths have always been numerically greater in the extra-metropolitan area. Of those registered during 1919, deaths from accident in the metropolis numbered 325, and in the remainder of the State 612. As a general rule, about three-fourths of the accidents occur in the latter division, which contains about five-eighths of the total population.

The number of deaths from accident and the rates per 10,000 since 1884 are shown in the table below.

Period.	Males.		Females.		Total.	
	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.	Deaths.	Rate per 10,000.
1884-88	3,550	13·41	944	4·34	4,494	9·32
1889-93	3,666	11·90	966	3·70	4,632	8·14
1894-98	3,498	10·33	1,095	3·69	4,593	5·23
1899-1903	3,432	9·54	1,103	3·39	4,535	6·62
1904-1908	3,143	8·13	1,055	2·96	4,198	5·65
1909-1913	3,891	8·86	1,114	2·77	5,005	5·95
1914-18	3,814	8·04	1,075	2·32	4,889	5·22
1919	705	7·16	232	2·37	937	4·77

Although the death-rate from accidents is still high compared with that of more settled countries, it has decreased, the decline for males being more rapid than for females. For the years prior to 1894 the rates were really slightly lower than those shown in the table, because certain causes formerly classed as accidents now fall into different categories.

The experience of the past quinquennium shows that out of every 1,000 accidents 204 are due to vehicles and horses, 138 to drowning, 129 to burns or scalds, 123 to falls, 103 to railways and tramways, 42 to mines and quarries, and 37 to weather agencies, i.e., excessive cold or heat, and lightning. Among males the greatest number of deaths are due to vehicles and horses, and among females to burns and scalds.

INFLUENZA EPIDEMIC, 1919.

The history of influenza from the point of view of the deaths ascribed to it is remarkable for its variations. In the following table the deaths and death-rates are shown since 1875, the first year for which reliable information is available; years in which the mortality was low have been grouped, and years of high mortality shown singly.

Period.	Deaths.	Average Annual Number.	Annual Rate per million persons.
1875-1890	710	44	53
1891	988	988	865
1892-1917	5,196	198	127
1918	372	372	195
1919	6,387	6,387	3,253

The disease had never been so severe in New South Wales as in 1919, in which year the number of deaths was only 879 less than in the preceding forty-four years.

There was a previous outbreak in 1891, and during the twenty-six years succeeding 1891 the average death-rate from influenza showed an increase of nearly 140 per cent. over the average rate for the sixteen years prior to that year.

Very little information is available regarding the epidemic of 1891 beyond the number of deaths and the ages of the deceased. The following table shows the number of persons who died in the metropolis and in the remainder of the State in that year :—

	Males.	Females.	Total.
Metropolis	115	127	242
Remainder of State	434	312	746
State	549	439	988

Of the total deaths, 76 per cent. occurred outside the metropolis, and 56 per cent. were of males and 44 of females.

The next table shows the death-rates per 1,000 in various age-groups of each sex.

Age-groups.	Males.	Females.	Age-groups.	Males.	Females.
0-4	1.09	.97	35-39	.62	.70
5-9	.14	.09	40-44	.64	.91
10-14	.05	.07	45-49	1.16	.97
15-19	.19	.20	50-54	2.17	1.57
20-24	.35	.17	55-59	2.11	2.71
25-29	.30	.32	60-64	3.85	4.04
30-34	.46	.63	65 and over	9.90	12.99
			All Ages ...	.89	.84

Omitting the very young ages, the rates, speaking generally, increased with the age for both males and females.

A comparison with the epidemic of 1919 will be made at a later stage.

The epidemic of influenza which attacked the community between March and September, 1919, was the most serious outbreak of the disease yet experienced in New South Wales, judged by its infectiousness as shown by the number of sufferers, by its virulence as shown by its duration in epidemic form, or by its severity as shown by the mortality.

Influenza was prevalent in New South Wales in September and October, 1918, and the mortality was comparatively high, the number of deaths in the State from the disease in those two months being 223, as compared with 34, the average of the previous five years. In November there were only 27 deaths, and in December 58, but 42 of these took place in quarantine from cases which had occurred on vessels arriving in Port Jackson from abroad.

Dr. Armstrong, the Deputy Director-General of Public Health, in his report on the influenza epidemic of 1919, remarks:—

“An exceedingly interesting subject for speculation is presented by the occurrence of the relatively mild outbreak of influenza which affected many parts of New South Wales in September-October, 1918. Was it any way connected with the later more severe epidemic? Was it the first wave of the great pandemic, or was it merely an exacerbation of the ‘ordinary’ influenza or infectious catarrh sometimes seen here in winter and spring? It is very hard to say. If it was the latter, it was more fatal than any similar outbreak experienced here since the year 1907, and if the former it is somewhat surprising that the infection should have completely disappeared from Sydney for three months, and from the whole State of New South Wales for more than a month before the attack of the main epidemic. It is also surprising that when the main epidemic did appear it broke forth at once in full virulence, with no preliminary period of gradual ingravescence of type.

“The extent of the prevalence of the 1918 outbreak as far as Sydney is concerned has been greatly exaggerated. It has been unofficially alleged that 30 per cent. of the population of Sydney were affected by it, but although it is impossible to gauge its extent with any exactness it is certain that the estimate in question is not even an approximation to the truth. Probably

Age-groups.	1913-17. Average of 5 years.		Sept.-Dec., 1918. Quarantine Deaths omitted.		1919.			
	Males.	Females.	Males.	Females.	First Wave.		Second Wave.	
					Males.	Females.	Males.	Females.
0-19	174	166	167	142	74	129	99	127
20-39	122	124	70	100	643	555	486	472
40-59	201	212	194	91	231	235	294	256
60 and over	503	498	562	667	51	81	120	144
Not stated	...	...	7	...	1	...	1	1
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

From the above figures it would appear that the weight of normal influenza on the older ages was even more pronounced during the 1918 outbreak than during the years 1913-1917. The age-distribution in the 1919 deaths marks the epidemic of that year as an outbreak totally different from any previous experience, and it does not appear that the disease in 1918 was of the same type as in 1919.

The change shown in 1919 in the distribution of deaths according to age is reported from all parts of the world where an outbreak of the disease occurred.

The Outbreak of 1919.

During the year 26,385 persons died from all causes in New South Wales, and of these 6,387, or over 24 per cent., died from influenza, representing a death-rate of 3.25 per 1,000 persons.

Of the 6,387 deaths, 672 were described by the medical practitioners as influenza, 4,894 as pneumonic-influenza, and 821 as influenza and pneumonia.

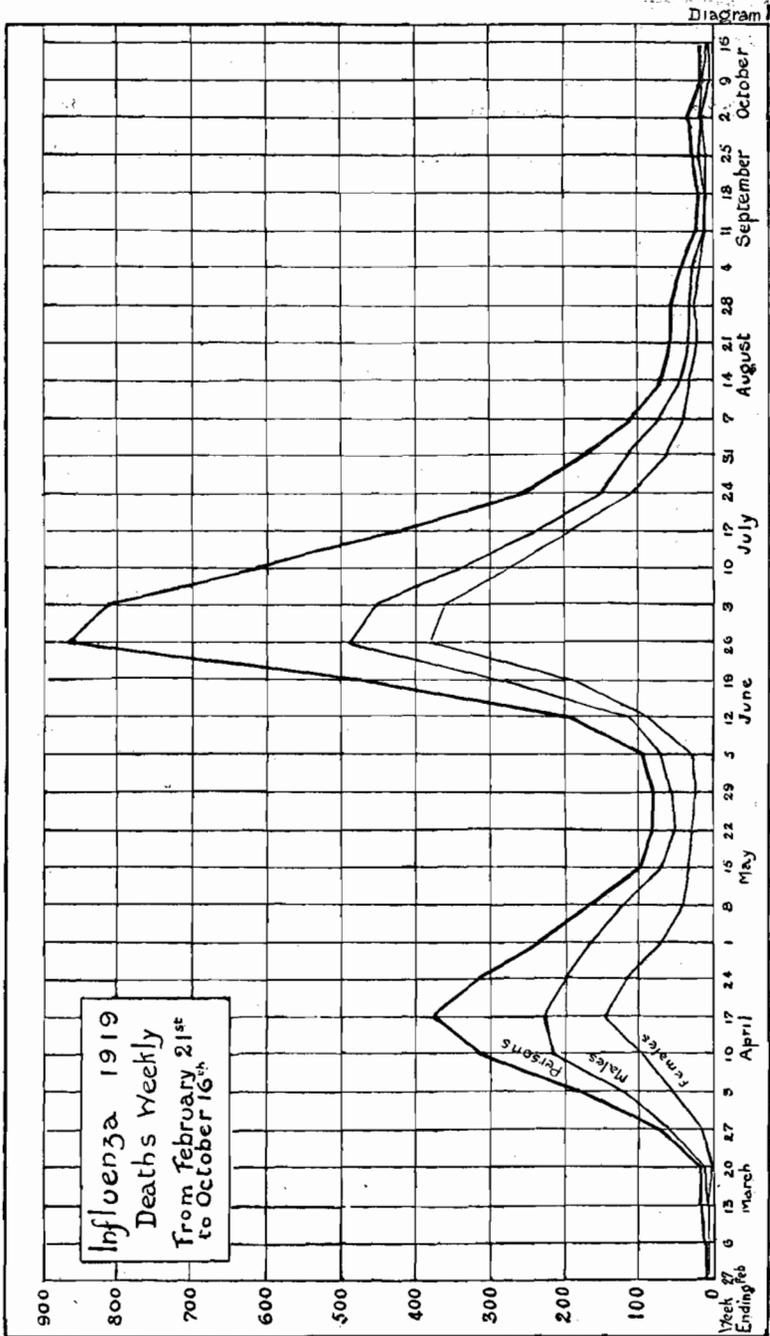
On the authority of the Deputy Director-General of Public Health, such causes as epidemic pneumonia, septic pneumonia, etc., were classified as pneumonic-influenza. Influenza also was accepted as the cause of death when associated with other causes, which in normal periods would be preferred to that disease for purposes of classification.

The outbreak originated in the metropolis towards the close of January, but was held in check for some time, as it was not till nearly two months later that the daily deaths gave evidence of the seriousness of the position. From the 23rd March the deaths increased daily, till on the 18th April 62 occurred. From that date the deaths declined fairly regularly, till on the 22nd May only 5 occurred. After that date the daily number of deaths increased, slowly at first till about the middle of June, then rapidly, and on the 26th of that month 142 persons died, the maximum number of any day, as a result of the epidemic. The daily deaths then decreased, but it was not till August that the number again reached single figures. From August to December the monthly deaths were in order 309, 112, 71, 29, and 12.

The following table shows the number of deaths which occurred in the metropolis and in the remainder of the State monthly in January and February, and weekly from 28th February to 25th September. After that date the numbers are again shown monthly. It should be noted that the

statement has been compiled according to the actual date on which the deaths occurred.

Period.	Number of Deaths.								
	Metropolis.			Remainder of State.			Whole State.		
	Males.	Females	Total.	Males.	Females	Total.	Males.	Females	Total.
January 1st to 30th ..	1	..	1	1	1	2	2	1	3
Four weeks ended 27 Feb.	8	2	10	4	3	7	12	5	17
Week ended 6 March ..	1	2	3	3	3	6	4	5	9
.. .. 13 ..	4	1	5	3	6	9	7	7	14
.. .. 20 ..	10	1	11	2	..	2	12	1	13
.. .. 27 ..	53	13	66	5	3	8	58	16	74
.. .. 3 April ..	112	52	164	8	5	13	120	57	177
.. .. 10 ..	190	83	273	27	14	41	217	97	314
.. .. 17 ..	179	111	290	49	37	86	228	148	376
.. .. 24 ..	144	79	223	56	39	95	200	118	318
.. .. 1 May ..	92	61	153	71	8	79	163	69	232
.. .. 8 ..	69	26	95	52	15	67	121	41	162
.. .. 15 ..	29	21	50	37	10	47	66	31	97
.. .. 22 ..	34	14	48	17	16	33	51	30	81
.. .. 29 ..	30	16	46	24	9	33	54	25	79
.. .. 5 June ..	39	15	54	30	13	43	69	28	97
.. .. 12 ..	78	62	140	32	23	60	110	90	200
.. .. 19 ..	206	149	355	70	38	108	276	187	463
.. .. 26 ..	303	260	563	184	119	303	487	379	866
.. .. 3 July ..	201	195	396	250	166	416	451	361	812
.. .. 10 ..	114	107	221	219	164	383	333	271	604
.. .. 17 ..	55	47	102	176	139	315	231	186	417
.. .. 24 ..	39	23	62	110	82	192	149	105	254
.. .. 31 ..	18	14	32	95	48	143	113	62	175
.. .. 7 August ..	12	5	17	59	34	93	71	39	110
.. .. 14 ..	7	9	16	34	20	54	41	29	70
.. .. 21 ..	8	5	13	25	13	43	33	23	56
.. .. 28 ..	7	3	10	22	22	44	29	25	54
.. .. 4 September.	8	5	13	18	11	29	26	16	42
.. .. 11 ..	4	2	6	7	9	16	11	11	22
.. .. 18 ..	6	4	10	4	6	10	10	10	20
.. .. 25 ..	7	2	9	11	6	17	13	8	26
Four weeks ended 23 Oct.	9	10	19	37	22	59	46	32	78
.. .. 20 Nov.	2	1	3	22	13	35	24	14	38
.. .. 18 Dec.	1	2	3	6	5	11	7	7	14
Fifteen days ended 31 Dec.	1	1	2	..	1	1	1	2	3
Total	2,081	1,403	3,484	1,770	1,133	2,903	3,851	2,536	6,387



It will be seen from the table on the preceding page, and from the above Diagram No. 1, that the epidemic occurred in two distinct waves, the point

of demarcation being on the 22nd May. The magnitude of the two waves will be seen on reference to the following table :—

		Males.	Females.	Total.
First Wave	Metropolis	926	466	1,392
	Remainder of State ...	335	160	495
Whole State ...		1,261	626	1,887
Second Wave	Metropolis	1,155	937	2,092
	Remainder of State...	1,435	973	2,408
Whole State ...		2,590	1,910	4,500

In the first wave nearly half the deaths were of metropolitan males, while the total of metropolitan females was almost equal to those of the males and females combined in the remainder of the State.

In the second wave no class predominated, although the males outside the metropolis suffered considerably more than any other group.

Of the total deaths, 55 per cent. occurred in the metropolis, and 60 per cent. were of males.

It has been pointed out that in each wave the maximum daily number of deaths was reached quickly, after which it declined rapidly; also in each wave more than half the deaths occurred during a period of three weeks, in the first wave ending on 24th April, and in the second wave ending on 10th July.

The waves in the metropolis and in the remainder of the State were not exactly coincident, those in the metropolis being a week in each case prior to that experienced outside.

A general idea of the geographical distribution of the deaths will be obtained from the following table, which shows the rates per 1,000 of population in the principal divisions of the State :—

Division.	Males.	Females.	Total.	Rate per 1,000 of Population.
Metropolis	2,081	1,403	3,484	4.30
Balance of Cumberland	346	189	535	4.46
North Coast	127	102	229	1.87
Newcastle and Suburbs	172	160	332	5.37
Balance of Hunter and Manning	166	101	267	1.78
South Coast	103	80	183	2.10
Northern Tableland	56	43	99	1.73
Central Tableland... ..	222	140	362	2.69
Southern Tableland	119	44	163	3.52
North-Western Slope	51	48	99	1.55
Central-Western Slope	51	32	83	1.96
South-Western Slope	115	61	176	1.73
North-Western Plain	37	27	64	2.22
Central-Western Plain	18	19	37	1.18
Riverina	73	36	109	1.79
Western Division	114	51	165	3.70
Whole State	3,851	2,536	6,387	3.25

From this table it will be seen that the epidemic spread through every division of the State, the highest mortality rate being experienced in Newcastle and suburbs. Excluding County Cumberland and Newcastle, the highest rate was that for the Western Division, owing mainly to deaths at Broken

Hill. As communication with that town is mainly through South Australia, it is curious to note the high rate, because South Australia experienced a very light attack of the epidemic. The fairly high rates shown for Central and Southern Tablelands are attributable to the deaths occurring in Lithgow and in Goulburn respectively.

In the following table the metropolis is divided into groups of municipalities, and the rates compared with the density of the populations :—

District of Metropolis.	Deaths.	Rate per 1,000 of Population.	Number of Persons per acre.
City	728	6·79	32 2
North-western Suburbs	507	5·19	32·7
Western-central „	219	4·67	31·2
Eastern „ „	338	5·04	10·0
Eastern Suburbs	459	3·88	9·0
Western „ „	478	3·30	9 6
Southern „ „	321	3·61	3·4
Northern „ „	338	2·42	2·9
Resident outside Metropolis	96	...	...
Metropolis	3,484	4·30	6·9

The highest rate is shown for the north-western suburbs, which include Balmain, Leichhardt, Annandale, and Glebe, while the lowest rate was experienced by the suburbs on the northern side of the Harbour from Manly to Eastwood.

In the next table of deaths according to age the numbers are given for the metropolis and for the remainder of the State to show the actual loss of population in the two divisions. The two waves are distinguished, as the age-distribution in the second differs materially from that in the first.

Age-groups.	First Wave.				Second Wave.			
	Metropolis.		Remainder of State.		Metropolis.		Remainder of State.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0-4... ..	29	30	14	13	52	43	57	54
5-9... ..	1	8	3	2	8	21	16	17
10-14... ..	4	5	5	2	22	18	23	13
15-19... ..	25	17	14	4	35	42	45	34
20-24... ..	70	55	28	15	76	70	93	77
25-29... ..	193	83	60	30	162	154	173	111
30-34... ..	186	68	67	23	203	148	201	129
35-39... ..	155	59	51	14	172	115	181	98
40-44... ..	92	25	21	20	110	62	144	81
45-49... ..	77	30	22	8	91	45	108	73
50-54... ..	24	24	21	10	76	50	113	65
55-59... ..	22	23	12	7	43	51	72	62
60-64... ..	20	19	5	5	37	37	88	44
65 and over	27	20	12	7	64	81	120	114
Age not stated	1	...	...	...	1	...	1	1
Total	926	466	335	160	1,155	937	1,435	973

This table emphasises the predominance in the first wave of the deaths of metropolitan males, especially in the age-groups of heavy mortality. From age 25 to 45 there were 20 per cent. more deaths of males in the metropolis than in the rest of the population of the State.

The second striking feature of the table is that in the second wave the males outside the metropolis suffered more in every age-group except one than those inside, the exception being the group 30-34, where the deaths were practically equal.

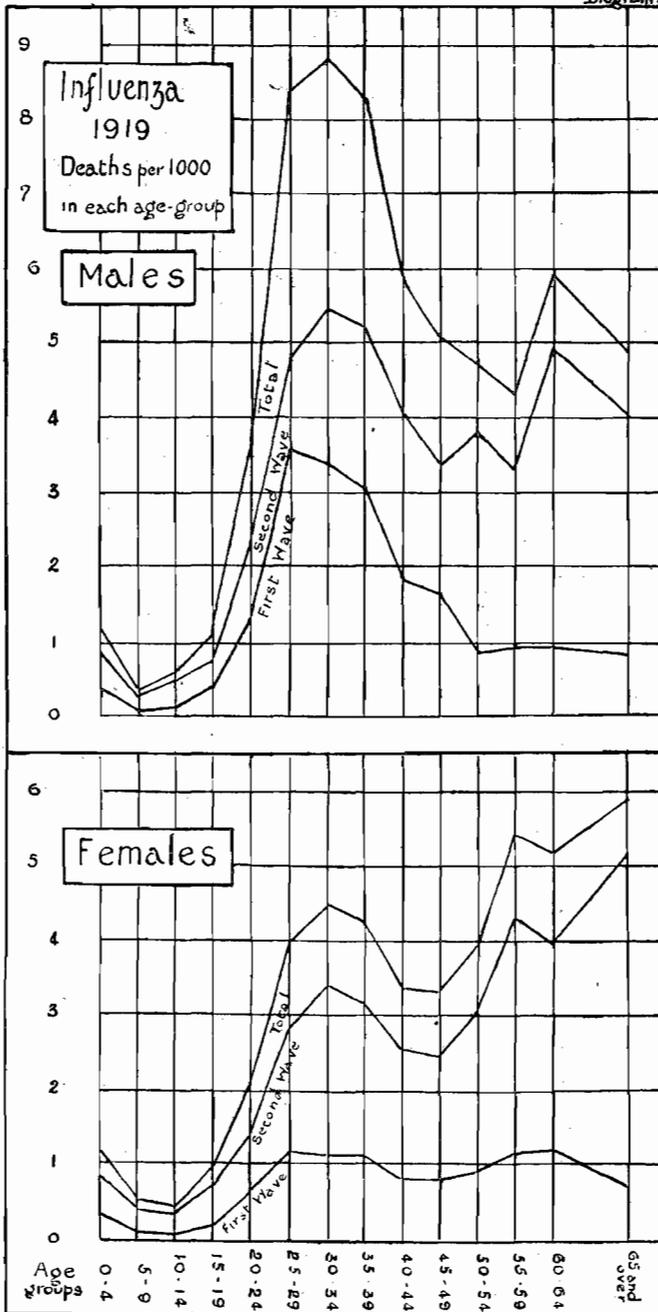
Although a similar transference of weight from the metropolis to the country took place with regard to deaths of females it was not till after age 40 that this was effected. In the second wave the deaths of all females outside the metropolis were less than 4 per cent. above those inside, while taking only the ages above 40 the increase was nearly 35 per cent.

The following table gives the deaths and rates per 1,000 persons for the whole State. The two waves are again shown for comparison. Unfortunately, on account of the considerable interval since the last census, not sufficient information is available as to the age-constitution of the population in the metropolis and in the remainder of the State to enable rates to be quoted for those divisions with any confidence.

Age-groups.	Males.						Females.					
	Number of Deaths.			Death Rate per 1,000 Living.			Number of Deaths.			Death Rate per 1,000 Living.		
	1st Wave	2nd Wave.	Total.	1st Wave.	2nd Wave.	Total.	1st Wave.	2nd Wave.	Total.	1st Wave.	2nd Wave.	Total.
0-4 ...	43	109	152	·35	·88	1·23	43	97	140	·36	·81	1·17
5-9 ...	4	24	28	·04	·25	·29	10	38	48	·11	·40	·51
10-14 ...	9	45	54	·10	·48	·58	7	31	38	·08	·34	·42
15-19 ...	39	80	119	·37	·75	1·12	21	76	97	·21	·74	·95
20-24 ...	98	169	267	1·32	2·29	3·61	70	147	217	·68	1·42	2·10
25-29 ...	253	335	588	3·60	4·75	8·35	113	265	378	1·19	2·79	3·98
30-34 ...	253	404	657	3·39	5·43	8·82	91	277	368	1·11	3·38	4·49
35-39 ...	206	353	559	3·04	5·22	8·26	73	213	286	1·09	3·16	4·25
40-44 ...	113	254	367	1·80	4·04	5·84	45	143	188	·80	2·54	3·34
45-49 ...	99	202	301	1·65	3·38	5·03	38	118	156	·80	2·49	3·29
50-54 ...	45	189	234	·91	3·80	4·71	34	115	149	·90	3·06	3·96
55-59 ...	34	115	149	·98	3·30	4·28	30	113	143	1·14	4·30	5·44
60-64 ...	25	125	150	·98	4·92	5·90	24	81	105	1·18	3·97	5·15
65 and over	40	186	226	·85	4·00	4·85	27	196	223	·71	5·16	5·87
Total ...	1,261	2,590	3,851	1·28	2·63	3·91	626	1,910	2,536	·64	1·95	2·59

NOTE.—The above rates are shown graphically in Diagram No. 2 on the next page.

Diagram 2:



An examination of the rates of males discloses a rough similarity of progress in the two waves up to age 29. After that age, however, the rates are quite distinct. In each wave the rates rise rapidly from age 15 to 20, but whereas in the first wave the rates decline fairly regularly from the latter age to the end, in the second wave a further increase is shown in the group 30-34.

and after a slight drop in the next group the rates are fairly constant at 4 per 1,000 to the end of life. There is practically no similarity in the rates for females in the two waves. In the first wave the rates are fairly constant from age 25 to the end of life. In the second the rates show approximately the same progress to age 39 as those of the males in the same wave. After that age, however, a distinct increase is shown as the age advances.

The appearance of the rates prompts a further combination in groups roughly representing infancy, youth, young adults, middle and old age. This has been done in the following table:—

Age-groups.	First Wave.		Second Wave.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.
0-9	·21	·25	·61	·63	·82	·88
10-19	·24	·15	·63	·56	·87	·70
20-39	2·83	1·00	4·40	2·60	7·23	3·59
40-54	1·49	·83	3·74	2·66	5·24	3·49
55 and over	·92	·96	3·99	4·60	4·92	5·56

Omitting the experience of the first wave, as not representing the effect of the epidemic on the whole population, it would appear that the rates for the males can be divided into two groups, those for ages under and over 20, and for the females into three, namely, under 20, 20-54, and 55 and over. Further, it would appear that where the chances of infection were equal among the sexes, namely, in infancy and at school-age, both sexes were equally liable to succumb to the disease, and this is supported by the experience of the sexes at advanced ages. In middle-age, at which period the greater portion of women are engaged in home duties, the female death-rate was considerably lower than the male.

In the following table the death rates per 1,000 in age-groups in 1919 are compared with those for five normal years, 1909-13, and with those for the previous outbreak in 1891.

Age-groups.	1891.		1909-13.		1919.	
	Males.	Females.	Males.	Females.	Males.	Females.
0-4	1·09	·97	·11	·10	1·23	1·17
5-9	·14	·09	·02	·01	·29	·51
10-14	·05	·07	·01	·01	·58	·42
15-19	·19	·20	·01	·01	1·12	·95
20-24	·35	·17	·02	·03	3·61	2·10
25-29	·30	·32	·03	·03	8·35	3·98
30-34	·46	·63	·02	·04	8·82	4·49
35-39	·62	·70	·07	·03	8·26	4·25
40-44	·64	·91	·04	·05	5·84	3·34
45-49	1·16	·97	·09	·05	5·03	3·29
50-54	2·17	1·57	·06	·04	4·71	3·96
55-59	2·11	2·71	·17	·11	4·28	5·44
60-64	3·85	4·04	·18	·21	5·90	5·15
65 and over	9·90	12·99	·84	·91	4·85	5·87
Total	·89	·84	·08	·08	3·91	2·59

Up to age 40 the 1891 rates are practically ten times those for 1909-13, which may be taken as the normal influenza mortality rates. Over 40 the proportion is slightly higher, but not so much so as to destroy the similarity in the progression of the rates in each case. The rates for 1919 show the completeness of the change in the age-incidence of the disease in that year as compared with previous experience.

An endeavour has been made to ascertain the death-rates from the epidemic in occupations. To do so it has been necessary to assume that the population is still constituted as to age and occupation in the same proportions as at the last census in 1911. The results, of course, will be only approximate, but probably sufficiently accurate to indicate the general direction in which the population was affected by the epidemic.

Classifying the occupations of the males according to the method followed at the census of 1911, the deaths were as follows :—

Occupations in Classes.	Age-groups.															Total Males.
	0	20	25	30	35	40	45	50	55	60	65	70	75	80 and over.	n.s.	
	20	24	29	34	39	44	49	54	59	64	69	74	79			
I. Professional ..	4	15	25	37	37	29	26	15	1	8	3	3	4	1	..	208
II. Domestic ..	..	8	15	26	19	16	9	8	9	5	2	5	1	1	..	124
III. Commercial ..	12	44	97	108	100	53	34	24	17	10	9	4	5	1	..	518
IV. Transport and Communication.	17	30	117	115	98	50	39	18	17	12	4	4	5	..	1	533
V. Industrial ..	53	117	249	278	225	153	115	110	64	64	47	19	18	8	2	1,522
VI. Primary Producers.	16	24	53	64	59	50	65	42	31	49	20	12	17	7	..	500
VII. Indefinite ..	251	23	32	29	21	16	13	17	10	11	7	8	3	5	..	446
Total ..	353	267	588	657	559	367	301	234	149	150	92	55	53	23	3	3,851

In the section dealing with ages it was found that males could be roughly divided into two groups, under and over age 20. Making this rough division, and taking the whole of the deaths as shown, the following rates per 1,000 males result :—

Class.	I.	II.	III.	IV.	V.	VI.	All Occupations.
Under age 20 ...	1·03	..	·71	2·07	1·67	·47	·83
Age 20 and over ...	5·30	6·36	6·01	8·46	8·87	2·49	6·02
All Ages ...	4·91	5·71	5·12	7·70	7·71	2·19	3·91

The outstanding feature of the table is the low rate experienced by the primary producers (Class VI). Persons engaged in transport and communication (Class IV) and in industrial pursuits (Class V) were affected in a higher degree than any others.

A comparison of the death-rates of married and single persons can be made only on the assumption that as regards the population in these groups the proportions existing at the census of 1911 were applicable in 1919. The following rates, therefore, are quoted as approximate only :—

Age-groups.	Males.				Females.			
	Married.		Single.		Married.		Single.	
	Deaths.	Rate per 1,000.	Deaths.	Rate per 1,000.	Deaths.	Rate per 1,000.	Deaths.	Rate per 1,000.
20-39 ...	1,160	8·1	911	5·0	944	4·9	305	2·2
40-54 ...	675	5·5	227	6·4	423	3·5	70	3·9
55 and over ...	419	5·4	106	5·6	436	5·6	35	5·7
All Ages ...	2,254	6·6	1,244	5·2	1,803	4·6	410	2·5

Under the age of 40 it would appear that the married suffered considerably more than the single, while over 40 the difference was slight.

In addition to the above the statistics relating to influenza during 1919 have been tabulated according to duration of illness and to the diseases associated with influenza as appearing on the death certificates of the medical practitioners. This information, which appears in the Statistical Register for 1919-20, was tabulated, not because it was thought to be of particular value, but because it is difficult to say what information will be required in the future.

It is sometimes suggested that during an epidemic there are a considerable number of deaths due indirectly to the epidemic, but attributed to other diseases. The deaths for the year are compared with the average deaths from the same disease for a period of years prior to the epidemic, and it is implied that the increases, if any, are the result of the epidemic.

In the following table the deaths from the principal respiratory diseases, heart affections, and old age, which occurred in 1919, are compared with those during the five years 1914-18, which have been adjusted to allow for the increase in population :—

Disease.	Average Deaths, 1914-18.	Deaths, 1919.	Increase in 1919.	
			No.	Per cent.
Influenza	175	6,387	6,212	3549·7
Pneumonia	1,295	1,406	111	8·6
Bronchitis	568	655	87	15·3
Diseases of the Heart	2,120	2,295	175	8·2
Phthisis	1,166	1,216	50	4·3
Old Age	1,267	1,384	117	9·2
Total of above ...	6,591	13,343	6,752	102·4
All other Causes ...	13,324	13,042	(-) 282	(-) 2·1
All Causes	19,915	26,385	6,470	32·5

Omitting the excess of deaths from influenza, the deaths from all causes in 1919 were 258, or 1·3 per cent., above the average for 1914-18, which included two years (1917 and 1918) in which the death-rates were lower than in any other year on record.

From this it would appear that in New South Wales, at least, practically the whole of the deaths caused by the epidemic were attributed to their proper cause.

A comparison of the weekly deaths from influenza in Australia and in other countries discloses interesting differences. For instance, in Victoria and in England there were three waves during the progress of the epidemic; in France, if the experience of Paris can be taken as indicating that of the whole country; in New South Wales and in New York there were two waves; while in New Zealand, and in the Australian States not already mentioned, there was only one wave.

In Queensland 470, or 45·6 per cent. of the deaths were in June, 1919. In Western Australia 217, or 39·6 per cent., were in August. In South Australia 135, or 25·4 per cent., were in May; and in Tasmania 101, or 44·9 per cent., were in September.

In the following table the deaths during the week of highest mortality are shown for the places mentioned above :—

	Maximum Weekly Deaths.			Total Deaths during Epidemic.
	First Wave.	Second Wave.	Third Wave.	
New South Wales—				
Week ended	April 17, 1919	June 26, 1919	...	
Mortality	376	866	...	6,387
Rate per 1,000 of population ...	·191	·441	...	
Victoria—				
Week ended	Feb. 14, 1919	May 1, 1919	Aug. 1, 1919	
Mortality	164	265	109	3,530
Rate per 1,000 of population ...	·112	·181	·074	
New Zealand—				
Week ended	Nov. 23, 1918	...	...
Mortality	1,935	...	...	5,683
Rate per 1,000 of population ...	1·746	...	...
England and Wales—				
Week ended	July 13, 1918	Nov. 9, 1918	Mar. 1, 1919	
Mortality	2,952	16,015	7,716	154,456
•Rate per 1,000 of population ... (Civilian rate.)	·084	·441	·213	
Paris—				
Week ended	Oct. 26, 1918	Mar. 1, 1919	...	
Mortality	1,263	424	...	8,475
Rate per 1,000 of population ...	·444	·149	...	
New York—				
Week ended	Oct. 24, 1918	Jan. 24, 1919	...	
Mortality	2,971	540	...	16,755
Rate per 1,000 of population ...	·506	·090	...	

In New South Wales and in England and Wales it is remarkable that the rates for the week of maximum mortality in each place were the same, namely 441 per 1,000 of population; in Paris it was 444, very little higher, but in New York the maximum weekly rate was 506, and in New Zealand 1,746. In Victoria the maximum weekly rate was only 181.

The total deaths from influenza during 1919 in the Commonwealth were 12,252, and the following table shows the number of deaths of each sex in each State, with the corresponding rates per 1,000 of population :—

State.	Deaths.			Rates per 1,000 of population.		
	Males.	Females.	Total.	Males.	Females.	Total.
New South Wales	3,851	2,536	6,387	3·91	2·59	3·25
Victoria	1,969	1,561	3,530	2·75	2·08	2·41
Queensland	606	424	1,030	1·65	1·23	1·44
South Australia	303	229	532	1·41	·95	1·17
Western Australia	366	182	548	2·15	1·19	1·69
Tasmania	121	104	225	1·12	1·01	1·06
Total, Commonwealth...	7,216	5,036	12,252	2·82	1·96	2·39

A complete report on the epidemic was issued from the Department of Public Health, in which the Epidemiology and Administration were

discussed by Dr. W. G. Armstrong, Deputy Director-General of Public Health, and by Dr. Robert Dick, Medical Officer of Health, Hunter River District; and the Pathological and Bacteriological investigations were described by Dr. J. B. Cleland, Principal Microbiologist, Department of Public Health.

Among the preventive measures taken was the preparation in departmental laboratories of large quantities of prophylactic vaccine and the establishment of inoculation depôts. In regard to the question of inoculation and the experience gained, Dr. Armstrong states as follows :—

“The experience gained during the epidemic on the question of the prophylactic effect of inoculation in influenza relates almost entirely to its value in mitigating the virulence of the attack, and diminishing the risks of death. No definite evidence, unfortunately, can be offered as to its value in preventing attacks of influenza.”

The following table was taken from the above-mentioned report. It shows the number and proportion per cent. of persons with their degree of inoculation prior to their admission to hospital, the type of disease, and the mortality among patients treated for influenza in twenty-five Sydney hospitals between 27th January and 30th September, 1919 :—

Degree of Inoculation.	Total Patients.	Type A.		Type B.		Type C.		Deaths.	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
Patients inoculated once ...	705	277	39·3	225	31·9	125	17·7	78	11·1
“ “ twice ...	2,273	940	41·4	731	32·2	371	16·3	231	10·1
“ “ three or more times ...	606	330	54·5	180	29·7	46	7·6	50	8·2
Number and date of inoculation not given ...	571	193	33·8	205	35·9	90	15·8	83	14·5
Total, all forms of inoculation...	4,155	1,740	41·9	1,341	32·1	632	15·3	442	10·7
Patients not inoculated... ..	6,249	2,130	34·1	1,928	30·9	1,158	18·5	1,033	16·5
Information <i>re</i> inoculation not obtained	1,568	534	34·1	434	27·7	183	11·7	417	26·5
Total, all Patients	11,972	4,404	36·8	3,703	30·9	1,673	16·5	1,892	15·8
Males inoculated	2,458	852	37·7	813	33·1	451	18·3	342	13·9
Males not inoculated	3,581	1,066	29·8	1,120	31·8	724	20·2	671	18·7
Males, information <i>re</i> inoculation not obtained	882	265	30·0	245	27·8	101	11·5	271	30·7
All Males	6,921	2,183	31·6	2,178	31·4	1,276	18·5	1,284	18·5
Females inoculated	1,697	888	52·3	528	31·1	181	10·7	100	5·9
Females not inoculated... ..	2,668	1,064	39·9	808	30·2	434	16·3	362	13·6
Females, information <i>re</i> inoculation not obtained	686	269	39·2	189	27·6	82	11·9	146	21·2
All Females... ..	5,051	2,221	44·0	1,525	30·2	697	13·8	608	12·0

N.B.—The above figures are exclusive of 814 members of hospital staffs, all of whom were attacked by influenza and were treated as patients in the various hospitals.

The types of diseases classified as A, B, and C were adopted by the Department of Health on the suggestion of the Federal Quarantine authorities, who had already introduced that classification of cases in the quarantine stations. It was held that uniformity in the classification of attacks, according to the degree of severity, was desirable throughout the Commonwealth. Type A denotes “simple” influenza without pulmonary involvement or

other serious complications. Type B denotes cases with mild pulmonary involvement. Type C denotes cases which were toxic or fulminant in type, or accompanied by severe pulmonary involvement.

It will be observed that in a group of 1,568 cases, or about 13 per cent. of the total number dealt with in the table, no information was obtained as to the previous inoculation of the patient. This is a large proportion, and it is chiefly accounted for in two ways—first, and principally, by the fact that many of the patients were removed to hospital either moribund or at least in so precarious a condition that it was considered unwise to interrogate them. 792 patients died within forty-eight hours of admission into the hospitals, and 1,090 within seventy-two hours. Obviously, in a large proportion of these cases the patient must have been extremely ill on admission. Young children constituted another class of patient from whom very little information as to inoculation could be obtained. Of these 1,541 under 10 years of age were treated in hospitals. The mortality among young children was low, but the mortality among the first-mentioned class was so high that it carries the whole mortality of the group up to the very high figure of 26·5 per cent.

EDUCATION.

In New South Wales the State has established a system of national education which embraces all branches of primary, secondary, and technical education; there are, in addition, a number of private educational institutions subject to State inspection, of which the majority are conducted under the auspices of the religious denominations.

The history of the development of the school system of the State and of its passage from private to Government control is interesting.

Prior to the year 1848 the system of education in New South Wales was conducted solely by the religious denominations with monetary assistance from the Government. But in that year an undenominational scheme of education or the National system, as it was called, was introduced and conducted side by side with the denominational system, each group of schools being placed under a separate board. The anomaly of the existence of two rival boards controlling education continued until 1866 when the Public Schools Act which, though providing for the continuance of the two classes of schools, placed all schools receiving aid from the State under the control of the Council of Education, a board appointed by the Government. The public schools were administered entirely by this board and the denominational schools were governed in conjunction with the various religious bodies by which they were founded. From this dual system of control transition was made to the present system by the Public Instruction Act, 1880, which abolished all State aid to denominational education. This Act, as amended by the Free Education Act, 1906, and the Public Instruction (Amendment) Acts of 1916 and 1917, is the statutory basis of the present education system in New South Wales, which is controlled by the Director and Under Secretary of Education and administered by a responsible Minister of the Crown.

The following table affords a comparison between the number of State schools in operation in 1881, the first full year in which the Department of Education was under immediate ministerial control, and the numbers open at later periods; the figures represent the gross number of schools in operation during the year:—

Type of School.	Schools in operation during year.					
	1881.	1891.	1901.	1911.	1918.	1919.
High ... ..	...	5	4	8	22	23
Public	1,100	1,697	2,049	1,945	2,020	2,050
Provisional	246	349	428	514	514	493
Half-time	93	300	276	303	160	146
House-to-house and Travelling ... ..	...	92	20	6	5	4
Correspondence ... ..	...	...	...	...	...	2
Subsidised ... ..	...	...	...	494	658	575
Evening, Primary	57	14	41	24	...	...
" Continuation ... ..	...	...	...	18	43	40
Industrial and Reformatory	2	3	4	3	2	3
Total	1,498	2,460	2,822	3,315	3,424	3,336
No. of Schools per 1,000 of Population	1·99	2·17	2·08	2·01	1·77	1·66

The outstanding features of the Public School system are that it is non-sectarian, free, and compulsory. Each of these principles is enjoined by statute. That the instruction given in Public Schools should be secular was

provided by the Act of 1880, but provision was made for general religious instruction to be given by teachers and, with the consent of parents, by ministers of religion. That education in all State primary schools should be free was provided by the Free Education Act, 1906, and all fees payable in secondary schools were abolished by regulation in 1911. That attendance of children at school should be compulsory was provided by the original act of 1880, but the amending act of 1916 enacted that the statutory school age should be from 7 to 14 years, required a more regular attendance, and gave wider powers to the Minister for ensuring such attendance. This Act had, further, the important effect of bringing directly under the supervision of the Department of Education all private schools attended by children of statutory age, and control is exercised over the standard of instruction and the sanitary arrangements in these schools. In a large measure private secondary schools have been subjected to a similar control through the mediums of public examinations and bursary endowment.

The complete scheme of education, as established, ensures co-ordination between both public and private education systems and provides a clear and definite avenue from Kindergarten to University. The various stages are marked by certificate examinations, and assistance to obtain higher education is accorded through the bursary system to promising students who lack financial means.

A detailed account of the features of the scheme follows.

KINDERGARTEN.

Kindergarten methods under the Montessori system have been adopted as far as practicable in the Infant Schools under the Department of Education, and in various parts of Sydney and suburbs Kindergarten classes are conducted for the purpose of bringing young children under refining influences. During the year 1919 classes were in operation in 123 Public Schools; 14 were separate Infant Schools, and the remainder were Primary Schools with Kindergarten departments attached; the number of pupils enrolled for Kindergarten instruction was 6,698, the average attendance being 4,932.

Private Kindergarten Schools.

Free Kindergarten schools are conducted by the Kindergarten Union of New South Wales, which is assisted by a grant from the Government, amounting in 1919-20 to £1,000. In 1919 there were 10 Free Kindergarten schools with 40 teachers; the number of scholars on the roll during the December quarter was 393, all of whom were under 7 years of age. The average daily attendance was 464, and the gross enrolment for the year, 749.

At some of the ordinary private schools there are departments for Kindergarten work.

In connection with Kindergarten teaching a private institution supplies training in Froebelian methods, and the Free Kindergartens provide observation and practice schools.

PRIMARY SCHOOLS.

Primary work in its various stages is undertaken in schools classified broadly into three groups—(a) Primary and Superior Schools in more or less populous centres, (b) schools in isolated and sparsely settled districts, viz., Provisional, Half-time, House-to-house, and Subsidised Schools, and (c) Correspondence Schools instructing children so isolated as to be beyond the reach of other schools.

House-to-house teaching is restricted generally to English and mathematics.

In Half-time schools, one teacher divides his time between two schools, so arranging that homework and preparatory study shall occupy the time of the pupils in the absence of the teacher. The course of instruction follows that of full-time schools.

Provisional schools are established in localities where population is situated temporarily, *e.g.*, in railway construction camps, and in localities where doubt exists as to the permanence of the settlement.

Classification of Primary Schools.

Public primary schools are classified according to average attendance, and in the largest schools there are separate departments for infants (up to the age of about 8), for boys, and for girls. A new classification scheme was brought into operation on 1st January, 1919, and the schools were graded as follows, each pair of Half-time schools being counted as one:—

Class.	Average Attendance.	Schools in operation Dec., 1919.	Class.	Average Attendance.	Schools in operation Dec., 1919.
I	Over 1200	27	V	41-200	534
II	901-1200	18	VI	21-40	798
III	601-900	47	VII	20 and under.	1,013
IV	201-600	148			2,585

Subsidised Schools.

For the education of children resident in places remote from any State schools, the Subsidised School was instituted in 1903. The conditions upon which aid is granted are that two or more families must combine to engage a private teacher, who, after approval of the Minister as to qualifications, receives, in the Eastern portion of the State, a subsidy at the rate of £5 per pupil per annum, the maximum amount being £50 per school; and in the Western portion, a subsidy of £6 per pupil per annum, the maximum per school being £60. A subsidy may be granted to any family, with not less than four children of school age, living in complete isolation. Subject to certain conditions, subsidy at the stipulated rates may be paid as an aid towards boarding children in a township for the purpose of attending a public school.

The teachers of subsidised schools in the December quarter of 1919 numbered 475, of whom 20 were men; there were 2,049 boys and 2,010 girls on the roll, and the average daily attendance was 3,380 or 87.1 per cent. of average weekly enrolment. The amount paid towards salaries of teachers of subsidised schools during the year 1919 was £17,325.

During 1912, regulations and arrangements were made whereby subsidised school teachers could be examined, certified, and registered on passing the examination, the Department furnishing the names of such registered teachers to parents requiring their services.

Travelling and House-to-house Schools.

In order to supply means of education for families so isolated that even two could not combine readily, to form a Subsidised School, Travelling Schools have been established. The first commenced operations in 1908; the teacher was provided with a vehicle to carry school requisites, and a tent for use as a schoolroom, in which to teach for a week at a time at each centre in his circuit. There are three travelling schools and one house-to-house school in operation.

Correspondence School.

At the beginning of 1916, further efforts were made by means of a correspondence school to extend educational facilities to children in remote localities. Two schools were in operation during 1919, and at the end of the December quarter 190 pupils were receiving instruction. Six teachers were engaged exclusively in this work and the instruction given was up to syllabus requirements.

SECONDARY EDUCATION IN PUBLIC SCHOOLS.

Provision is made in Public Schools for education beyond the primary stage in Superior or Continuation, District, and High Schools, and in Technical Schools and Colleges. The number of pupils who received secondary education in 1918 and 1919 is shown below; the figures are exclusive of those in the schools of the Technical Education Branch, which are discussed on a later page:—

Schools.	1918.			1919.		
	Number of Schools.	Gross Enrolment.	Average Daily Attendance.	Number of Schools.	Gross Enrolment.	Average Daily Attendance.
High	22	6,513	5,284	23	6,887	5,132
Intermediate High	4	941	720	4	1,055	817
District	17	2,256	1,607	18	2,490	1,682
Superior Public (Day Continuation)—						
Commercial	24	2,541	1,440	25	2,708	1,428
Junior Technical	24	2,430	1,367	24	2,501	1,414
Domestic	45	4,229	2,361	46	4,614	2,397
Total... ..	136	18,910	12,779	140	20,255	12,870

In addition to the above Superior Public (Day Continuation) Schools, there are other Public Schools in districts where Secondary Schools are not easily accessible in which an extended course of study in certain subjects is followed by pupils who have completed the primary course, but statistics of enrolment or of attendance are not available. So far as possible a clear distinction is maintained between primary and secondary schools.

Superior and Day Continuation Schools.

Any Public School may be declared a Superior School if there is in one department a minimum attendance of 20 pupils who have completed the primary course.

Until 1912 the Superior Schools continued the work of the primary syllabus with such additional subjects as would enable pupils to compete at public examinations, but it was found desirable to reorganise these schools upon a vocational basis, and many of them have been converted into Day Continuation Schools.

In the Day Continuation Schools a course is provided for pupils who do not remain at school long enough to complete the High School course, but who desire special instruction to fit them for industrial or commercial pursuits. The schools are organised as (1) Junior Technical for boys, which supply preliminary groundwork for industrial careers, the course of study being fundamental to that of the Trades Schools of the Technical

Education system ; (2) Commercial for boys and girls, where the curriculum includes shorthand, book-keeping, business principles, &c. ; (3) Domestic for girls, the special subjects being those relating to home management.

The course in the Commercial Schools extends over a period of three years, and in the other Day Continuation Schools to two years.

Evening Continuation Schools.

In January, 1911, the Director of Education was entrusted with a commission to inquire into the working of Continuation Schools in Great Britain and Europe, and to recommend for adoption whatever improvements might be of advantage in New South Wales. Following his report, issued in 1911, Evening Continuation Schools were organised, and Evening Primary Schools were converted into Continuation Schools.

The schools are classified as Junior Technical, Commercial, or Domestic ; for those pupils who are not qualified to enter upon the two years' courses, preparatory courses of one year's instruction in primary-school subjects may be established in each school.

The fee charged is 6d. per week ; but on completion of a satisfactory attendance in each year, the amount paid may be returned to the student. The average age of pupils attending the Preparatory Schools was 16 years, and in the other Evening Continuation Schools, 18 years.

The following is the record of the Evening Continuation Schools for the years 1918 and 1919 :—

Classification.	1918.			1919.		
	Number of Schools.	Average Weekly Enrolment.	Average Weekly Attendance.	Number of schools	Average Weekly Enrolment.	Average Weekly Attendance.
Junior Technical (boys) ...	15	978	750	14	655	456
Commercial (boys) ...	16	1,327	1,005	16	1,155	810
Preparatory ...	1	20	14	1	11	7
Domestic (girls) ...	9	348	247	8	205	127
Total ...	41	2,673	2,016	39	2,026	1,400

In connection with the Continuation School system the question of compulsory attendance has been the subject of much discussion.

High Schools.

The High Schools provide a five years' course of advanced education for pupils who have completed the primary course. No fees are charged, and, since the beginning of 1916, text books and materials have been provided free as far as possible. To gain admission pupils must complete the primary course, and the parents are required to give an undertaking that the pupils will remain at a high school till the completion of the secondary course. A new syllabus was introduced into the High Schools at the beginning of 1911. In addition to a general course leading to professional studies at higher institutions, the Technical High School gives preparation for engineering and building professions, and the Agricultural High School accommodates students for pastoral pursuits and for admission to the Agricultural College. The Intermediate Certificate which is awarded, after examination, on the completion of the first three years' course in these schools, must be obtained before the pupil is allowed to proceed with the work of the fourth year ; the Leaving Certificate is awarded to those pupils who pass an examination which marks

the termination of the full course of five years. At the Intermediate High Schools a course of advanced study occupying three years and leading to the Intermediate Certificate is provided.

The following particulars relate to High Schools and Intermediate High Schools maintained by the State during the last five years :—

Year.	High Schools.	Inter- mediate Schools.	Teachers.			Pupils.			Holders of—		Cost per head of enrolment.
			M.	F.	Total.	Enrolment.		Average Attend- ance.	Bur- saries.	Scholar- ships.	
						Total.	Average Q'terly.				
1915	17	4	165	134	299	5,919	5,334	4,740	636	1,733	£ s. d. 16 9 5
1916	19	3	195	146	341	5,888	5,330	4,780	748	1,165	21 8 0
1917	21	3	172	170	342	6,780	6,236	5,555	861	693	14 12 11
1918	22	4	214	195	409	7,454	6,793	6,047	929	390	14 8 2
1919	23	4	229	215	444	7,750	6,784	5,949	990	*	16 16 8

* Additional scholarships were not awarded after 1916, in which year the free supply of text-books and materials commenced.

Since the reorganisation of the secondary course the number of High Schools has increased from 5 in 1910 to 27 (including 4 Intermediate) in 1919; the average quarterly enrolment has risen from 894 to 6,784; the number of pupils holding bursaries from 162 to 990, and the cost per scholar from £7 13s. 3d. to £16 16s. 8d. Information as to the enrolment and attendance at private secondary schools is not available.

This rapid expansion in secondary schools affords evidence of a widespread desire for education among the people, and the anxiety to take advantage of the improved facilities soon imposed on the Department the necessity of excluding those less qualified to benefit from a course of secondary education, by means of competitive examination for admission. A corresponding growth in the number of University Undergraduates is evident after 1916, in which year students educated entirely under the new system were first able to qualify educationally for matriculation.

Arrangements are being made for the establishment of hostels in connection with the High Schools in country districts; five hostels are already open and two others are being built.

District Schools.

In the larger country centres where the enrolment of secondary pupils is not sufficient to warrant the establishment of separate High Schools, "District" Schools have been established as "tops" to the local Primary Schools. These schools have special staffs, and the higher classes follow the secondary course of instruction as prescribed for High Schools. At the close of 1919, eighteen of these schools were in operation, the average weekly enrolment of secondary pupils being 1,042 boys and 884 girls, and the average attendance was 907 boys and 776 girls.

Several of these schools afford instruction over the whole secondary syllabus, and from time to time the larger District Schools are established as High Schools.

TECHNICAL EDUCATION.

The first class for Technical Education in New South Wales was established by the Sydney Mechanics' School of Arts in 1865. The scheme passed under Government control in 1883, and the Sydney Technical College was opened in 1892.

Technical Education is under the direct control of the Department of Education, and is administered by a superintendent, with financial and

general procedure independent of other branches of the education system. Specialised instruction in the practice of a wide range of callings is provided for the apprentice, improver, and young journeyman, while higher courses, embracing the technology of the various trades and technical professions, may be followed by more advanced students. In many Industrial Arbitration Awards a provision is embodied that apprentices must attend for instruction in their trade at a Technical College or Trade School. The system is, therefore, in a special way continuative of the Primary School system and, in a measure, this continuance of education is compulsory. The satisfactory completion of any course of instruction is marked by the award of certain certificates, viz., the Certificate of Trade Competency in trade courses and the College Diploma in the higher courses. These certificates are recognised by employers.

A noteworthy feature of the scheme is the existence of advisory committees in connection with each course of instruction. These committees are composed of representatives of employers and employees who regularly visit the classes and meet and discuss with the Superintendent and heads of departments matters relating to the maintenance of standards of efficiency in equipment and teaching.

Important features of the scheme are: (1) that intending students are required to furnish evidence that they possess sufficient preparatory knowledge to take profitable advantage of the training; (2) that no student is admitted to a course unless actually engaged in the specific trade to which the course relates. Special provision is made for journeymen who desire to improve their knowledge to be admitted, without preliminary test, to any part of the courses relating to their trades.

Instruction is given also under the technical education system in Domestic Science (which includes cookery and laundry work), Window-dressing, and Tailor's Cutting, but these subjects are not included in the trade or diploma classes. Special courses of instruction in Sanitary Science, Draining and Water Fitting, Meat Inspection, and Printing (composing) are conducted by means of correspondence.

The system of Technical Education is administered from the Central Technical College, Sydney. Branch Technical Colleges have been established at Newcastle and Broken Hill, and Trade Schools have been instituted in seventeen country and suburban centres. Technical classes at Public Schools are part of the ordinary Public School course.

The following table shows the number of classes and teachers and the enrolments at the Technical College and Trades Schools during the last five years; the figures do not include the technical classes in Public schools:—

Year.	Classes.	Lecturers and Teachers.	Total Enrolments.*	Individual Students.	Average Weekly Attendance.	Fees Received.
1915	519	298	13,000	7,219	9,257	£ 9,831
1916	529	321	14,188	7,720	10,077	9,968
1917	544	343	15,065	8,401	11,072	9,354
1918	572	369	15,936	8,717	12,156	9,422
1919	557	379	14,580	7,827	10,949	8,788

* Includes students who have joined more than one class.

The enlistment of students for military service affected the attendance during the war, while in 1919 the abnormal conditions accompanying an outbreak of influenza adversely affected both enrolment and attendance.

PRIVATE SCHOOLS.

Private schools have existed in New South Wales since the foundation of the colony, and their connection with the general education system of the community has been outlined on a previous page. From their former independent position they have become subject to a large extent to the same supervision as public schools, so that educational standards and requirements are now practically uniform throughout the State; but no private school except the Sydney Grammar School is subsidised by the Government.

Approximately 90 per cent. of the private secondary schools have become subject to State inspection by virtue of the Bursary Endowment Act, 1912. This inspection has regard to the premises, organisation, equipment, instruction, teaching-staff, and general conduct of these schools, and only in cases where a favourable report is made in these particulars can a school be registered under the Act and thereby allowed to educate bursars or candidates for University Bursaries. In 1919, there were 137 private secondary schools registered in this way, while successful candidates at the secondary school examinations came from 152 private schools.

Up to the end of 1916 the Department of Education exercised no supervision over private primary schools, but in order to comply with the compulsory attendance clauses of the Public Instruction (Amendment) Act, 1916, children between the ages of 7 and 14 years are obliged to attend schools certified as efficient by the Minister for Public Instruction. Applications for registration of schools (in accordance with the Act) are made to the Minister, and provisional registration is granted pending inspection by Government officers. Appeals against the refusal or cancellation of certificates may be made to the Bursary Endowment Board. The Act authorises inspection, both as regards instruction and school premises, and proprietors may be compelled to bring the condition of their schools up to the standard of State schools similarly situated and circumstanced. Teachers and proprietors of certified schools are required to furnish returns to the Minister. An immediate effect of the Act was to close a large number of private schools.

The system of certificate examinations for pupils of State and private schools instituted by the Department of Education in 1911 tends further to establish co-ordination between the curricula of both classes of schools.

The fees vary in accordance with the type of school, many of the Secondary Schools being residential. In the denominational primary schools the payment of fees is to a large extent voluntary. Some scholarships and bursaries have been provided by private subscription for the assistance of deserving students.

A comparative statement relating to the private schools is shown below. In December quarter, 1919, of the total number of children attending school 20·4 per cent. were enrolled at private institutions. Sufficient data are not available to permit the classification of these schools according to the standard of instruction supplied:—

Classification.	1909.				1919.			
	Schools.	Teachers.	Enrolment December Quarter.	Average Daily At- tendance.	Schools.	Teachers.	Enrolment December Quarter.	Average Daily At- tendance.
Undenominational ...	333	1,240	9,865	8,456	158	792	7,614	5,485
Roman Catholic ...	392	2,011	43,615	36,202	442	2,428	60,271	43,193
Church of England ...	52	275	3,308	2,810	61	450	4,715	3,343
Presbyterian ...	5	47	293	277	3	70	600	491
Methodist ...	2	33	305	273	2	44	532	425
Lutheran ...	1	3	24	20	3	3	77	63
Seventh Day Adventist ...	2	18	201	175	5	11	236	154
Salvation Army ...	...	...	...	...	2	4	181	149
Hebrew ...	2	6	750	576	...	...	...	...
Theosophical ...	...	...	...	...	1	13	80	70
Total ...	789	3,633	58,361	48,742	677	3,815	74,306	53,373

Included in the number of teachers as shown in the table are those who visit the schools to give tuition in special subjects only, the figures for 1919 being 2,754 permanently attached to the teaching staffs of the schools and 1,061 visiting teachers as compared with 2,631 staff teachers and 1,002 visiting teachers in 1909.

The number of scholars attending private schools declined slightly between 1900 and 1908, but in the following year a recovery in numbers took place, and, despite a falling off in undenominational schools, the increase has persisted, but not at so fast a rate as in public schools. More than 80 per cent. of the enrolments at private schools were in Roman Catholic establishments which, since 1900, have grown at a faster rate than the population. There are considerably more girls than boys in attendance at private schools.

Sydney Grammar School.

The Sydney Grammar School was incorporated by an Act of Parliament in 1854, and opened in 1857; the Act authorised the payment of £20,000 for the erection of school buildings, and an annual endowment of £1,500.

In 1919 the total enrolment was 685 boys; the enrolment during the December quarter was 630, of whom 109 were under, and 521 were over 14 years of age; the average quarterly enrolment was 625 and the average attendance 564.

The income of the Sydney Grammar School during the year 1919 amounted to £13,225, including statutory endowment £1,500, school fees £11,560, and special prizes, &c., £165; the expenditure amounted to £14,522.

SCHOOLS AND TEACHING STAFFS.

The total number of public and private schools in operation at the end of each of the past five years, and the aggregate teaching staff in each group, are shown in the following table:—

Year.	Schools.			Teaching Staffs.		
	Public.	Private.	Total.	In Public Schools.	In Private Schools.	Total.
1915	3,254	718	3,972	7,890	3,682	11,572
1916	3,188	701	3,889	8,369	3,678	12,047
1917	3,221	659	3,880	8,759	3,707	12,466
1918	3,152	698	3,850	9,022	3,806	12,828
1919	3,124	677	3,801	9,002	3,815	12,817

These figures are exclusive of Technical Schools, the Sydney Grammar School, the Ragged Schools, and Free Kindergarten Schools, the New South Wales Institution for the Deaf and Dumb and the Blind, Institutional Schools under denominational control, Shorthand and Business Colleges, Agricultural Schools, &c. In 1914 there was, on the average, one school to 82 children requiring education; and in 1919 one to 108 children.

The staffing of schools was apparently much better in private than in public schools, but the staffs of the private schools include a number of visiting teachers who teach special subjects only, and do not devote their whole time to one school. Moreover, in 1919, there were 2,272 public schools in rural centres where the average attendance was less than 40, and where, consequently, only one teacher was employed. The number of private schools with an attendance of less than 40 was proportionately only half as great. Of the teachers employed in public schools 40·4 per cent. were males, while in private schools male teachers constituted only 18·9 per cent. of the staff.

ENROLMENT.

A comparative review of the enrolment of children at public and private schools is restricted to the last quarter in each year, as the figures formerly collected in regard to private schools relate only to that period. The following statement shows the recorded enrolment during the December quarter of each of the last five years:—

Year.	Enrolment (December Quarter).			Proportion of Total Children Enrolled.	
	In Public Schools.	In Private Schools.	Total.	In Public Schools.	In Private Schools.
				per cent.	per cent.
1915	258,017	64,863	322,880	79·9	20·1
1916	264,713	67,704	332,417	79·6	20·4
1917	277,874	68,516	346,390	80·2	19·8
1918	280,236	73,560	353,796	79·2	20·8
1919	288,931	74,306	363,237	79·6	20·4

The figures relating to enrolment are exclusive of the Evening Continuation Schools, the Sydney Grammar School for Boys, Business and Shorthand Schools, the School held in connection with the Deaf and Dumb and Blind Institution, the Truant School, the Ragged Schools, and Free Kindergarten Schools, Institutional Schools under denominational control, Agricultural and Technical Schools, &c.

SUCCESS OF EDUCATION SYSTEM.

The success of any system of education may be judged in two ways, firstly, by the quality of the instruction it gives and, secondly, by the relative number of children in need of education which it is able to reach. Only the latter of these is capable of statistical measurement.

Sufficient data are not available to permit of the publication of figures which will indicate accurately the proportion of children who actually come within reach of the education system, but, from such information as is available, it would appear that a very high proportion of the children in the State receive instruction in schools.

Of the children not enrolled at schools in any particular year the majority are probably receiving instruction at home, are exempt from attendance on reaching the age of thirteen years, are inaccessible to schools, or are mentally deficient.

A somewhat exacting test may be imposed by considering the average number of children actually present at school on each day, in relation to the average number of children requiring education during the year. The results of this test do not reveal an entirely satisfactory condition of affairs, since it appears that, normally, a child attends on the average only on four days in every school-week, or 80 per cent. of the time. During the three years 1914-1916 the proportion was approximately 75 per cent.

Year.	Estimated Number of Children of School Age during the Year *	Children of other Ages Enrolled.	Number of Children requiring Education.	Average Daily Attendance in Schools.	Proportional Attendance.
					per cent.
1917	264,500	81,878	346,378	277,370	80·1
1918	273,700	82,348	356,048	285,176	80·1
1919	280,200	85,072	365,272	266,246	72·9

* School age being 7 to 14 years.

The attendance in 1919 was decreased by an epidemic of influenza.

The regularity of attendance of children enrolled at schools is a very important factor in determining the merits of an educational system, inasmuch as marked irregularity in this respect is fatal to proper education. A correct measure of the degree of constancy of attendance at schools is obtained by considering the average number of pupils present each day in relation to the average number enrolled each week. The following comparison is made on this principle:—

Year.	Public Schools.			Private Schools.		
	Average Weekly Enrolment.	Average Daily Attendance.	Ratio of Attendance to Enrolment.	Average Weekly Enrolment.	Average Daily Attendance.	Ratio of Attendance to Enrolment.
1915	240,041	194,244	per cent. 80·9	*	55,163	per cent. *
1916	246,572	200,695	81·3	*	56,318	*
1917	258,713	221,940	85·8	*	55,425	*
1918	265,756	225,790	84·9	*	59,386	*
1919	261,778	212,873	81·3	64,851	53,373	* 82·3

* Not available.

The marked improvement in attendance during 1917 is due to the operation of the amended law relating to school attendance, and the decline during 1919 was an effect of the epidemic of influenza in that year.

The attendance of children at school is affected adversely by the considerable amount of infectious and contagious diseases among children, and—particularly in country districts—by inclement weather.

AGE DISTRIBUTION OF PUPILS.

The age distribution of pupils enrolled at schools during the last five years is shown in the following table. The figures represent the December quarter enrolment and are exclusive of Evening Continuation Schools:—

Year.	Public Schools.				Private Schools.			
	Under 7 years.	7 years and under 14.	14 years and over.	Total.	Under 7 years.	7 years and under 14.	14 years and over.	Total.
1915	11,120*	226,222†	20,675	258,017	5,498*	49,969†	9,396	64,863
1916	11,834*	232,408†	20,471	264,713	5,280*	52,459†	9,965	67,704
1917	37,218	218,995	21,661	277,874	13,755	45,517	9,244	68,516
1918	35,641	222,370	22,225	280,236	13,182	49,078	11,300	73,560
1919	37,935	227,535	23,461	288,931	13,195	50,630	10,481	74,306

* Under 6 years. † 6 years and under 14.

More detailed information as to the ages of children attending public schools may be obtained from a table published annually in the report of the Department of Education. This table also shows the ages of children in the various school classes, and, considered in conjunction with the primary school syllabus, affords an excellent means of gauging the educational progress of school children as a whole.

RELIGIONS.

A comparative view of the aggregate enrolment in all schools (public and private) for the December quarter during the last five years is given hereunder, and the figures, being on the same planes of comparison for each year, may be accepted as illustrative of the progression of each type of school during the period :—

Year.	Public Schools— Denomination of Children.					Private Schools— Denomination of Schools.			Total Enrolment all Schools.
	Church of England.	Roman Catholic.	Presby- terian.	Methodist.	Other.	Church of England.	Roman Catholic.	Other.	
1915	139,317	33,958	30,357	36,807	17,578	3,619	51,369	9,875	322,880
1916	143,757	33,648	31,478	37,883	17,947	3,638	54,124	9,942	332,417
1917	151,866	34,438	33,091	39,795	18,684	3,841	55,337	9,338	346,390
1918	153,993	33,274	33,428	40,324	19,217	4,320	59,136	10,104	353,796
1919	159,876	33,607	34,165	41,514	19,769	4,715	60,271	9,320	363,237

PER CENT. OF TOTAL ENROLMENT.

1915	43·2	10·5	9·4	11·4	5·4	1·1	15·9	3·1	100
1916	43·2	10·1	9·5	11·4	5·4	1·1	16·3	3·0	100
1917	43·8	9·9	9·6	11·5	5·4	1·1	16·0	2·7	100
1918	43·5	9·4	9·5	11·4	5·4	1·2	16·7	2·9	100
1919	44·0	9·3	9·4	11·4	5·4	1·3	16·6	2·6	100

It will be noticed that in the public school figures the column headings indicate the denomination of the children, and in the private school figures the denomination of the schools. In the former case the denomination of the child is ascertained, but not in the latter; and the pupil, although attending a school of stated denomination, is not necessarily of that denomination.

Religious Instruction in State Schools.

The Public Instruction Act, 1880, provides that religious instruction may be given in State schools by visiting ministers and teachers of religious bodies for a maximum period of one hour in each school day, and the following table indicates the number of lessons in special religious instruction given in primary schools during the past five years:—

Denomination.	Number of Lessons.				
	1915.	1916.	1917.	1918.	1919.
Church of England	35,342	33,600	34,349	35,098	28,444
Roman Catholic	1,358	1,460	1,584	1,370	1,167
Presbyterian	8,485	7,517	8,411	9,122	7,626
Methodist	12,353	12,591	13,368	13,865	11,472
Other Denominations	7,326	6,908	7,334	8,260	5,893
Total	64,864	62,076	65,046	67,715	54,602

THE STATE SCHOOLS.—ANNUAL EXPENDITURE.

The following statement shows the expenditure by the Department of Education in each calendar year since 1915, for maintenance, administration, and school premises, on account of primary and secondary public schools and technical schools:—

Year.	Primary and Secondary Schools.				Technical Education.	
	Maintenance and Administration.			School Premises.	Maintenance and Administration.	Land and Building, including Repairs.
	Maintenance and Salaries.	Administration and Training.	Total.			
	£	£	£	£	£	£
1915	1,283,919	183,052	1,466,971	219,911	57,900	7,633
1916	1,378,619	168,346	1,546,965	313,553	69,934	21,480
1917	1,476,659	180,291	1,656,950	242,383	80,808	20,163
1918	1,545,526	190,649	1,736,175	279,863	85,471	10,651
1919	1,752,042	219,169	1,971,211	299,038	95,055	6,302

The figures given above represent the annual normal expenditure. To estimate the total cost of State school education during any year would necessitate investigation of the capital value of buildings and equipment, the rate of depreciation to be allowed, &c. At the present time the Department of Education has not the necessary data to give an exact valuation, but in 1914 the estimated value of these properties, including the sites, was £2,400,000.

The relative cost per child enrolled at various periods is shown in the following table:—

Year.	Maintenance and Administration.	School Premises.	Total Expenditure.	Per Child—Mean Quarterly Enrolment.		
				Maintenance and Administration	School Premises.	Total Expenditure.
	£	£	£	£ s. d.	£ s. d.	£ s. d.
1890	553,819	150,441	704,260	3 4 11	0 17 8	4 2 7
1895	597,430	104,397	701,827	3 2 3	0 10 10	3 13 1
1900	665,937	114,279	780,216	3 2 7	0 10 9	3 13 4
1905	781,156	58,820	839,976	3 13 9	0 5 6	3 19 3
1910	983,352	208,361	1,191,713	4 10 0	0 19 1	5 9 1
1915	1,466,971	219,911	1,686,882	5 10 6	0 16 7	6 7 1
1916	1,546,965	313,553	1,860,518	5 13 8	1 3 1	6 16 9
1917	1,656,950	242,383	1,899,333	5 17 2	0 17 2	6 14 4
1918	1,736,175	279,863	2,016,038	5 9 10	0 19 4	6 19 2
1919	1,971,211	299,038	2,270,249	7 10 7	1 2 10	8 13 5

The following statement shows, in comparative form, the distribution of expenditure in connection with primary and secondary schools under the Department of Education in the three years 1917 to 1919 :—

	1917. £	1918. £	1919. £
School premises, buildings, repairs, rates	242,383	279,863	299,038
Maintenance of Schools—			
Teachers' salaries and allowances	1,321,794	1,408,984	1,589,248
Travelling expenses	16,657	14,420	15,298
Forage allowances	3,641	3,734	4,223
School fuel allowances	2,213	2,396	2,853
Cleaning allowances	46,302	45,670	49,070
Materials	62,374	43,272	44,158
Miscellaneous expenses	23,648	27,050	47,192
Training of teachers	44,205	47,199	59,634
Bursary Endowment Board	31,302	35,047	42,608
Administration—			
General management	51,845	54,291	61,189
Inspection	34,587	36,248	37,886
Chief Medical Officer's Branch	18,352	17,864	17,852
Total	£1,899,333	2,016,038	2,270,249

STATE EXPENDITURE ON EDUCATION.

The expenditure by the State on education includes grants and subsidies to educational and scientific institutions, cost of maintenance of industrial schools and reformatories, as well as expenditure on premises, equipment, and maintenance of public schools.

In the following statement, the expenditure on buildings, equipment, sites, &c., representing capital expenditure, has been distinguished as far as practicable from expenditure for maintenance, including grants and subsidies, all of which constitute annual running costs :—

Year ended 30th June.	Expenditure.			Cost per head of population.	
	Capital.	Annual.	Total.	s.	d.
	£	£	£		
1916	221,501	1,716,864	1,938,365	20	9
1917	294,270	1,873,926	2,168,196	23	3
1918	216,755	1,997,605	2,214,360	23	5
1919	204,904	2,170,426	2,375,330	24	7
1920	268,529	2,402,064	2,670,593	26	9

These figures are exclusive of amounts spent by the State on the colleges, experiment farms, and societies for the promotion of agriculture and allied interests, concerning which reference should be made to the chapter relating to Agriculture. The following statement gives in more detail the expenditure in 1919-20 :—

Object.	Expenditure.	
	Capital. £	Annual. £
Education Department, Schools, &c.	268,529	2,255,725
Educational Institutions, Schools of Arts, &c.	7,460
University, and Affiliated Colleges	69,735
Sydney Grammar School...	1,500
Industrial Schools	13,820
Public Library	14,666
Australian Museum	12,391
Conservatorium of Music	12,133
National Art Gallery	6,286
Observatory	4,173
Grants and Subsidies to various Societies	4,175
Total	£268,529	2,402,064

THE UNIVERSITY OF SYDNEY.

An Act to incorporate and endow the University of Sydney was passed by the Parliament of New South Wales on 1st October, 1850.

By the Act of foundation, the University is required to be undenominational, religious tests for admission to any privilege being prohibited expressly; degrees in Theology or Divinity are not conferable. Authority was given to examine, and to grant degrees in Law and Medicine as well as in Arts. In 1884 the benefits and advantages of the University in all respects were extended to women equally with men.

In 1900 the various enactments relating to the University were consolidated by means of the University and University Colleges Act; of the Amending Acts passed subsequently the most important, passed in 1912, made radical alterations in the constitution of the Senate.

The Senate of the University consists of 24 members, viz. :—

- 4 Fellows appointed by the Governor.
- 1 Fellow elected by the Legislative Council.
- 1 " " " " Assembly.
- 5 Fellows representing the Teaching Staff of the University, *i.e.*, one elected by the Professorial Board and one each by the four Faculties.
- 10 " elected by Graduates.
- 3 " " the aforesaid Fellows.

A State endowment of £30,000 per annum is payable to the University, with the proviso that when any census is taken it will be increased at the rate of £1 for each 15 persons between ages 17–20, added to the population of the State; an additional endowment of £2,000 per annum has been granted for the maintenance of a Chair of Architecture. In addition, by the University (Building) Act, 1919, a sum of £300,000 was appropriated for payment in annual instalments of £50,000 each, commencing with the financial year 1920–21, for buildings within the University.

Under the University Amendment (Exhibitioners' Fees) Act, 1918, the Senate has been authorised to defray from the statutory endowment the fees at Universities and educational institutions abroad, for or on behalf of any person holding a public exhibition at the University of Sydney who has been engaged on war service.

Colleges of residence for the association of students in the cultivation of secular knowledge may be established within the University; a Government grant up to a maximum of £20,000 may be paid in aid of the building fund of each college, also an annual endowment of £500 for the principal's salary. Four colleges in connection with religious denominations have been established adjacent to the University, namely, St. Paul's (Church of England), St. John's (Roman Catholic), St. Andrew's (Presbyterian), and Wesley (Methodist). A college of residence for women was established in 1892 on a strictly undenominational basis, and a teachers' college has been established in connection by the Department of Education. The colleges provide tutorial assistance to students in preparing for the University lectures and examinations.

Within the University there are ten Faculties, viz., Arts, Law, Medicine, Science, Engineering, Dentistry, Veterinary Science, Agriculture, Architecture, and Economics, and in addition a School of Domestic Science. A Dean for each Faculty is appointed for a period of two years. The Professors, with the Chancellor and Vice-Chancellor, form the Professorial Board, which superintends matters relating to study and discipline.

The University buildings consist of the main building, containing the great hall, lecture rooms and offices, all built of Pymont sandstone; the Medical School, which is in the same style; the Fisher Library, adjacent to the main building, and designed to form part of the main quadrangle, is of modern design, with bookstacks of steel and glass for 200,000 volumes, and with ample reading-room accommodation for students.

Separate buildings for the Departments of Chemistry, Physics, Geology, Biology, Botany, Veterinary Science, Agricultural Science, and the Macleay Museum are distributed over the grounds, which, including lands vested by the Senate in the Affiliated Colleges, &c., cover an area of 126 acres. The Peter Nicol Russell School of Engineering has a separate building, provided by the State at a cost of £25,000. A building for the Teacher's College is partially completed. The Law School is conducted in the city in order to meet the convenience of students.

During the year 1919 the University received from the Government of New South Wales a statutory endowment of £32,000, including £2,000 for a Chair of Architecture. The total amount of State aid received during the year was £65,920, including the following sums for the services mentioned:—

		£			£
Scientific apparatus	2,500	Pharmacology	250		
Evening Lectures	2,300	Chemistry	2,500		
Towards reduction of Lecture Fees	2,500	Mechanical Engineering	500		
Extensions of existing departments	1,500	Tutorial Classes and University			
Chair of Agriculture	2,500	Extension	5,620		
" Veterinary Science	3,500	Instruction in Modern Languages...	1,000		
" Botany	2,000	Science Research Scholarships ...	750		
" Economics and Commerce	3,000	Library	500		
" Astronomy	200	Retiring allowances	800		

Many benefactions have been bestowed on the University by private persons. Some prizes have been exhausted by award, but by careful investment, increases in value, unawarded scholarships, and other causes, these private foundations showed at 31st December, 1919, credit balances to the extent of £588,206. These endowments include the Challis Fund, of which the cash balance at 31st December, 1919, amounted to £319,691; the P. N. Russell Funds, £104,414; and the Fisher Estate, £44,399. By the will of the late Sir Samuel McCaughey, whose death occurred in 1919, the University received further substantial endowment; particulars, however, are not yet available.

University Finances.

The following statement shows the amounts derived by the University from each of the principal sources of revenue, and the total expenditure, during each of the last five years. Under the items are included sums received for special expenditure and amounts from benefactors to establish new benefactions:—

Year.	Receipts.					Disbursements.	Private Endowment Funds Credit Balance at end of Year.
	Government Aid.	Fees.	Challis Fund and other Private Foundations.	Other Sources.	Total.		
	£	£	£	£	£	£	£
1915	44,675	19,181	29,597	1,028	94,481	83,688	563,062
1916	54,592	13,707	29,961	1,380	99,640	98,233	572,882
1917	61,654	13,489	27,409	1,090	103,642	98,944	579,521
1918	66,232	15,798	32,439	1,380	115,849	116,347	589,369
1919	67,203	21,353	33,685	1,428	125,669	121,608	588,206

The Government aid received during the year 1919 included £533 for Retiring Allowances Account and a grant of £750 from the Commonwealth Government towards the salary of the Professor of Oriental History.

The principal item of disbursements in each year is for salaries. In 1918 and 1919 the total expenditure was distributed as follows :—

Classification.	Amount.		Percentage of Total.	
	1918.	1919.	1918.	1919.
	£	£		
Salaries	72,576	76,647	62·4	63·0
Maintenance, Apparatus, &c. ...	18,725	26,716	16·1	22·0
Buildings and Grounds	8,742	2,996	7·5	2·5
Scholarships and Bursaries	3,787	6,352	3·2	5·2
Other	12,517	8,897	10·8	7·3
Total	116,347	121,608	100·0	100·0

Lectures and Lectureships.

Non-matriculated students are admitted to lectures and to laboratory practice but are not eligible for degrees. On the satisfactory completion of any course, however, they may be awarded a certificate to that effect. Lectures are given during the daytime in all subjects necessary for degrees and diplomas except Economics, and evening lectures are provided in the Faculties of Arts and Economics, and in Japanese. Lectures in Astronomy are given by a Professor who is also the Government Astronomer of New South Wales.

In 1919 the Teaching Staff included 26 professors, 6 assistant professors, and 133 lecturers and demonstrators. Professors and most of the lecturers are paid fixed salaries, and the remainder receive fees. Provision is made for a pension scheme for professors appointed since 1898; the benefit will commence after twenty years' service, and after attaining the age of 50 years.

The University has no power to confer honorary degrees, but may admit *ad eundem gradum* graduates of approved Universities, viz., Oxford, Cambridge, London, Durham, Victoria, St. Andrew's, Edinburgh, Glasgow, Aberdeen, Dublin, Queen's of Ireland, Royal of Ireland, Melbourne, New Zealand, Adelaide, and of such other Universities as the Senate may determine.

The number of individual students attending lectures during 1919 was 2,764, viz., 2,016 men and 748 women; 2,153 were matriculated and 611 non-matriculated.

Exhibitions, Bursaries, Scholarships, and Fellowships.

An extensive system of exhibitions, bursaries, scholarships, and fellowships, provided both by private and government endowment, has rendered the advantages of University education accessible to almost any proficient student, irrespective of his means. These are so arranged that brilliant graduates are enabled to pursue their studies in the highest branches of learning either at Sydney or other approved University, free from financial embarrassment.

The University Amendment Act, 1912, provides for the allotment of Exhibitions by the Senate to students desirous of entering Sydney University. The Exhibitions are awarded on the results of the Leaving Certificate Examinations and exempt the holders from payment of matriculation, tuition, and degree fees; they are tenable in all faculties and departments. The number awarded yearly is at the rate of one for every 500 persons in the State between the ages of 17 and 20 years, as shown by the latest census records. The exhibitions are open for competition to students of

State High Schools and registered schools who have completed the secondary course. A small number of exhibitions, not exceeding 5 per cent. of the total number awarded, are open to competitors other than school students, provided they have been residents of New South Wales for three years.

As a result of the Leaving Certificate Examination, held in November, 1919, the Senate allotted 200 exhibitions in the following faculties:—Arts, 39; Medicine, 84; Science, 16; Engineering, 32; Law, 10; Economics, 9; Dentistry, 5; Architecture, 2; other, 3. One hundred and nineteen were allotted to the State schools, and eighty-one to the registered secondary schools.

In addition, approximately 50 bursaries, tenable at the University, are provided annually by the Government for pupils of State schools and schools registered under the Bursary Endowment Act. Besides a monetary allowance, these bursaries entitle the holder to an annual grant for text books. Private foundations have provided the Senate with the means of giving limited assistance to impecunious students.

During 1919 the number of students in attendance at University Lectures and exempt from payment of fees was 1,328, including 692 public exhibitors, 484 students of the Teachers' College and teachers of schools, and 138 bursars. It will thus be seen that University education is provided free for nearly one half of the students who take advantage of it.

Some 42 scholarships and a considerable number of annual prizes have been privately founded, purely as a reward for meritorious students, without regard to their circumstances. Research work and postgraduate studies are encouraged and facilitated by the award of Travelling Scholarships and Fellowships, including one Rhodes scholarship annually.

Clinics.

The Royal Prince Alfred Hospital is a General Hospital and Medical School for the instruction of University students and for the training of nurses. Students must pass through the hospital curriculum of study and practice in order to obtain the certificate of hospital practice necessary to qualify for admission to final degree examination in medicine and surgery. All appointments to the Medical and Surgical Staff of the Hospital are made conjointly by the Senate of the University and the Directors of the Hospital.

Sydney Hospital, founded in 1811, also provides a Clinical School under the direction of a Board of Medical Studies, and all appointments of clinical lecturers and tutors are subject to the approval of the Senate.

Other hospitals recognised as places where studies may be undertaken in connection with the Faculty of Medicine are:—The Royal Hospital for Women, Royal Alexandra Hospital for Children, St. Vincent's Hospital, the Gladesville and Callan Park Mental Hospitals, the Women's Hospital, the Renwick Hospital for Infants, and the South Sydney Hospital for Women.

In connection with the Department of Dental Studies, the United Dental Hospital of Sydney was established in 1901, and provides facilities for the instruction of students. It was amalgamated with the Dental Hospital of Sydney in 1905. The University Lecturers in Surgical and Mechanical Dentistry are, *ex officio*, honorary dental surgeons of the hospital.

Extension Lectures.

University Extension Lectures were inaugurated in 1886, and have been conducted since that date under the direction of a University Extension Board of eighteen members appointed annually by the Senate. Courses of lectures are given in various centres at a charge of £2 per lecture in country

centres, and of £3 elsewhere, upon topics of literary, historical, and scientific interest. At the conclusion of a systematic course, which consists of ten lectures, an examination may be held and certificates awarded to successful candidates.

Tutorial Classes.

In accordance with the provisions of the University Amendment Act of 1912, the Senate has established evening Tutorial classes, which are open to unmatriculated as well as to matriculated students; diplomas are issued to persons who have studied in these classes for at least one year in any one subject. Tutorial classes, which may be established in particular branches of study upon specific requisition by intending students, have been formed in suburban and country centres as well as at the University. During 1919 there were about 800 students in regular attendance at systematic courses of study, and forty tutorial classes were at work.

EDUCATION DEPARTMENT'S CERTIFICATE EXAMINATIONS.

Formerly, public examinations were conducted by the University for the purpose of testing the educational fitness of intending students and of candidates for matriculation, and the standards of these examinations became generally accepted by public bodies. But the reorganisation of the whole scheme of secondary education in 1911, which brought about a co-ordination of curricula between public and private schools and established secondary schools as a connecting link between primary school and University, necessitated the establishment of a system of examinations with a wider purpose. A new scheme was formulated by the Department of Education with the concurrence of the University authorities, who agreed to accept as evidence of satisfactory educational qualification appropriate certificates issued by the Department and, in 1916, discontinued holding further public examinations, with the exception of an annual special matriculation examination, on the results of which a number of University scholarships and prizes are awarded.

The regulations of the Department provide for three certificates to mark definite stages in the progress of school pupils, the examinations being open to students of State and private schools. The Qualifying Certificate indicates that the holder has completed the primary course satisfactorily, and is fitted to enter upon a secondary course. The Intermediate Certificate marks the completion of the higher primary stage constituting the first three years of the secondary course. The Leaving Certificate is obtainable on graduation from the full five-years' course of the High Schools, and is accepted as indicative of adequate preparation for the University, if it shows a pass in matriculation subjects.

The first examination for the Qualifying Certificate was held in December, 1911, at 600 centres in New South Wales. The following are particulars regarding the examinations held during the past five years, the candidates being pupils of Public and Private Primary Schools:—

Year.	Candidates.	Passes.		Bursaries awarded.	
		Number.	Per cent.	Boys.	Girls.
1915	17,480	11,761	67·3	291	129
1916	18,963	12,159	64·1	268	129
1917	22,965	15,262	66·5	217	136
1918	26,489	17,853	67·4	227	134
1919	27,450	17,660	64·3	167	128

In the allotment of certificates in connection with this examination, the teachers' reports and the record of school attendance are taken into account. Since the inauguration of these examinations the number of candidates has grown very rapidly, but it is still probably less than 50 per cent. of the number of children who annually complete the primary stage of their education. Approximately two-thirds of the candidates who sit are successful.

The Examining Board in connection with the Intermediate and Leaving Certificates consists of the Director of Education, the Chief Inspector, the Principal of the Teachers' College, the Inspector of Secondary Schools, and four delegates appointed by the University.

The first examination for the Intermediate Certificate was held in November, 1912. The results of the examinations held during the past five years are shown below.

Year.	Candidates.	Passes.		Bursaries awarded.	
		Number.	Per cent.	Boys.	Girls.
1915	2,435	1,604	65·9	...	...
1916	2,781	2,014	72·4	...	...
1917	3,004	2,019	67·2	5	7
1918	3,224	2,296	71·2	5	12
1919	2,883	2,238	77·6	3	9

The decrease in the number of candidates sitting in 1919 was due to the extension, in 1918, of the two-years' course to three, and this innovation, so far as it affected students who completed their first-year course in 1917, resulted in an improved percentage of passes.

The first Leaving Certificate Examination was held in November, 1913. On the results of this examination, University bursaries, the exhibitions instituted under the University Amendment Act, and scholarships for the Diploma Courses at the Technical College, are awarded. The results during the past five years have been as follows:—

Year.	Candidates.	Passes.		University bursaries awarded.	
		Number.	Per cent.	Boys.	Girls.
1915	572	447	78·1	23	7
1916	866	690	79·7	27	3
1917	928	727	78·3	23	16
1918	1,051	870	82·8	29	5
1919	1,129	878	77·7	27	4

If this table be compared with the two foregoing, it will be observed that though considerable "wastage" is apparent, owing to pupils not completing the full course, yet a rapid extension of secondary education is proceeding, and the increasing numbers sitting for the lower examinations presage more growth in the secondary system.

The Intermediate and Leaving Certificate Examinations have been adopted as standards for the admission of persons to the various branches of the public service of the State, and are accepted widely in commercial circles.

The first examination for Superior Public School Certificates was held in December, 1914; 566 candidates who had completed the two-years course sat for examination, and 469 passed; in 1919 the candidates numbered 1,215

and the passes 1,005, viz.:—Commercial, 208 candidates and 111 passes; Junior Technical, 389 candidates and 323 passes; Domestic, 618 candidates and 571 passes.

In 1918 a three-years course was initiated in Commercial Continuation Schools, leading to the Intermediate Certificate. Ninety-four candidates, of whom four were evening students, gained the certificate in 1919.

Certificates of proficiency are awarded to pupils of Evening Continuation Schools whose attendance and work have been satisfactory throughout the course. In 1919 there were 254 candidates at the examination for certificates and 177 passed; in the previous year 196 passed out of 311 candidates.

TECHNICAL EDUCATION EXAMINATIONS.

The following are particulars of examinations conducted in the Technical Branch during the last five years:—

Particulars.	1915.	1916.	1917.	1918.	1919.
Number examined	4,334	5,956	6,407	7,410	6,367
Number of passes	3,558	4,464	5,444	5,648	5,003
Percentage of passes	82.0	74.9	84.9	76.2	78.5
Number obtaining honours ...	675	850	512	785	652

These figures afford evidence of a very encouraging growth in this important branch of education, but a wider expansion is both possible and desirable. The year 1919 was affected adversely by an epidemic of influenza.

STATE SCHOLARSHIPS AND BURSARIES.

It has been the policy of the State since 1911 to assist promising students especially to the High Schools and to the University, by means of scholarships and bursaries.

Scholarships tenable at State Schools were discontinued in 1915, when arrangements were made for the free supply of school material, but a few are provided to enable pupils to attend the Sydney Grammar School.

Three scholarships are awarded annually to students of the Agricultural High School, entitling the holders to free education for two years at the Hawkesbury Agricultural College, with monetary allowance and text-books. The holders commence on the second year's course at the College.

Boys who intend to become teachers may gain two-year scholarships at District Schools. Text-books are supplied and an allowance is granted during the second year.

Scholarships, admitting to courses of technical instruction, are provided to assist students to pass from the Day and Evening Junior Technical Schools to the Trades and Science Schools, from Lower to Higher Trades Courses, and from Trades to Diploma Courses. Students holding Leaving Certificates may obtain entrance by Scholarship to the Diploma Courses; and those who have gained the Intermediate Certificate at the Technical High School may obtain scholarships enabling them to enter the Higher Trades Courses. These technical scholarships carry a grant of text-books and appliances and exemption from fees, and holders must be engaged in the trade or profession for which the course has been established.

Students who pass through the Diploma Course with sufficient distinction are enabled to continue their education at the University by means of scholarships valued at £100 per annum.

Bursary Endowment.

In 1912 the Bursary Endowment Act was passed by Parliament providing public moneys for bursaries, tenable in public or private secondary schools and in the University of Sydney. This fund is administered by a specially constituted board, consisting of two representatives each of the University of Sydney, of the Department of Education, and of the Secondary schools registered under the Act. A representative of the Department of Education is chairman.

Schools desiring to benefit under the Act must register with the Bursary Endowment Board; and such registration, which is effective for two years, is conditional upon the suitability of school premises, the organisation and equipment of the school, the method and range of instruction, efficiency of the teaching staff, and the general conduct of the school. The inspection is conducted by the Inspector of Secondary schools under the Department of Education.

Under the general conditions attached to registration a school must be capable of providing a full course of instruction beyond the primary stage, to a standard not lower than that of the Leaving Certificate. As at 31st December, 1919, seventy-six schools were registered under the Bursary Endowment Act, while sixty-one other private schools were recognised as qualified to educate pupils to the Intermediate Certificate stage of the Secondary Course.

Bursaries admitting to a course of secondary instruction are awarded to pupils between the ages of 12 and 14 years, whose parents' income is less than £200 per annum, or not more than a quota of £50 per annum for each member of the family, exclusive of children earning 10s. or more weekly. One-third of the bursaries are available for pupils of metropolitan and suburban schools. Their award is determined upon the results of the Qualifying Certificate examination; the candidates are classified in two groups, viz., those from schools with less, or with more than 100 pupils in enrolment. Competition is restricted within the groups, and the bursaries are divided in approximate ratio to the number of candidates from the two groups of schools who pass the Qualifying Certificate examination. The number of bursaries is determined by the Board in accordance with the amount available in the current account of the Endowment Fund, and varies between three hundred and four hundred.

Each bursary comprises a grant of text-books not exceeding £1 10s. per annum, and a monetary allowance of £30 for the first and second years, and £40 for the third and fourth years, to holders who live away from home in order to attend school, the allowance being reduced in the case of those who reside at home. The bursaries are extended usually for a fifth year.

Bursaries tenable at the University of Sydney may be awarded to candidates at the Leaving Certificate examination who are under 19 years of age and whose parents' means are unequal to the expense of the University education. A full bursary entitles the holder to a grant for text-books not exceeding £5 per annum, and to free education. An allowance not exceeding £20 per annum is made to those who need not board away from home, in order to attend the University, and not exceeding £50 per annum to those who must do so. The number of such bursaries awarded annually ranges from thirty to fifty. A bursar who wins and elects to hold a Scholarship or Exhibition offered by the Senate of the University is entitled to receive from the two sources conjointly an allowance not exceeding £100 per annum.

Bursaries are awarded upon the results of the Intermediate Certificate Examination. These bursaries are of the value of third and fourth year bursaries, and are tenable for two or three years.

The bursaries made available by the Bursary Endowment Board for tenure during 1919 were as follows :—

Classification.	Tenable at—	Number tenable, 1919.		
		Boys.	Girls.	Total.
Bursaries	Metropolitan High Schools	91	43	134
	Country High and District Schools	86	62	148
	Registered Secondary Schools	44	26	70
		221	131	352
Intermediate Bursaries..	Metropolitan High Schools	2	8	10
	Country High Schools	1	1	2
	Registered Secondary Schools	2	3	5
		5	12	17
University Bursaries ...	Sydney University	29	5	34

At 30th June, 1919, excluding 214 holders of war bursaries, there were 1,538 pupils holding bursaries under the Bursary Endowment Act; 1,415 were attending courses of secondary instruction, and 123 were attending University lectures. The annual monetary allowances paid were as follow :—

Allowances.	Pupils.	Allowances.	Pupils.
£		£	
10	445	40	276
15	154	50	59
20	216		
30	338	Total ...	1,538

War bursaries are provided by the Bursary Endowment Board for children of incapacitated and fallen soldiers; and may be awarded to assist holders during primary, secondary or University courses, or in technical trade or agricultural instruction; they may be applied also to augment the wages of apprentices. War bursaries are tenable for a period not exceeding two years, but are subject to renewal. Up to 30th June, 1919, war bursaries had been awarded in 240 cases; the number in operation at that date was 214, and the expenditure for the year amounted to £1,705.

In addition to the bursaries made available by the Bursary Endowment Board, three bursaries, tenable for three years, may be awarded at the Hawkesbury Agricultural College; three, tenable for two years, at each of the Farm Schools at the Bathurst and Wagga Experiment Farms; and one, tenable for one year, at the Apprentice School at Wollongbar Experiment Farm.

COMMERCIAL EDUCATION.

Preparatory education for commercial life has been provided in the State primary schools, where the course of instruction, especially in the Commercial Continuation Schools, includes elementary training in many commercial subjects; economics, shorthand, and business principles and practice are included in the curriculum of the High Schools. Many private schools and

colleges also afford facilities for commercial training, both by day and evening classes; book-keeping, business methods, shorthand, and typewriting are the main subjects taught.

A complete return of the number of pupils taught in these special subjects is not available, but statistics of the State Commercial Continuation Schools have been supplied on a previous page, and particulars obtained from Business and Shorthand Schools under private management, show that sixteen were in operation in 1919 with 123 teachers, and a total enrolment of 3,086 boys and 4,439 girls; the average attendance during the year was 2,801.

Advanced preparation for commercial life has been provided in some measure by University evening lectures in Economics and Commerce. This section of the University teaching was promoted originally by the Sydney Chamber of Commerce in the form of brief lecture courses available to the general public, and in examinations conducted for senior and junior commercial certificates issued by that body. The diploma course was converted in 1913 into a full degree course.

A special grant is paid from the Public Revenue to the University to assist in the teaching of languages serviceable to the development of commercial relations between Australia and other countries. By this means a lectureship in Japanese language and literature has been established.

DOMESTIC TRAINING.

In the reorganisation of Superior Public Schools provision was made for the establishment of Domestic Superior Public Schools for girls. The syllabus came into operation at the beginning of 1913, and the course includes household accounts, cookery, laundry work, dressmaking, millinery, gardening, art of home decoration, music, social exercises, morals and civics, and physical training, as well as a course in English, designed to encourage a taste for wholesome reading.

Three hours per week are devoted to cooking and laundry, the course being practical and diversified. Personal hygiene, nursing of sick, and care of infants receive considerable attention.

Botany and gardening are taught, and, while the course is designed primarily to train girls to manage a home, provision is made also for a training in commercial horticulture, and an alternative course of business lessons in the second year is intended to fit girls to take up work in the commercial houses in the city.

During 1919 sixty-five schools for practical cookery were in operation, the enrolment being 4,763; in addition, demonstrations in cooking were given to 6,044 pupils; fifty-nine teachers of cookery were employed. The Technical College provides more advanced courses.

A School of Domestic Science was established recently at the Sydney University. The course for the degree of Bachelor of Science in Domestic Science covers a period of three years, and includes Physics, Chemistry, Physiology, and Botany or Zoology, Public Health, and the course in Domestic Science at the Sydney Technical College.

TECHNICAL TRAINING.

On the establishment of a definite system of Continuation Schools in 1912, attention was given to the welfare of boys who, on completing the primary

school course at the age of thirteen or fourteen years, had no profitable means of employing their time until they should reach the age of sixteen years, and become eligible for apprenticeship to a trade. A short course of instruction, covering two years, was planned with the object of supplying a useful introduction to wage-earning employment, and, at the same time, of teaching the adolescent how to use the education he had already assimilated.

The subjects of instruction were chosen with the intention of meeting the needs of the future artisan, and were of an essentially practical nature—Practical Drawing and Workshop Practice, English, Practical Mathematics, Morals and Civics, Industries and Elementary Science; at the same time attention was given in a wider way to the training of pupils in citizenship, and corporate life was made a feature of the school organisation.

These schools are not connected with the Technical Education system already described.

AGRICULTURAL AND RURAL TRAINING.

Education in subjects pertaining to rural industries commences in the primary schools with the teaching of the elementary principles of agriculture, both practical and theoretical. School gardens and experiment plots are adjuncts to many State schools, and grants are made of farm, vegetable, and flower seeds. In 1919, 41,398 children were receiving systematised agricultural or horticultural instruction. Instruction in general farm work is given at the Farm Schools at Gosford and Mittagong, conducted by the State Children Relief Department for delinquent and neglected children.

A special Agricultural High School is situated at Hurlstone Park. The grounds, covering 26 acres, are used for teaching practical operations and for experimental work in the growth of crops, action of fertilisers, &c. The course at this school extends over three years, and covers a general English education in addition to science with laboratory practice, and agriculture with field work. During 1919 there were 141 students on the roll. For resident students the fee is £6 6s. per quarter; for day students no fees are charged.

The training at Hurlstone Agricultural High School forms a preparatory course to the more advanced work at Hawkesbury Agricultural College.

Supplementing the training given to pupils under the Department of Education, a graduated scheme of agricultural instruction is organised in connection with the development of rural industries, by the Department of Agriculture of New South Wales. Full particulars will be found in the chapter relating to Agriculture.

The Diploma course at the Hawkesbury Agricultural College covers three years' work, but certificates may be obtained for shorter courses. Students holding the Diploma of the College may be permitted to complete the course for the degree of Bachelor of Science in Agriculture at the University in three years instead of four.

The final stages of agricultural education and training are reached at the University, where, in the beginning of 1910, a degree course in Agriculture was instituted. A four-years course leads to the degree of Bachelor of Science in Agriculture, and, in providing a higher training ground for teachers and experts, completes the whole system of preparation for rural industries. The Experiment Farms are available for the practical and experimental work in connection with the degree course.

SCHOOL SAVINGS BANKS.

A system of school savings banks in connection with the State schools was initiated in the year 1887, and by this means £695,834 have been received in deposits, and £144,619 transferred to the Government Savings Bank as children's individual accounts. The object of these banks is to inculcate principles of thrift during the impressionable ages.

In 1919 these banks numbered 836; the deposits amounted to £35,358, and withdrawals, £36,973; £5,005, representing individual sums of £1 and upwards, were transferred to the Government Savings Bank, leaving £14,897 as credit balances in the school banks.

DELINQUENT, DEFECTIVE, AND DEPENDENT CHILDREN.

Special provision has been made for delinquent, defective, and dependent children in several reformatories and industrial schools maintained by the State and in private charitable institutions.

The State Institutions are the Girls' Industrial School and Training Home at Parramatta and the Farm Home for Boys at Gosford, and the Cottage Homes established by the State Children's Relief Board; particulars regarding their operations will be shown in a later chapter of this Year Book.

Education of deaf and dumb and blind children is undertaken at a school in connection with the Institution for the Deaf and Dumb and the Blind. This institution receives periodical grants from the Government, and the school fees are remitted in cases where the parents are unable to pay. In 1919 the total income of the institution was £7,818 as against £13,142 in the previous year. The expenditure for the year was £5,038, including £4,201 for maintenance, salaries, and wages, and £85 for buildings and repairs. The number of teachers employed was 15, of whom 7 were men. The gross enrolment during the year was 79 boys and 55 girls; the average daily attendance was 110. In December quarter 110 pupils were enrolled, of whom 80 were under the age of 14 years.

Ragged Schools have been conducted since 1860 in Sydney, to provide education and attention for neglected children, meals and clothing being supplied when necessary. The operations of these schools have decreased in recent years, with the enactment of free education in State schools. During 1919, 4 schools were open, 5 women were employed as teachers, the gross enrolment was 182, and the average daily attendance 107. Nearly 50 per cent. of the children enrolled were under the age of 7 years.

At charitable institutions in 1919 there were 13 schools with 49 teachers and a gross enrolment of 1,291. In December quarter the enrolment of 1,086 consisted of 109 under 7 years of age, 866 between 7 and 14 years, and 111 over 14. These were denominational institutions conducted by the Roman Catholic Church and the Church of England.

MEDICAL INSPECTION OF CHILDREN.

In 1907 arrangements were made for the medical inspection of children in the State schools in the populous centres of Sydney and Newcastle; in 1911 the scheme was extended to the South Coast district and to a number of inland towns.

During 1913 the medical inspection was reorganised to include the pupils of all State Schools, and the majority of those attending the private schools; and arrangements were made to examine each child every three years, thus ensuring two medical examinations during school-life. To provide for the treatment of physically defective children a travelling school

hospital, a travelling ophthalmic clinic, and six travelling dental clinics have been established, also a metropolitan dental clinic. Details regarding the medical inspection of school children and the school clinics will be given in the chapter of the Year Book on Social Condition.

The second round of inspections was completed during 1917, 1918, and 1919, by 8 medical officers. Of the 201,032 children examined, 128,685 were notified for treatment, and 40 per cent. of these were treated through existing departmental facilities. It is estimated that the dental clinics treat yearly 14,000 country children and 4,000 in the metropolitan area, while the travelling hospital in rural districts treats annually 500 eye-cases.

The work of the medical officers of the Department of Education includes the investigation of epidemics of infectious diseases affecting school children; the inspection of school buildings; systematic courses of lectures at the Teachers' College; lectures to senior girls in all metropolitan schools on the care of babies, personal cleanliness, home hygiene, sick-nursing, &c.; lectures to parents; examination of candidates for admission to the Teaching Service; first treatment of ophthalmia in the back-country schools; the following up of untreated cases by visits of school nurses to parents in order to secure the medical treatment of children.

STATE SCHOOL TEACHERS.

Training.

The ordinary course at the Teachers' College extends over a period of two years. It prepares teachers for the various classes of primary and infant schools, and on its completion students may qualify for second-class certificates. Those who elect to withdraw at the end of the first year are eligible for third-class certificates. A period of practical work must be accomplished satisfactorily before classification is awarded. Special courses are arranged with reference to departmental requirements and to the capabilities of individual students, and evening extension courses in kindergarten and infant teaching are provided.

To obviate the necessity of admitting untrained teachers into the Service, short courses of training have been established for rural school teachers and assistants at Hereford House, which was opened in 1911 as an adjunct to the Teachers' College. This training extends over twelve months, and about 350 teachers are trained by this means each year.

Professional training is conducted at three Demonstration Schools—Blackfriars, North Newtown, and Darlington—and departments have been secured in several other schools for practical work in connection with the Teachers' College.

The minimum age of admission to the College is 17 years, that is, three years beyond the primary school age, and during this period boys who guarantee to become teachers may obtain an allowance to enable them to undergo a preparatory course in District or High Schools.

In addition to the teachers trained by the Department of Education, qualified teachers are admitted from outside the Service; those appointed to primary schools are placed on probation for six months, and those appointed to secondary schools, if requiring additional professional training, must take the University course leading to the Diploma in Education.

A portion of land within the Sydney University has been acquired as a site for the Teachers' College, and the building is now partly completed.

The new College provides training for teachers for private secondary and primary schools, as well as for the State service. A hostel for the accommodation of women students has been established in connection with the College.

In 1919, 812 students were enrolled at the Teachers' College.

Students.	Men.	Women.	Total.
First year	81	98	179
Second year	54	116	170
Third year	18	63	81
Fourth year	6	31	37
Graduate ... ..	...	1	1
Short Course	75	262	337
Cookery ... ..	...	7	7
Total	234	578	812

Every student attending the Teachers' College in 1919 was a scholarship holder.

The staff of the College consists of a Principal, Vice-Principal, 42 lecturers, 2 visiting lecturers, a warden of women students, and 6 clerical and library assistants. Members of the teaching staff are afforded opportunities to study abroad, and leave of absence, on full pay, may be granted for this purpose.

Conditions of Service.

The salaries paid to the State school teachers depend upon their efficiency and upon the status of the schools in which they are employed. To qualify for a higher grade the teachers must pass a series of examinations, and to obtain promotion they must show the requisite degree of efficiency in practical work. The rates of salary payable to State school teachers since July, 1920, are shown below. This scale of salaries was determined by agreement between the authorities and the Teachers' Federation, and was the subject of an Industrial Arbitration Award.

The salaries paid to High School teachers under the schedule are as follows:—

Teachers.	Class of School.		
	III.	II.	I.
	£	£	£
Head Master	611	676	750
Head Mistress	488	540	600
Masters of Subjects ... ..	...	520	546
Mistresses of Subjects ... ..	...	416	436
Assistant Masters	Range, £403 to £507 in 4 years.		
Assistant Mistresses	,, £325 to £403 in 4 years.		

The junior staff of the High Schools are paid at the same rates as assistants of the same classification in primary schools.

In determining the rates of salary for primary school teachers, two factors, viz., position and personal qualifications, are taken into consideration; a quota of salary is assigned to each and the teacher is paid the sum of the amounts. The positions are valued in accordance with the classification of

the schools, which are graded according to the number of pupils in average attendance, on the basis of a group unit of 40 pupils per teacher. The quota of salary allotted to the positions in schools of each category are shown in the following table :—

Class of School.	Average Attendance.	Teachers in charge and Headmasters.	Mistresses.		First Assistants.	
			Girls'.	Infants'.	Men.	Women.
		£	£	£	£	£
VII	20 and Under	According to status.			...	...
VI	21-40	260	...	208	...	...
V	41-200	299	...	240	...	...
IV	201-600	325	240	260	234	188
III	601-900	351	260	...	247	195
II	901-1,200	377	286	...	273	221
I	Over 1,200	403	305	...	299	240

The position quota for assistants was £208 for men and £169 for women. The teachers are classified in six grades according to attainments and teaching efficiency ; the quota of salary attached to each grade was as follows :—

Teachers.	Class 3.		Class 2.		Class 1.	
	B	A	B	A	B	A
	£	£	£	£	£	£
Men ...	52	78	130	156	208	234
Women ...	39	65	104	123	169	188

In addition to the above rates a further sum of £21 per annum is payable to male adults and £16 to female adults in view of the living wage declaration of the Board of Trade in 1920.

Subsidised teachers receive £5 per head of average attendance, with a maximum of £50 per annum ; in the western districts the subsidy is £6, and the maximum £60 per annum.

A comparative statement of the teaching staff of the State schools for the years 1910 and 1919 is shown below ; those in the Technical Education Branch are not included :—

Teachers.	1910.			1919.		
	Men.	Women.	Total.	Men.	Women.	Total.
Teachers and Assistants—						
First Class	257	71	328	339	112	451
Second Class	713	545	1,258	1,168	907	2,075
Third Class	1,310	698	2,008	1,262	1,306	2,568
Unclassified	791	1,019	1,810	377	1,615	1,992
Training Students	154	149	303	226	560	786
Pupil Teachers	8	28	36	...	...	...
Cookery Teachers ... ..	...	...	...	...	59	59
Sewing Mistresses... ..	...	109	109	...	157	157
High School Teachers	29	19	48	244	215	459
Subsidised School Teachers	33	324	362	20	435	455
Total	3,300	2,962	6,262	3,636	5,366	9,002

The proportion of unclassified teachers is large because there are included in this category ex-students of the College whose classification is deferred until they have proved their practical skill during a period of service as assistants.

During 1919, 540 teachers were enrolled as students in the University of Sydney, 295 attending in the evening.

The courses followed were mostly in the Faculties of Arts and Science. University education is becoming increasingly popular with teachers, and at the end of 1919 there were 570 graduates in the teaching service.

EDUCATIONAL AND SCIENTIFIC SOCIETIES.

Many organisations are in existence in New South Wales which have for their objective the encouragement of professional interests, and the advancement of Science, Art, and Literature. The Commonwealth Government has afforded a measure of recognition to the efforts of Australian men of letters by establishing in 1908 a Commonwealth Literary Fund to provide pensions and allowances to literary men and their families.

As far back as the year 1821 a scientific society, under the title of the Philosophical Society of Australasia, was founded in Sydney, and after many vicissitudes of fortune was merged, in 1866, into the Royal Society of New South Wales. Its objects are the advancement of science in Australia, and the encouragement of original research in all subjects of scientific, artistic, and philosophic interest, which may further the development of the resources of Australia, draw attention to its productions, or illustrate its natural history.

The study of the botany and natural history of Australia has attracted many enthusiastic students, and the Linnæan Society of New South Wales was established for the special purpose of furthering the advancement of these particular sciences. The Society has been richly endowed, and possesses a commodious building at Elizabeth Bay, Sydney, attached to which are a library and museum. The proceedings are published at regular intervals, and contain many valuable papers, with excellent illustrations of natural history.

Other important scientific societies are the Royal Zoological Society of New South Wales, inaugurated in 1879; a branch of the British Medical Association, founded in 1881; a branch of the British Astronomical Association; the Australian Association for the Advancement of Science; the Royal Geographical Society; the University Science Society; Australian Historical Society; and the Naturalists' Society of New South Wales.

All the learned professions are represented by associations or societies.

The Royal Art Society holds an annual exhibition of artists' work at Sydney; and of the many musical societies, mention may be made of the Royal Sydney Apollo Society, and the Royal Sydney Philharmonic Society.

WORKERS' EDUCATIONAL ASSOCIATION.

The Workers' Educational Association of New South Wales was founded at a conference called by the Labour Council of New South Wales in June, 1913, and since that date the new movement, despite vicissitudes of fortune, has grown considerably. Its main purpose is "to bring the mellowing influence of education into the Labour Movement," and its appeal is to workers of all degrees. In this endeavour it works in conjunction with other educational associations (particularly at the University) and with working-class

organizations. It publishes a series of books on matters of local and general economic importance. In 1919 the membership of the association was 164, and 84 organizations, including 37 trade unions, were affiliated with it.

MUSEUMS, LIBRARIES, AND ART GALLERIES.

Recognising that Museums, Libraries, and Art Galleries are powerful factors in promoting the intellectual wellbeing of the people the Government of New South Wales has been active in founding and maintaining such establishments. The expenditure by the State on buildings for Museums, Libraries, and Art Galleries to 30th June, 1920, amounted to £423,026.

Museums.

The Australian Museum, the oldest institution of its kind in Australia, was founded in Sydney in 1836 as a Museum of Natural History; it contains fine specimens of the principal objects of natural history; and a valuable collection of zoological and ethnological specimens of distinctly Australian character. The specimens acquired during 1919 numbered 13,371, of which 472 were purchased, and the remainder collected, exchanged, or donated. A fine library, containing many valuable publications, is attached to the institution. Lectures and gallery demonstrations are given in the Museum, and are open to the public. During the year 1919, visitors to the Museum numbered 135,796. On Mondays students and artists only are admitted.

In 1853 the Museum, till then managed by a committee, was incorporated under control of trustees, with a State endowment, which is now supplemented by annual Parliamentary appropriations. The expenditure during the year 1919 amounted to £11,190.

A Technological Museum was instituted in Sydney at the close of 1879 under the administration of a committee of management appointed by the trustees of the Australian Museum. The whole original collection of some 9,000 specimens was destroyed in 1882 by fire. Efforts were at once made to replace the lost collection, and in December, 1883, the Museum was again opened to the public. In 1890 it was transferred to the Department of Education, as an adjunct to the Technical College, and now contains a valuable series of specimens illustrative of various stages of manufacturing, and an excellent collection of natural products acquired by purchase, gift, loan, or exchange. Technological Museums are established also at Goulburn, Bathurst, West Maitland, Newcastle, and Albury.

Research work is conducted by the scientific staff of the Technological Museum in connection with the development of the natural vegetable resources of Australia, particularly in respect of the pines and eucalypts.

The functions of the Mining and Geological Museum include the preparation and collections of minerals to be used as teaching aids in schools and in other institutions.

The Agricultural and Forestry Museum is an adjunct of the Department of Agriculture.

The public have access to the "Nicholson" Museum of Antiquities, the "Macleay" Museum of Natural History, the Museum of Normal and Morbid Anatomy, attached to the Sydney University, and the National Herbarium and Botanical Museum at the Botanic Gardens. Housed in the Macleay Museum is the Aldridge collection of Broken Hill minerals.

PUBLIC LIBRARY OF NEW SOUTH WALES.

The Public Library of New South Wales was established, under the designation of the Free Public Library, on 1st October, 1869, when the

building and books of the Australian Subscription Library, founded in 1826, were purchased by the Government. The books thus acquired formed the nucleus of the present Library. In 1890 the Library was incorporated with a statutory endowment of £2,000 per annum for the purchase of books.

The scope of the Public Library, which is essentially a reference institution, is extended by a loan system, under which books are forwarded to country libraries, schools of arts, progress associations, lighthouses, individual students in the country, and to Public School Teachers' Associations, and branches of the Agricultural Bureau.

In 1919 the Reference Department of the Public Library contained 231,654 volumes, including volumes for country libraries under the lending system. The attendance of visitors during 1919 numbered 143,903.

In 1899 Mr. David Scott Mitchell donated to the trustees of the Public Library a collection of 10,024 volumes, together with 50 valuable pictures, and at his death, in 1907, bequeathed to the State the balance of a unique collection, principally of books and manuscripts relating to Australasia, and containing over 60,000 volumes, and 300 framed paintings of local historic interest, valued at £100,000. He endowed the Library with an amount of £70,000, from which the income amounting to about £2,750 per annum is expended on books and manuscripts. In 1919 there were 100,438 volumes in the Mitchell Library, which is located in a separate building, opened in March, 1910. There were 13,320 visitors during the year.

The total cost to the State of the Public Library buildings was £28,957, and of the Mitchell Library £43,118.

The following statement shows the expenditure of the Public Library, including the Mitchell Library, during the last five years:—

Year.	Salaries.			Books, &c., and Binding.	Miscel- laneous.	Mitchell Library Endowment Account.	Total.
	Reference.	Mitchell.	Country Libraries.				
	£	£	£	£	£	£	£
1915	4,897	2,438	229	2,826	2,181	2,025	14,596
1916	4,895	2,494	347	3,350	1,500	2,035	14,621
1917	4,961	2,650	584	2,124	1,837	2,705	14,861
1918	4,805	2,964	700	2,702	2,327	1,593	15,091
1919	5,156	2,804	835	4,806	2,129	4,676	20,406

SYDNEY MUNICIPAL LIBRARY.

The Sydney Municipal Library was formed by the transfer to the City Council in 1908-9 of the lending branch of the Public Library. An "open access" system was introduced, and a new classification adopted.

Maintenance costs during 1919 amounted to £8,820, made up as follows:—Salaries, &c., £5,050; books, periodicals, binding, and electric lighting, £3,770.

OTHER LIBRARIES.

Local libraries established in more than 400 centres throughout the State, may be classed broadly under two heads—Schools of Arts, receiving an annual subvention in proportion to the amount of monetary support accorded by the public; and Free Libraries, established in connection with municipalities. Under the provisions of the Local Government Act, any shire or municipality may establish a public library, art gallery, or museum.

During 1919 the amount of Government aid to schools of art and kindred institutions was £7,229.

The library of the Australian Museum, though intended primarily as a scientific library for staff use, is accessible to students, and about 22,850 volumes may be found on the shelves.

The library in connection with the Technological Museum, at the Central Technical College, and its branches, contains approximately 8,500 text books.

The Parliamentary Library contains over 52,000 books, and large numbers of volumes are in the libraries of the Law Courts and Government Offices.

NATIONAL ART GALLERY OF NEW SOUTH WALES.

The National Art Gallery contains a good collection of paintings and statuary, including some works of prominent modern artists, and some valuable gifts from private persons; there is also a fine collection of water colours.

The present value of the contents of the Gallery is £155,148, and the cost of the building to 30th June, 1920, was £94,437.

The number of paintings, &c., in the Gallery at end of year 1919 was 2,240, and the total amount expended in purchasing works of art during that year was £2,146, distributed as shown below :—

Classification.	Paintings, &c., in Gallery.	Expenditure during year.
	No.	£
Oil Paintings	464	934
Water Colours	447	487
Black and White Works... ..	701	534
Statuary, Casts, and Bronzes	170	72
Various Art Works in Metals, Ivory, Ceramics, Glass, Mosaic, &c.	458	119
Total	2,240	2,146

The attendance at the National Art Gallery during 1919 was, on weekdays, 107,976, and on Sundays, 50,010.

Art students, under certain regulations, may copy any of the various works, and enjoy the benefit of a collection of books of reference on art subjects. In 1894 a system of loan exchanges between Sydney, Melbourne, and Adelaide was introduced, by which pictures are sent from Sydney to Melbourne and Adelaide and reciprocally, with results most beneficial to the interests of art. Since 1895 the distribution of loan collections of pictures to the principal country towns has been permitted for temporary exhibition, and during 1919, 222 pictures were so distributed among nine country towns.

The total disbursements in connection with the National Art Gallery during the year 1919 were £5,588, inclusive of £2,146 on account of works of art.

The Gallery has received but small support from private endowments, and, consequent upon its limited funds, is restricted mainly to the collection of specimens of contemporary art.

The Wynne Art Prize was instituted in 1897, and consists of the interest on approximately £1,000, which is awarded annually to the Australian artist producing the best landscape painting of Australian scenery in oils or water colours, or the best production of figure sculpture executed by an Australian sculptor.

CONSERVATORIUM OF MUSIC.

The State Conservatorium of Music, which was established in 1915, provides tuition in every branch of music, from the elementary to the advanced stages. The studies are divided into two sections; the Music School Section consists of three courses, viz., elementary, intermediate, and advanced—the last-mentioned extending over two years. A certificate is granted at the conclusion of each course. The advanced grade certificate of the Music School Section entitles the holders to admission to the Diploma Section, in which a course of two years' tuition, leading to the Professional Diploma, is given under the personal direction of the Director of the Conservatorium. A Preparatory Course in all subjects is available for juveniles who have not previously received musical tuition. The expenditure on salaries and scholarships during the year 1919-20 amounted to £12,449, but this amount was almost, if not entirely, covered by revenue from tuition fees and sundry receipts.

PUBLIC FINANCE.

THE STATE ACCOUNTS.

Since the 1st July, 1895, the State Accounts have been kept on a cash basis, and the financial position, therefore, can be ascertained readily from the annual statement prepared by the Treasurer; but this involves a consideration of the Consolidated Revenue Account, Closer Settlement Account, Public Works Account, Loans Account, and the various Trust Accounts shown on page 269, which do not form part of the Consolidated Revenue Account. Some little difficulty, moreover, may be experienced in determining the actual position, as due regard must be given to such items as refunds, advances, cancellations, and cross entries.

THE CONSOLIDATED REVENUE ACCOUNT.

The Consolidated Revenue Account for each year shows the whole of the receipts and expenditure, exclusive of transactions under the Loans Account and the other accounts mentioned in the preceding paragraph. The total amount credited to Consolidated Revenue Account, however, cannot be used for general purposes, as, under section 13 of the Forestry Act, 1916, one-half of the gross proceeds received by the Forestry Commission must be carried to a special account and set apart for afforestation; also, under the Public Works and Closer Settlement Funds Act, 1906, two-thirds of the net proceeds of the sale of Crown lands, exclusive of interest, less 20 per cent., must be paid to the Public Works Fund.

The receipts during the year ended 30th June, 1920, amounted to £28,650,496, and the expenditure to £30,210,013, so that on the operations of the year there was a deficit of £1,559,517, which increased the accumulated deficiency to £1,804,062. Similar details for each of the last ten years are shown in the following table, also the revenue and expenditure per head of population:—

Year ended 30th June.	Receipts (less refunds).		Expenditure.		Surplus (+) or deficiency (—).	
	Total.	Per inhabitant.	Total.	Per inhabitant.	On operations of year.	Accumulated at end of year.
	£	£ s. d.	£	£ s. d.	£	£
1911	13,882,485	8 9 6	14,470,687	8 16 8	(-) 588,202	(+) 401,505
1912	15,797,136	9 5 8	16,137,279	9 10 0	(-) 340,143	(+) 61,362
1913	16,550,521	9 6 1	17,778,900	9 19 11	(-) 1,228,379	(-) 1,167,017
1914	18,438,228	10 1 2	18,065,189	9 17 2	(+) 373,039	(-) 793,978
1915	18,946,227	10 3 4	18,516,179	9 18 8	(+) 430,048	(-) 363,930
1916	19,703,518	10 10 10	19,553,927	10 9 3	(+) 149,591	(-) 214,339
1917	20,522,097	11 0 3	20,790,895	11 3 0	(-) 268,798	(-) 483,137
1918	21,543,742	11 8 2	21,519,918	11 7 7	(+) 23,824	(-) 459,313
1919	23,448,166	12 2 10	23,233,398	12 0 7	(+) 214,768	(-) 244,545
1920	28,650,496	14 6 6	30,210,013	15 2 5	(-) 1,559,517	(-) 1,804,062

Although there was a cash credit balance of £401,505 at 30th June, 1911, there were outstanding at that date Treasury bills amounting to £414,516, which had been issued to meet deficiencies in earlier years; the last of these bills was redeemed in 1913.

Heads of Revenue and Expenditure.

The following table shows the details of revenue and expenditure during the last five financial years. The revenue and expenditure in 1919-20 were the largest recorded for the State, and the principal increases in each case occurred in the business undertakings. The excess of expenditure was

£1,559,517, largely caused by unforeseen obligations which had to be met, viz.:—increased expenditure on railways, tramways, and other public works, due to the higher basic wage fixed by the Board of Trade; special payments on account of the influenza epidemic; carriage of fodder for starving stock; gratuities to retired railway and tramway employees; losses on business and industrial undertakings; contributions to superannuation funds; relief to unemployed, and other items:—

	1916.	1917.	1918.	1919.	1920.
REVENUE.					
<i>Governmental.</i>					
Revenue Returned by Commonwealth	£ 2,297,872	£ 2,286,913	£ 2,317,733	£ 2,380,139	£ 2,472,717
State Taxation	3,117,221	3,629,404	3,860,501	4,083,990	4,062,518
Land Revenue—					
Alienation	1,057,711	972,657	1,068,676	1,049,674	1,115,399
Occupation and Miscellaneous	807,602	758,615	759,297	778,733	800,040
Total Land Revenue	£ 1,865,313	£ 1,731,272	£ 1,827,973	£ 1,828,407	£ 1,915,439
Services Rendered	414,671	417,345	406,490	446,837	543,273
General Miscellaneous	502,328	550,008	519,016	632,039	683,140
Industrial Undertakings	9,060	12,710	12,348	11,581	12,505
Total Governmental	£ 8,206,465	£ 8,627,652	£ 8,944,111	£ 9,382,993	£ 10,589,597
<i>Business Undertakings.</i>					
Railways and Tramways	9,990,502	10,390,602	10,821,648	12,183,026	15,997,584
Sydney Harbour Trust	489,722	511,981	576,459	618,901	658,312
Water Supply and Sewerage	942,753	965,761	1,058,128	1,234,340	1,309,146
Total Business Undertakings	£ 11,422,977	£ 11,868,344	£ 12,456,235	£ 14,036,267	£ 17,965,043
Advances Repaid	£ 74,076	26,101	143,396	28,906	95,856
Grand Total	£ 19,703,518	£ 20,522,097	£ 21,543,742	£ 23,443,166	£ 28,650,496
EXPENDITURE.					
<i>Governmental.</i>					
Interest on Public Debt and Special Deposits	1,057,769	1,004,193	1,069,728	975,352	1,074,896
Reduction of Public Debt	6,504	6,368	6,819	6,332	6,876
Transfer to Public Works Fund	354,818	328,043	360,781	369,769	402,388
Departments—					
Premier	175,978	132,923	92,898	92,576	139,076
Chief Secretary	*1,408,616	*1,504,012	819,100	929,090	1,157,292
Public Health .. .. .	.. .. .	.. .. .	732,246	802,280	954,957
Treasurer (excluding Business Undertakings and Interest on Deposits, &c.)	591,798	711,420	827,019	808,294	1,711,092
Attorney-General and Justice	426,587	433,303	419,957	434,334	467,808
Lands	410,017	384,854	384,959	396,248	524,700
Public Works (excluding Business Undertakings)	444,698	459,035	429,393	427,500	515,862
Public Instruction (excluding Endowments)	1,819,390	1,983,777	2,090,610	2,271,257	2,505,483
Labour and Industry	50,111	55,156	46,076	63,022	91,524
Mines	74,803	62,425	61,744	62,745	78,421
Agriculture	245,298	249,244	295,791	254,809	304,752
Local Government—					
Administration	21,777	29,612	29,092	27,490	24,133
Endowments and Grants	344,022	308,336	325,145	332,664	324,917
All Other Services	488,350	508,945	544,216	558,463	917,216
Total Governmental	£ 7,917,536	£ 8,152,140	£ 8,564,509	£ 8,712,925	£ 11,196,494
<i>Business Undertakings (Working Expenses and Interest).</i>					
Railways and Tramways	10,107,149	10,794,693	10,969,924	12,370,545	16,158,569
Sydney Harbour Trust	420,669	464,565	499,156	510,785	583,245
Water Supply and Sewerage	841,278	984,808	1,065,413	1,132,769	1,368,197
Total Business Undertakings	£ 11,369,096	£ 12,244,061	£ 12,534,493	£ 14,014,099	£ 18,110,011
Transfers to Public Works and Closer Set. Funds	£ 235,000	235,000	250,000	200,000	200,000
Advances made	£ 32,295	159,688	170,856	306,474	703,508
Grand Total	£ 19,558,927	£ 20,790,895	£ 21,519,918	£ 23,233,393	£ 30,210,013

* Includes Department of Public Health.

From the foregoing figures the following rates per head of population have been determined:—

	1916.	1917.	1918.	1919.	1920.
REVENUE.					
<i>Governmental.</i>					
Revenue Returned by Commonwealth	£ s. d. 1 4 7	£ s. d. 1 4 7	£ s. d. 1 4 7	£ s. d. 1 4 8	£ s. d. 1 4 9
State Taxation	1 13 4	1 18 11	2 0 11	2 2 3	2 9 7
Land Revenue—					
Alienation	0 11 4	0 10 5	0 11 4	0 10 11	0 11 2
Occupation and Miscellaneous	0 8 7	0 8 2	0 8 1	0 8 0	0 8 0
Total	£ 0 19 11	0 18 7	0 19 5	0 18 11	0 19 2
Services Rendered	0 4 5	0 4 6	0 4 3	0 4 8	0 5 5
General Miscellaneous	0 5 5	0 5 10	0 5 6	0 6 7	0 6 10
Industrial Undertakings	0 0 1	0 0 2	0 0 2	0 0 1	0 0 1
Total Governmental	£ 4 7 9	4 12 7	4 14 10	4 17 2	5 5 10
<i>Business Undertakings.</i>					
Railways and Tramways	5 6 11	5 11 6	5 14 7	6 6 2	8 0 0
Sydney Harbour Trust	0 5 3	0 5 6	0 6 1	0 6 5	0 6 7
Water Supply and Sewerage	0 10 1	0 10 5	0 11 2	0 12 9	0 13 1
Total Business Undertakings	£ 6 2 3	6 7 5	6 11 10	7 5 4	8 19 8
Advances Repaid	0 0 10	0 0 3	0 1 6	0 0 4	0 1 0
Grand Total	£ 10 10 10	11 0 3	11 8 2	12 2 10	14 6 6
EXPENDITURE.					
<i>Governmental.</i>					
Interest on Public Debt and Special Deposits	0 11 4	0 10 9	0 11 7	0 10 1	0 10 9
Reduction of Public Debt	0 0 1	0 0 1	0 0 1	0 0 1	0 0 1
Transfer to Public Works Fund	0 3 9	0 3 6	0 3 11	0 3 10	0 4 8
Departments—					
Premier	0 1 11	0 1 5	0 1 0	0 0 11	0 1 5
Chief Secretary	0 15 1*	0 16 1*	0 9 8	0 8 7	0 11 7
Public Health			0 7 9	0 8 4	0 9 7
Treasurer (excluding Business Undertakings and Interest on Deposits, &c.)	0 6 4	0 7 7	0 8 9	0 8 4	0 17 1
Attorney-General and Justice	0 4 7	0 4 6	0 4 5	0 4 6	0 4 8
Lands	0 4 5	0 4 2	0 4 1	0 4 1	0 5 3
Public Works (excluding Business Undertakings)	0 4 9	0 4 11	0 4 7	0 4 5	0 5 2
Public Instruction (excluding Endowments)	0 19 5	1 1 3	1 2 1	1 3 6	1 5 1
Labour and Industry	0 0 6	0 0 7	0 0 7	0 0 3	0 0 11
Mines	0 0 19	0 0 8	0 0 6	0 0 8	0 0 9
Agriculture	0 2 7	0 2 8	0 3 2	0 2 8	0 3 0
Local Government—					
Administration	0 0 3	0 0 4	0 0 4	0 0 3	0 0 3
Endowments and Grants	0 3 8	0 3 3	0 3 5	0 3 5	0 3 2
All Other Services	0 5 2	0 5 7	0 4 8	0 5 11	0 9 2
Total Governmental	£ 4 4 8	4 7 4	4 10 7	4 10 3	5 12 3
<i>Business Undertakings. (Working Expenses and Interest).</i>					
Railways and Tramways	5 8 2	5 15 11	5 15 11	6 8 1	8 1 7
Sydney Harbour Trust	0 4 5	0 5 0	0 5 4	0 5 3	0 5 11
Water Supply and Sewerage	0 9 1	0 10 6	0 11 3	0 11 9	0 13 8
Total Business Undertakings	£ 6 1 8	6 11 5	6 12 6	7 5 1	9 1 2
Transfers to Public Works and Closer Set. Funds	0 2 7	0 2 6	0 2 8	0 2 1	0 2 0
Advances made	0 0 4	0 1 8	0 1 10	0 3 2	0 7 0
Grand Total	£ 10 9 3	11 2 11	11 7 7	12 0 7	15 2 5

* Includes Department of Public Health.

CLOSER SETTLEMENT ACCOUNT.

The Closer Settlement Account was established under Act No. 9 of 1906. It is not included in the operations of the Consolidated Revenue Fund, although grants from that fund have formed a considerable portion of its receipts. As its name implies, the moneys of the fund are devoted to the promotion of closer settlement.

The following statement shows the net receipts and expenditure during the financial year ended the 30th June, 1920:—

RECEIPTS.				£	£
Balance brought forward from previous year ... .. .	...	...	...		141,848
Assurance Fees—Real Property Act ... .. .	...	...	...	14,966	
Repayments by Settlers ... .. .	...	...	...	205,656	
Repayments on account of Improvement Leases ... .. .	...	...	...	4,561	
				-----	225,183
Transfer from General Loan Account ... .. .	...	...	...		1,000,000

					£1,367,031
EXPENDITURE.					
Under Real Property Act ... .. .	...	...	...	112	
Purchase of Estates, including Contingent Expenses... .. .	...	...	...	1,075,479	
Interest on Loan Moneys (Recoup to Consolidated Revenue) ... .. .	...	...	...	21,649	
" Closer Settlement Debentures, Act No. 53, 1916 ... .. .	...	...	...	127,265	
" Purchase Money ... .. .	...	...	...	480	
				-----	1,224,985
Repayment of Ministerial Certificates ... .. .	...	...	...		914
Redemption of Debentures ... .. .	...	...	...		56,850
Balance, 30th June, 1920 ... .. .	...	...	...		84,282

					£1,367,031

During the period of fourteen years ended 30th June, 1920, 153 estates were purchased for closer settlement, exclusive of improvement leases, etc., resumed under Act 74 of 1912, the total area being 2,338,544 acres. The expenditure was as follows:—Purchase money, £8,002,741; contingent expenses, £126,138; total, £8,128,879.

PUBLIC WORKS ACCOUNT.

The Public Works Account, like the Closer Settlement Account, does not form part of the Consolidated Revenue Fund. It was opened in the year 1906, under the authority of the same statute which provided for the Closer Settlement Fund, and it receives two-thirds of the net proceeds of the sales of Crown lands, less 20 per cent., credited to the Consolidated Revenue Fund; the proceeds of land sales under the Public Instruction Act, 1880; and amounts voted from the Consolidated Revenue. Its moneys, like loan proceeds, may be applied in the construction or equipment of public works, but not to the repair or upkeep of such works. The net transactions during the year ended the 30th June, 1920, are shown herewith.

Receipts.	Amount.	Disbursements.	Amount.
	£		£
Two-thirds of Net Proceeds of Sale of Crown Lands, exclusive of Interest on Purchase Money—less 20 per cent. (Act No. 9, 1906)	402,388	State Business Undertakings— Railways and Tramways	4,272
		Metropolitan Water and Sewerage	12,284
		Hunter District Water and Sewerage	849
		Sydney Harbour Trust	19,992

			37,397
Net Proceeds of Sale of Land, under Section 4, Public Instruction Act of 1880	995	State Industrial Undertakings— Sawmills, Craven and Gloucester	2,769
Transfers from Consolidated Revenue Account	200,000	Water and Drainage Trusts	598
		Country Towns Water Supply	561
		Public Buildings and Silos	437,373
Net Repayments on account of previous years	699	Roads and Bridges	68,075
		Harbours and Rivers Navigation	25,492

			532,099

			572,265
Balance, 30th June, 1919, brought forward	318,584	Balance, 30th June, 1920	350,401
Grand Total	£ 922,666	Grand Total	922,666

EXPENDITURE ON PUBLIC WORKS.

The total expenditure on Public Works during each of the last five years is shown in the following table, which distinguishes the amount disbursed from the Public Works Fund, from the Consolidated Revenue Fund, and from Loans. The amounts shown as expended from the Loans and Public Works Funds are exclusive of payments of votes for previous years; and transfers from the Consolidated Revenue to the Public Works Fund are not included in the expenditure of the former fund.

Year ended 30th June.	Public Works Fund. (Net.)	Consolidated Revenue Fund.	Loans. (Net.)	Total Expenditure.	Per Inhabitant.
1916	£ 546,589	£ 601,213	£ 8,173,104	£ 9,320,906	£ s. d. 4 19 8
1917	623,447	570,652	6,862,179	8,056,278	4 6 4
1918	532,676	576,456	4,487,511	5,596,643	2 19 2
1919	493,292	562,164	3,918,887	4,974,343	2 11 6
1920	532,099	638,166	8,794,905	9,965,170	4 19 8

GENERAL ACCOUNT.

Summarising the foregoing accounts, and adding the transactions on account of loans, the receipts by the State during the year ended 30th June, 1920, amounted to £52,662,581, and the expenditure to £57,611,596.

The aggregate receipts and expenditure during each of the last five years, after necessary adjustments, were as follow:—

RECEIPTS.

Account.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
	£	£	£	£	£
Consolidated Revenue ...	19,703,518	20,522,097	21,543,742	23,448,166	28,650,496
Closer Settlement ...	156,516	124,699	161,484	164,309	1,225,183
Public Works ...	590,478	564,854	623,162	570,573	604,082
Railways Loan ...	2,384,257	170,357	...	...	1,559,656
General Loan ...	8,014,324	8,305,259	6,712,777	15,453,503	20,623,164
Total ...	30,849,093	29,687,266	29,041,165	39,636,551	52,662,581

EXPENDITURE.

Consolidated Revenue ...	19,553,927	20,790,895	21,519,918	23,233,398	30,210,013
Closer Settlement ...	205,519	45,304	75,279	263,183	1,224,985
Public Works ...	546,589	623,447	532,676	493,292	572,265
Railways Loan ...	1,227,962	752,635	397,550	194,666	44,042
General Loan ...	6,972,456	6,150,845	4,193,033	3,735,914	8,761,223
Repayment of Loans ...	2,814,025	1,467,083	10,767	12,813,724	16,799,068
Total ...	31,320,478	29,830,209	26,729,223	40,734,177	57,611,596

The results shown above are exclusive of the transactions of the Special Deposits and Suspense Accounts; including these, the total receipts in all funds controlled by the Treasurer during 1919-20, were £72,268,472, and the expenditure £75,468,615.

The Audit Act provides that the Treasurer may arrange with any bank for the transaction of the general banking business of the State. The accounts are kept under the several headings detailed hereunder, and all amounts paid into any of the accounts mentioned are deemed to be "public moneys," and for interest purposes the several accounts are treated as one. The special accounts, which consist of "Supreme Court Moneys," are not controlled by the Audit Act, as they are operated on directly by the officers in charge of the Departments concerned.

The position of the General Account on the 20th June, 1920, is shown below.

Head of Account.	Ledger Balances on 30th June, 1920.		
	Invested in Securities.	Cash Balances.	Total.
Credit Balances—	£	£	£
Special Deposits Account—			
Government Savings Bank Deposits Account .. .. .	..	2,897,514	2,897,514
" " Advances Deposit Account .. .. .	..	650,000	650,000
State Debt Commissioners' Trust Accounts .. .. .	..	163,072	163,072
" " Deposit Account .. .. .	..	117,214	117,214
Fixed Deposits Account .. .. .	..	565,101	565,101
Sydney Municipal Council Sinking Funds .. .. .	..	27,200	27,200
Industrial Undertakings and Housing Fund .. .. .	..	254,770	254,770
Railway Store Advance Account .. .. .	..	62,066	62,066
Broken Hill Water Supply Administration .. .. .	..	204,395	204,395
Treasury Fire Insurance Fund	29,000	165,058	194,058
Other	121,874	3,970,886	4,098,760
Total Special Deposits Account.. Cr. £	150,874	9,083,876	9,234,750
Closer Settlement Account .. .. .	..	84,282	84,282
Public Works Account .. .. .	..	350,401	350,401
Special Accounts—			
Colonial Treasurer's Supreme Court Moneys .. .. .	..	613,770	613,770
Miners' Accident Relief Account	233,500	..	233,500
London Remittance Account .. .. .	..	2,617,568	2,617,568
Total Cr. £	384,374	12,749,897	13,134,271
Less Debit Balances—	£		
Consolidated Revenue Account	1,804,062		
General Loan Account	5,283,383		
Loans Expenditure Suspense Account	428,117		
Public Works Expenditure Suspense Account	27,761		
Railway Store Suspense Account	82,596		
Seed Wheat and Fodder Expenditure Suspense Account	491,155	9,324,735	9,324,735
Coal Purchase Suspense Account	238,878		
South Africa—Sheep Account	10,000		
Advances to Farmers Suspense Account	48,834		
Relief to Farmers Suspense Account	909,914		
Advances for Hay Suspense Account	435		
Net Credit Balance Cr.	384,374	3,425,162	3,809,536
Deduct—Amounts not transferred to Public Accounts.. Dr.	..	778,017	778,017
Net Credit Balance in Sydney Cr.	384,374	2,647,145	3,031,519
Debit—London Account Dr.	..	2,617,568	2,617,568
Net Balance Cr.	384,374	29,577	413,951

The cash balance on the 30th June, 1920, was £29,577, distributed as follows:—

	£
Sydney—Net Credit	2,647,145
London—Net Debit	2,617,568
	£29,577

TAXATION.

Land and Income Taxes, Stamp and Probate Duties, Motor Taxes, Totalisator and Betting Taxes, and License Fees, represent the various forms of State taxation, and they yielded a revenue of £4,962,518 during the year ended 30th June, 1920. In addition, the Commonwealth Government collected in this State taxes amounting to £19,009,714, and receipts by local bodies from rates and charges amounted to £4,332,976.

The following statement shows in detail the taxation collected in New South Wales by the Commonwealth and State Governments, and the rates and charges received by local bodies, &c., during the five years ended the 30th June, 1920:—

Head of Taxation, or Charge.	1916.	1917.	1918.	1919.	1920.
COMMONWEALTH.	£	£	£	£	£
Customs Duties	6,225,832	5,705,757	4,632,456	5,398,654	6,604,913
Excise „ „ „ „	1,763,900	1,718,516	1,934,809	2,841,047	4,016,417
Probate and Succession Duties	257,303	606,311	388,095	310,454	452,972
Land Tax	*1,064,881	*950,000	*1,094,222	*1,036,974	*1,162,460
Income Tax	†1,551,653	†2,239,206	†2,969,932	†4,430,035	†5,245,497
War-time Profits Tax ... ..	...	...	†148,250	†467,040	†1,293,840
Entertainment Tax ... ..	...	50,096	102,195	136,892	234,615
Total, Commonwealth Taxation	£ 10,863,569	11,269,886	11,319,959	14,621,096	19,009,714
STATE.					
Land Tax	3,190	3,215	2,921	2,800	2,834
Income Tax	1,707,403	1,973,477	2,182,117	2,355,243	2,308,267
Stamp and Probate Duties.					
Stamps	493,491	507,646	557,233	631,007	889,312
Bank-note Composition..	1,863	1,716	1,556	1,456	1,327
Betting Tickets..	27,638	40,849	57,391	54,841	87,504
Probate	642,445	814,813	673,711	574,950	1,061,574
Settlement and Companies' Death Duties ...	3,109	11,956	3,722	925	959
Total, Stamp Duties £	1,168,546	1,376,980	1,293,613	1,263,179	2,040,876
Motor Tax	54,868	67,044	79,169	90,716	110,390
Betting Taxes	31,330	47,536	59,359	72,290	93,726
Totalizer Tax ... ..	...	6,346	82,802	132,403	222,970
Licenses	151,884	154,806	180,520	167,359	183,455
Total, State Taxation	£ 3,117,221	3,629,404	3,860,501	4,083,990	4,962,518
LOCAL.					
Wharfage and Tonnage Rates	298,612	290,454	316,186	365,033	355,784
Fees for Registration of Dogs	16,851	16,692	17,114	18,311	17,678
Municipal Rates—					
City of Sydney	464,142	525,648	455,040	465,988	564,747
Suburban and Country Municipalities	1,074,453	1,118,214	1,186,417	1,241,178	1,327,351
Shire Rates	626,514	651,437	691,593	729,966	763,356
Licenses (City Council)—					
Auctioneers, Hawkers, etc.	2,106	1,319	1,694	1,378	1,122
Water and Sewerage Rates —(Metropolitan and Hunter)	942,753	965,761	1,058,128	1,234,340	1,309,146
Total, Local Rates and Charges	£ 3,425,431	3,569,525	3,726,172	4,056,194	4,339,184
Grand Total	£ 17,406,221	18,468,815	18,906,632	22,761,280	28,311,416

* Estimated.

† Partly estimated.

Customs and excise duties do not take into account interstate credits and debits, which are not available. The figures for municipal and shire rates and city licenses relate to the year ended the 31st December preceding the close of the financial year in which they are included.

Taxation per Inhabitant.

The previous quotations, stated in their equivalent rates per head of population, are shown in the following table:—

Head of Taxation, or Charge.	1916.	1917.	1918.	1919.	1920.
COMMONWEALTH.					
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Customs Duties	3 6 7	3 1 3	2 9 6	2 15 11	3 6 1
Excise "	0 18 10	0 18 5	1 0 5	1 9 5	2 0 2
Probate Duties	0 2 9	0 6 6	0 4 1	0 3 2	0 4 6
Land Tax	0 11 5	0 10 2	0 11 7	0 10 9	0 11 8
Income Tax	0 16 7	1 4 0	1 11 5	2 5 11	2 12 6
War-time Profits Tax ... ..	...	...	0 1 6	0 4 10	0 12 11
Entertainment Tax ... ..	...	0 0 6	0 1 1	0 1 5	0 2 4
Total, Commonwealth Taxation ... £	5 16 2	6 0 10	5 19 7	7 11 5	9 10 2
STATE.					
Land Tax ... ..	...	...	...	...	...
Income Tax	0 18 3	1 1 2	1 3 2	1 4 5	1 3 1
Stamp and Probate Duties—					
Stamps	0 5 4	0 5 6	0 5 11	0 6 6	0 8 11
Bank-note Composition ... ..	...	...	...	...	...
Betting Tickets	0 0 4	0 0 6	0 0 7	0 0 7	0 0 10
Probate	0 6 10	0 8 9	0 7 2	0 5 11	0 10 8
Settlement and Companies' Death Duties ... ..	...	0 0 1	...	...	...
Total, Stamp Duties £	0 12 6	0 14 10	0 13 8	0 13 0	1 0 5
Motor Tax	0 0 7	0 0 9	0 0 10	0 0 11	0 1 1
Betting Taxes	0 0 4	0 0 6	0 0 7	0 0 9	0 0 11
Totalizator Tax ... ..	...	...	0 0 10	0 1 5	0 2 3
Licenses	6 1 8	0 1 8	0 1 9	0 1 9	0 1 10
Total, State Taxation £	1 13 4	1 18 11	2 0 10	2 2 3	2 9 7
LOCAL.					
Wharfage and Tonnage Rates ...	0 3 2	0 3 1	0 3 4	0 3 9	0 3 7
Fees for Registration of Dogs ...	0 0 2	0 0 2	0 0 2	0 0 2	0 0 2
Municipal Rates—					
City of Sydney	0 5 0	0 5 8	0 4 10	0 4 10	0 5 8
Suburban and Country Municipalities	0 11 6	0 12 0	0 12 6	0 12 10	0 13 4
Shire Rates	0 6 9	0 7 0	0 7 4	0 7 7	0 7 8
Licenses (City Council)—					
Auctioneers, Hawkers, etc. ...	...	...	...	...	—
Water and Sewerage Rates—					
(Metropolitan and Hunter) ...	0 10 1	0 10 4	0 11 3	0 12 10	0 13 1
Total, Local Rates and Charges £	1 16 8	1 18 3	1 19 5	2 2 0	2 3 6
Grand Total £	9 6 2	9 18 0	9 19 10	11 15 8	14 3 3

In 1914 additional amounts were obtained by the State Income Tax Acts of that year, which further increased the taxes, and reduced the exemption from £300 to £250; from 1915 to 1919 a super-tax of 3d. in the £ was levied, and this was increased to 6d. in 1920.

In the same year the State Stamp Duties Amendment Act, 1914, imposed additional stamp and probate duties, and in 1920 further additions were made to these taxes.

The Commonwealth Income Tax was increased in 1916 by an additional tax equal to 25 per cent. of the total amount of tax, and in 1918 by a super-tax equal to 30 per cent. of the total amount of tax (including the additional tax).

State Land Tax.

The land tax of the State is levied on the unimproved value at the rate of 1d. in the £. A sum of £240 is allowed by way of exemption, and where the unimproved value is in excess of that sum, a reduction equal to the exemption is made; but where several blocks of land within the State are held by a person or company, only one amount of £240 may be deducted from the aggregate unimproved value.

Since 1906 the Local Government Act has provided that when the council of a shire or municipality levies a general rate not less than 1d. in the £ on the unimproved value, the land tax ceases to be collected by the State Government. A similar provision was extended to the City of Sydney under the operation of the Sydney Corporation (Amendment) Act, 1908. The State land tax is now levied, therefore, only on the unincorporated portion of the Western Division.

State Income Tax.

The former Acts relating to income tax were amended by the Income Tax Act, 1911. Under its provisions a tax became payable by all persons other than companies in receipt of £300 per annum, derived from all sources within New South Wales. In the case of companies the total receipts became taxable.

Under amending Acts passed in 1914 and 1920 further increases were imposed, the exemption being reduced in 1914 to £250, with no deduction for companies. A taxpayer is entitled to a deduction of £50 in respect of each child under 18 years of age wholly maintained by him, and insurance and superannuation premiums up to £50 are exempt.

The tax payable under the Act of 1920 by any company is 2s. in the £ on the taxable income of the company without exemption, and the rates per £ for persons other than companies are as follows:—

On taxable income which does not exceed £700... ..	9d.	} plus super-tax 6d.
“ “ “ exceeds £700 and does not exceed £1,700... ..	10d.	
“ “ “ “ £1,700 “ “ £2,700... ..	1s.	
“ “ “ “ £2,700 “ “ £4,700... ..	1s. 2d.	
“ “ “ “ £4,700 “ “ £6,700... ..	1s. 5d.	
“ “ “ “ £6,700 “ “ £9,700... ..	1s. 9d.	
“ “ “ “ £9,700	2s.	

In each case an addition of one-third of the tax is made on so much of the income as is derived from the produce of property.

The exemptions from income-tax are as follow:—

Municipal corporations and other local authorities.

Mutual life assurance societies, and other companies or societies not carrying on business for purposes of profit or gain, except income from mortgages.

Societies registered under the Friendly Societies Act, or under any Act relating to trade unions.

Ecclesiastical, Charitable, and Educational Institutions of a public character, whether supported wholly or partly by grants from the Consolidated Revenue Fund or not.

Income arising or accruing to any person from Government debentures, inscribed stock, and treasury bills.

Dividends derived from shares in a company.

Starr-Bowkett Building Societies:

These exemptions do not extend to the salaries and wages of persons employed by any such corporation, company, society, or institution, whether paid wholly or in part from the revenues thereof.

Revenue from State Land and Income Taxes.

The revenue from land and income taxes since 1896, the year in which they were first imposed, is shown herewith. The amounts exclude refunds rendered necessary through correction of errors by the taxpayer, or through adjustments by the Department, but they include refunds brought about through the income of the year of assessment falling short of the amount of the income of the preceding year on which the assessment was made.

Year.	Land Tax.	Income Tax.		Year.	Land Tax.	Income Tax.	
		Amount.	Per head.			Amount.	Per head.
1896	£	£	£ s. d.	1909	£	£	£ s. d.
1897	139,079	27,658	0 0 5	1910	80,794	202,369	0 2 7
1898	364,131	295,537	0 4 7	1911	9,066	219,977	0 2 9
1899	253,901	166,395	0 2 6	1912	7,438	269,142	0 3 3
1900	286,227	178,032	0 2 8	1913	6,479	644,571	0 7 7
1901	288,369	183,460	0 2 9	1914	5,738	662,625	0 7 6
1902	301,981	215,893	0 3 2	1915	4,692	1,290,370	0 14 1
1903	314,104	203,625	0 2 11	1916	3,346	1,653,923	0 17 9
1904	322,246	214,686	0 3 1	1917	3,190	1,707,403	0 18 3
1905	323,267	193,240	0 2 8	1918	3,215	1,973,477	1 1 2
1906	329,998	195,252	0 2 8	1919	2,921	2,182,117	1 3 2
1907	345,497	266,233	0 3 7	1920	2,800	2,355,243	1 4 5
1908	178,889	283,422	0 3 9		2,834	2,308,267	1 3 1
		215,283	0 2 10				

The fluctuations shown in the first three years are due to the difficulties inseparable from the introduction of a system of direct taxation; the returns for 1899 and subsequent years, however, are under normal conditions, which have varied according to the rates imposed in the case of the income tax, and by the transfer of the land tax to shires and municipalities.

Motor Tax.

Motor vehicles must be registered annually with the Police Department, and on such registration a fee fixed at a minimum of £1 is payable in respect of a motor cycle, motor tricycle, or taxi-cab. On other motor vehicles the license fee ranges between £2 and £20, and the basis upon which it is payable is the "horse-power" of the vehicle. Motor cars used by medical practitioners or clergymen, public motor cars (except taxi-cabs), and trade motor vehicles pay half-rates. Government and ambulance motor vehicles, and those owned by municipalities and shires, or by the City of Sydney, are

exempt from taxation. The total number of motor vehicles licensed was 25,197, and the revenue benefited by the tax during 1919-20 to the extent of £110,390.

Betting Taxes.

The Finance (Taxation) Act, 1915, and amending Acts, imposed taxes on racing clubs and associations, on bookmakers, and on betting tickets.

With regard to the clubs, the taxes are levied on licenses and fees received from bookmakers. The existing rates range from 50 per cent. on racecourses within 40 miles of the General Post Office, Sydney, or 20 miles from the Post Office, Newcastle, to 20 per cent. on courses outside the limits mentioned.

The taxes payable by bookmakers are regulated according to the particular courses and enclosures where operations are carried on, and vary considerably. The total amount received during the year ended 30th June, 1920, from the betting taxes, was £93,726.

The Act of 1915 further provided for the imposition of a stamp duty on all betting tickets issued by bookmakers, the amount being one penny in the saddling paddock, and one half-penny for the other parts of the racecourse. During 1917 these rates were doubled, and in 1920 the amount on the paddock tickets was increased to threepence, but the other rates were not altered. In addition to these amounts, bookmakers are required to furnish a monthly statement showing the number of credit bets made, the duty on which is the same as if tickets had been issued. The revenue derived from this source during the year ended the 30th June, 1920, was £87,504.

Totalizator Tax.

The Totalizator Act (No. 75, 1916) was passed on the 20th December, 1916, and was amended by Acts No. 29, 1919, and No. 16, 1920. The revenue derived from this source for the first six months during which it was in operation was only £6,346, but the return for the year 1919-20 amounted to £222,970.

All registered racing clubs and associations must establish an approved totalizator. The commission to be deducted from the total amount invested is 12½ per cent., with an additional 1 per cent. for a sinking fund to meet the cost of machines. The contribution which must be paid to the State Treasurer by clubs racing for profit is 9 per cent. of the total payments into the machine and by other clubs 5½ per cent.

Racecourse Admission Tax.

An Act enabling the Government to levy a tax on persons entering racecourses, came into operation on the 1st October, 1920, and an amending Act was passed on the 31st December, 1920. The Acts apply to all racecourses within 40 miles of the General Post Office, Sydney, and a similar distance from the Newcastle Post Office. The amounts leviable are:— Twopence on the admission charge through the outside gate or into the flat, 10d. into the Leger Reserve, while into the Saddling Paddock the rate is 3s. for males, 2d. additional being charged at Randwick, and 1s. 7d. for females. If no charge is made at the outside gate the tax for the Leger and Paddock enclosures is 2d. higher. Members and season ticket-holders are required to pay a tax equal to 40 per cent. on the amount of their annual subscriptions.

In order to carry out the provisions of this Act, racing clubs are compelled to furnish returns of the number of persons who paid for admission and the number of members and season ticket holders.

Commonwealth Land Tax.

The first direct taxation by the Federal Government was imposed in 1910, when the Land Tax Act was passed, which levies a graduated tax on the unimproved value of the lands of the Commonwealth. In the case of owners who are not absentees, an amount of £5,000 is exempt, and the rate of tax is $1\frac{1}{18\frac{1}{5}}d.$ for the first £1 of value in excess of that amount, and increases uniformly to 5d. in the £ on a taxable balance of £75,000, with 9d. in the £ for every £ in excess of that amount. Absentee owners are required to pay 1d. in the £ up to £5,000, with a uniform progression from $2\frac{1}{18\frac{1}{5}}d.$ to 6d. for the next £75,000. On every £ in excess of £80,000, the rate payable is 10d., and amending legislation passed in 1918 imposed an additional tax of 20 per cent.

Lands exempt from taxation are those owned by a State, municipality, or other public authority, by savings banks, friendly societies, or trade unions, or such as are used solely for religious, charitable, or educational purposes.

The latest available statement issued by the Commonwealth Commissioner of Taxation shows that the land tax payable for New South Wales property by residents was £1,071,437; by absentees, £18,977; total, £1,090,414. For the whole Commonwealth the corresponding figures were:—Residents, £1,967,320; absentees, £50,089; total, £2,017,319.

Commonwealth Income Tax.

In addition to the taxation of incomes imposed by the State, the Commonwealth levies a tax which is payable by residents and absentees in respect of income derived from sources within Australia (which includes Papua).

The exemptions from taxation include the revenues and funds of local governing bodies or public authorities; friendly societies; trade unions and kindred associations; religious, scientific, charitable, or public educational institutions; and interest on certain Commonwealth war loan securities. The Act excludes persons on active service with the forces of Great Britain or of her Allies, as regards income derived from personal exertion, from the date of enlistment to the date of discharge.

Resident taxpayers who are unmarried and have no dependents are allowed an exemption of £100 less £1 for every £5 in excess of £100, and other resident taxpayers are allowed an exemption of £156 less £1 for every £3 by which the income exceeds £156. Absentees are assessed on their total incomes from all sources in Australia.

Special deductions include £26 for every child under 16 years of age maintained by a resident taxpayer; payments up to £50 for friendly society benefits, superannuation, &c.; and up to £50 for life assurance and fidelity guarantee; and gifts over £5 each to public charitable institutions or war relief funds.

The rate of taxation upon incomes derived from personal exertion is $3\frac{3}{80}d.$ per pound sterling up to £7,600, increasing uniformly with each increase of one pound sterling of the taxable income by three eight-hundredths of one penny, until an average rate of 2s. 7½d. per pound is reached at £7,600. Over £7,600 the rate per pound sterling is 5s.

The rate of taxation upon incomes up to £546 derived from property, is stated by the following formula:—

$$R = \left(3 + \frac{I}{181.058} \right) \text{pence,}$$

R. being the average rate of tax in pence per pound sterling, and I the taxable income in pounds sterling.

Over the sum of £546, and up to £2,000, the tax increases continuously with the increase of the taxable income till it reaches 33.6 pence per pound sterling on £2,000 10s., thence up to a rate of 5s. for every pound sterling.

in excess of £6,500, and to the above rates are added additional imposts amounting to 60 per cent. of the original amount of the tax.

The minimum amount of tax payable by unmarried resident taxpayers having no dependents is £1.

Companies pay a flat rate of 2s. 8d. in the £ on such of the taxable incomes as have not been distributed to members or shareholders, and 8d. in the £ on dividends and interest paid to absentees.

Winners of prizes in lotteries pay a tax of 14 per cent.

Commonwealth Estate Duties.

The Estates Assessment Act (No. 22 of 1914) provided for the imposition of a duty on properties of persons who died after the commencement of the Act. The rates are 1 per cent. where the total value exceeds £1,000 but does not exceed £2,000, and an additional one-fifth per cent. for every thousand pounds, or part thereof, in excess of two thousand pounds, the maximum being 15 per cent.

A reduction of two-thirds of the above rates is allowed if the estate is left to the widow, children, or grandchildren of the testator.

Estates of persons who died on active service in the War, or as the result of injuries or diseases contracted while on active service, are exempt.

Commonwealth Entertainments Tax.

The Entertainments Tax is levied on payments for admission to almost every class of amusement at the rate of one half-penny for each sixpence or part thereof. Payments not exceeding 3d. for the admission, on Saturday afternoons, of children under 12 years of age are exempt.

Commonwealth War-time Profits Tax.

The Commonwealth War-time Profits Act, 1917, imposes a tax on profits above the pre-war standard, which is taken to be the average profits of any two of the last three pre-war trade years, or 10 per cent. on the capital employed in the business. The rate of tax on war-time profits arising during the year ended 30th June, 1916, was 50 per cent., and in each succeeding year, 75 per cent.

LAND REVENUE OF THE STATE.

The receipts from the sale and occupation of Crown lands are treated as public income. Although the proceeds from occupation, being rent, can be reasonably regarded as an item of revenue, the inclusion of the proceeds of auction, conditional purchase, and other classes of sale as ordinary revenue is open to serious objection. It has been urged in justification of this course that the sums so obtained have enabled the Government to construct works, which enhance the value of the remaining public lands and facilitate settlement, and to endow local bodies, thus enabling them to carry out local improvements. Under the Act, passed in 1906, instituting the Public Works Fund, two-thirds of the net proceeds of the sale of Crown lands, less 20 per cent., equivalent to a clear 53½ per cent., are paid into the fund so created.

The revenue derived from lands may be grouped under three main heads—(a) auction sales and other forms of unconditional sale; (b) conditional sales under the system of deferred payments; (c) rents from pastoral, mining, and other classes of occupation. The receipts from each source in 1919-20 were £73,365, £1,052,338, and £619,061 respectively, while Miscellaneous Receipts amounted to £211,805, making a total of £1,956,569. Refunds amounting to £41,130 were made, leaving a net revenue of £1,915,439.

The land policy of the State, though largely connected with public finance, is discussed in that part of this volume which treats of Land Settlement.

RECEIPTS FOR SERVICES RENDERED.

The net amount collected for services rendered by the State, other than for trading concerns, during the year ended 30th June, 1920, was £543,278. The principal sources of revenue were Pilotage, Harbour and Light Rates, &c., £99,609; Registrar-General, Fees, £127,166; Contributions for the Support of Patients in Mental Hospitals, £56,749; and other Fees of Office, £125,510.

GENERAL MISCELLANEOUS RECEIPTS.

All items which cannot be placed under one of the classes mentioned in the previous pages (Taxation, Land Revenue, and Receipts for Services Rendered) are grouped under the heading of "General Miscellaneous Receipts." The total in 1919-20 amounted to £683,140, the principal items being interest on value of properties transferred to the Commonwealth, £174,909; rents, £116,801; interest on advances under Country Towns Water Supply and Sewerage Act, £58,633; other interest, £80,120; and fines, forfeitures, &c., £38,411.

The balance of the revenue for the year ended 30th June, 1920, consisted of the amount returned by the Commonwealth, £2,472,717, and interest and contributions from Industrial Undertakings (Act No. 22, 1912), £12,505.

EXPENSES OF GENERAL GOVERNMENT AND OF BUSINESS UNDERTAKINGS.

The following statement shows the expenditure classified under two headings—the ordinary expenditure of the General Government, including interest on the capital liability of the services connected therewith, and the expenditure on services practically outside the administration of General Government, including interest on their capital liability. The figures for the ten years ended the 30th June, 1920, and the rates per inhabitant, were as follow:—

Year ended 30th June.	Governmental.			Business Undertakings.				Grand Total Expenditure (Including Advances).
	General Services.	Interest and Redemptions.	Total.	Railways and Tramways.	Water Supply and Sewerage.	Sydney Harbour Trust.	Total.	
	£	£	£	£	£	£	£	£
1911	5,609,784	1,211,103	6,820,887	6,765,942	576,073	307,735	7,649,800	14,470,687
1912	6,379,242	1,028,206	7,407,448	7,733,147	652,819	343,865	8,729,831	16,137,279
1913	6,879,802	1,066,528	7,946,330	8,754,490	688,843	389,237	9,832,570	17,778,900
1914	6,438,271	1,028,363	7,466,634	9,505,926	725,931	366,698	10,598,555	18,065,189
1915	6,830,162	977,123	7,807,285	9,540,159	785,300	383,435	10,708,894	18,516,179
1916	7,120,558	1,064,273	8,184,831	10,107,149	841,278	420,669	11,369,096	19,553,927
1917	7,535,774	1,011,060	8,546,834	10,794,693	984,803	464,565	12,244,061	20,790,895
1918	7,888,877	1,096,548	8,985,425	10,969,924	1,065,413	499,156	12,534,493	21,519,918
1919	8,237,115	982,184	9,219,299	12,370,545	1,132,769	510,785	14,014,099	23,233,398
1920	11,018,130	1,081,872	12,100,002	16,158,569	1,368,197	583,245	18,110,011	30,210,013

Expenditure per Inhabitant.

	£	s.	d.																					
1911	3	8	6	0	14	10	4	3	4	4	2	6	0	7	1	0	3	9	4	13	4	8	16	8
1912	3	15	1	0	12	2	4	7	3	4	11	1	0	7	8	0	4	0	5	2	9	9	10	0
1913	3	17	3	0	12	0	4	9	3	4	18	5	0	7	9	0	4	5	5	10	7	9	19	10
1914	3	10	3	0	11	3	4	1	6	5	3	9	0	7	11	0	4	0	5	15	8	9	17	2
1915	3	13	3	0	10	6	4	3	9	5	2	5	0	8	5	0	4	1	5	14	11	9	18	8
1916	3	16	2	0	11	5	4	7	7	5	8	2	0	9	0	0	4	6	6	1	8	10	9	3
1917	4	0	9	0	10	10	4	11	7	5	15	11	0	10	6	0	5	0	6	11	5	11	3	0
1918	4	3	5	0	11	8	4	15	1	5	15	11	0	11	3	0	5	4	6	12	6	11	7	7
1919	4	4	7	0	10	11	4	15	6	6	8	1	0	11	9	0	5	3	7	5	1	12	0	7
1920	5	10	5	0	10	10	6	1	3	8	1	7	0	13	8	0	5	11	9	1	2	15	2	5

Under the head of general services are included public health, education, police, and all other civil and legal expenditure, also the cost of public works paid out of the ordinary revenue, transfers to Public Works Fund, advances, etc.

INDUSTRIAL UNDERTAKINGS OF THE STATE.

In addition to the business undertakings, viz., Railways, Tramways, Harbour Trust, Water Supply and Sewerage, and the national undertaking, the Murrumbidgee Irrigation Scheme, the State controls various industrial undertakings, the revenue and expenditure of which do not form part of the Consolidated Revenue Fund, but are included principally under the Special Deposits Fund.

The following table shows the transactions of these undertakings during the year ended 30th June, 1920, and the total capital expenditure at that date.

Service.	Total Capital as determined by Committee.	Revenue.	Expenditure.			Net Revenue.
			Working Expenses, including Rates and Taxes.	Interest, Sinking Fund, &c.	Total.	
INDUSTRIAL UNDERTAKINGS—	£	£	£	£	£	£
Bakery	18,682	31,410	30,781	525	31,306	104
Blue Metal Quarries—Kilama and Port Kembla	106,696	145,065	132,099	8,500	140,599	4,466
Brickworks—Homebush Bay ..	89,028	113,358	96,278	7,691	103,969	9,389
Building Construction	13,600	384,842	371,453	978	372,431	12,411
Clothing Factory	13,280	64,961	58,592	640	59,232	5,729
Drug Depot	155	34,407	32,594	8	32,002	1,805
Monier Pipe Works	34,502	64,762	54,206	6,167	60,373	4,389
Motor Garage	8,261	33,677	30,492	1,224	31,716	1,961
Power Station—Uhr's Point ..	32,492	6,045	6,134	1,619	7,753	(-) 1,708
Sawmills—Craven and Gloucester	51,155	59,569	53,433	2,718	56,151	3,418
Stone Quarry—Maroubra	13,911	16,733	14,381	837	15,218	1,515
Timber Yard, etc.—Uhr's Point	179,565	683,037	665,870	10,048	675,918	7,119
Trawlers	190,608	71,166	130,393	9,249	139,642	(-) 68,476
Total, Industrial Undertakings	751,935	1,709,032	1,676,706	50,204	1,726,910	(-) 17,878
OTHER SERVICES—						
Housing Board	599,618	20,206	3,450	16,244	19,694	512
Metropolitan Meat Industry ..	1,557,449	615,523	479,630	97,490	577,129	38,394
Observatory Hill, Resumed Area —"The Rocks"	1,331,605	69,687	24,073	62,947	87,020	(-) 17,333
Total, Other Services	3,488,672	705,416	507,162	176,681	683,843	21,573
Grand Total	£ 4,240,607	2,414,448	2,183,868	226,885	2,410,753	3,695

(-) Denotes net expenditure.

As will be seen from the foregoing table, the undertakings have nearly all been carried on profitably, only three showing a loss for the year, and the net return on the capital outlay of £4,240,607 was £3,695, or 0.08 per cent. The largest deficiency occurred in connection with the Trawling Industry, the expenditure on which exceeded the revenue by £68,476, and the Observatory Hill area showed a loss of £17,333. With reference to the Trawling Industry it may be mentioned that under a change of administration there has been a great improvement in the position.

The principal profit-producing concern was the Metropolitan Meat Industry which showed an excess revenue of £38,394, or 2.46 per cent. on capital, after paying working expenses and interest. The undertakings connected with the building trades, viz., building construction, brickworks, metal quarries, timber yards, monier pipes, and sawmills, were carried on profitably, and the Clothing Factory also more than paid the charges for working expenses and interest.

The operations of the Building Construction Branch were very successful, showing a net profit of £12,411. The total receipts, including value of works completed and in progress, were £384,842, and the expenditure, including interest and sinking fund, amounted to £372,431. The trading profit was £13,389, or 98.4 per cent. of capital, and the result is very satisfactory, especially as wages and materials were higher than in the previous year.

Brickworks also were carried on profitably, notwithstanding that the products were sold at prices 18 per cent. below those ruling in privately-controlled brickyards. The trading profit for the year 1919-20 was £17,080, out of which a sum of £4,381 was paid as a bonus to employees, £3,098 as interest, and £217 to sinking fund, leaving a balance of £9,389, equal to 10.5 per cent. on capital employed.

The Newcastle Dockyard has not been proclaimed an industrial undertaking, and consequently does not appear in the table, as details regarding its operations are not available.

The Murrumbidgee Irrigation Area is of a national character, and has therefore been treated separately. The following table shows the transactions for the past five years, that is since the area was proclaimed an industrial undertaking:—

Year ended 30th June.	Capital Expenditure.	Revenue.	Expenditure.			Net Deficiency.	Proportion of net Deficiency to Capital Expenditure.
			Working Expenses.	Interest, Sinking Fund, &c.	Total.		
	£	£	£	£	£	£	per cent.
1916	3,417,813	30,202	37,986	129,616	167,602	137,400	4.02
1917	3,855,503	248,170	272,080	170,428	442,508	194,338	5.04
1918	4,116,941	225,297	240,442	194,153	434,595	209,298	5.08
1919	4,336,399	310,045	313,428	210,485	523,913	213,868	4.93
1920	5,290,692	354,851	403,502	235,916	639,418	284,567	5.38

The revenue and working expenses shown are the gross amounts. For the year 1920 the net revenue was £68,525, and the net working expenses £117,176, resulting in a net trading loss of £48,651, which added to the interest and sinking fund liability, £235,916, gives a total loss for the year of £284,567. The principal losses in the year 1920 occurred in the Yanco establishments, viz., Bacon Factory and Abattoirs, Dormitories and Dining Rooms, Canning Factory, and Power House, while the services which showed the largest profits were the dry areas at Yanco and fodder-growing at Mirrool.

The following table shows the transactions of the State industrial undertakings during the years 1912-20, excluding the business undertakings (Railways, &c.) and the Murrumbidgee Irrigation Area.

Year ended 30th June.	Capital Expenditure.	Revenue.	Expenditure.			Net Revenue.	Proportion of Net Revenue to Capital Expenditure.
			Working Expenses.	Interest, Sinking Fund, Depreciation, and Reserves.	Total.		
	£	£	£	£	£	£	per cent.
1912	1,249,413	71,309	33,686	40,213	78,899	(-) 7,590	(-) 0.60
1913	1,497,072	268,571	20,148	53,115	273,353	(-) 4,782	(-) 0.32
1914	1,688,090	591,644	521,680	72,008	593,688	(-) 2,044	(-) 0.12
1915	1,875,251	853,434	756,464	93,019	849,483	3,951	0.21
1916	2,905,985	1,049,212	902,663	143,479	1,046,142	3,070	0.10
1917	3,421,687	1,266,398	1,085,776	138,678	1,224,454	41,944	1.22
1918	3,731,639	1,430,425	1,259,738	159,232	1,418,970	11,455	0.31
1919	3,518,025	1,475,526	1,310,025	185,143	1,495,168	(-) 19,642	(-) 0.56
1920	4,240,607	2,414,443	2,183,868	226,885	2,410,753	3,695	0.09

(-) Denotes net expenditure.

The capital expenditure fluctuated during the last few years owing to the establishment of new industries, and on account of adjustments made by a Committee appointed for the purpose of determining the values.

SPECIAL DEPOSITS AND SPECIAL ACCOUNTS.

The Special Deposits and Special Accounts form a very important division of the public finances, not only from the nature and volume of the transactions, but also by reason of the manner in which they are used in connection with the general finances of the State. These Funds are of great assistance in the banking operations of the Government, and they form a strong reserve on which the Treasurer may draw in time of need. Although the Audit Act provides that the funds cannot be used except for the specific purpose for which they were deposited, it has been the custom for many years to draw on the balances for overdrafts of the Consolidated Revenue Fund and Loan Accounts if required. The great bulk of the funds bear interest, whether invested or not, and the power to use them enables the Government to effect a large saving in the interest which might otherwise be charged for accommodation from the banks. The following table shows the amount of these funds at 30th June in each year of the last decade:—

As at 30th June.	Amount.	As at 30th June.	Amount.	As at 30th June.	Amount.
	£		£		£
1911	4,522,915	1914	5,341,000	1917	5,619,703
1912	5,547,741	1915	5,259,710	1918	5,957,608
1913	6,134,067	1916	5,601,471	1919	6,222,291
				1920	9,848,520

The funds are divided into two classes, viz.:—Special Deposits Account and Special Accounts. The total of all moneys under these headings on the 30th June, 1920, was £9,848,520, viz., the Special Deposits Account,

£9,234,750, and the Special Accounts £613,770. The amount at the credit of each account is shown in the following table:—

Special Deposits Account.

	£		£
Government Savings Bank of New South Wales Deposit Account	2,897,514	Water and Drainage Loan Redemption Fund	64,988
Government Savings Bank of New South Wales Advances Deposit Account	650,000	Union Trustee Company of Australia, Limited	20,000
State Debt Commissioners' Deposit Account	117,214	Government Dock, Newcastle—Store Advance Account	35,277
State Debt Trust Accounts	163,072	Unclaimed Salaries and Wages Account	13,204
Public Works and Railway Construction Stores Advance Account	229,812	Public Trustee—Unclaimed Balances	50,457
Fixed Deposits Account	565,100	Norton Griffiths and Co.—Store Advance Account	17,130
Industrial Undertakings	196,630	Treasury Workmen's Compensation Fund	36,724
Sundry Deposits Account	717,619	Commonwealth Advances—Settlement of Returned Soldiers	1,996,731
Municipal Council of Sydney, Sinking Funds	27,200	Wheat Act	750,000
Government Railways Superannuation Account	45,304	Metropolitan Water and Sewerage Board	8,232
Housing Fund	58,140	State Superannuation Board	15,392
Revenue Suspense Account	22,129	Compensation Fund (Liquor Amendment Act)	65,164
Broken Hill Water Supply Account	204,395	Other Accounts	27,469
Forestry Account (Act No. 55 of 1916)	40,973		
Treasury Guarantee Fund	23,822		
Treasury Fire Insurance Fund	165,058		
"Sobraon" Fund	10,000		
		Total	£9,234,750

Special Accounts.

	£		£
Master-in-Equity Account	131,328	Prothonotary Account	2,934
Master-in-Lunacy Account	14,790	Registrar of Probates' Account	19,247
Public Trustee Account	445,471	Total	613,770
Grand Total, Special Deposits and Special Accounts, £9,848,520.			

Of the total sum of £9,848,520 at the credit of the Special Deposits and the Special Accounts on the 30th June, 1920, £150,874 was invested in securities; £5,218,017 was uninvested, but used in Advances and on Public Account at interest, the rates allowed ranging from 1 to 4½ per cent.; the remainder, £4,479,629, was similarly used, but without any interest allowance.

The rate of interest paid by the Treasurer on the 30th June, 1920, was 3 per cent., with the following exceptions:—

Crown Leases Security Deposit Account	4 per cent.
Government Savings Bank of N.S.W. Deposit Account	4 and 4½ "
Advances Deposit Account	4 "
Fixed Deposits Account	1 to 4 "
State Debt Commissioner's Trust Accounts, Municipal Council of Sydney Sinking Fund (50 Vic., No. 13)	4 "
State Debt Commissioners' Deposit Account	4½ "
Master-in-Equity and Master-in-Lunacy Accounts	1 "

On the 30th June, 1920, the trust funds in the custody of the State Treasurer were held as follow:—

	£
In Banks—	
Special Deposits Account	9,083,876
Special Accounts	613,770
New South Wales Funded Stock	63,500
Commonwealth Inscribed Stock	6,000
Fixed Deposits	49,780
Miscellaneous Securities	31,594
Total	£9,848,520

The total amount of interest received by the Treasurer during the year ended June, 1920, on bank deposits and other temporary investments of public moneys was £12,701.

LOAN APPROPRIATIONS.

All items of expenditure to be met from loan moneys are authorised under an Appropriation Act, in the same manner as the ordinary expenditure chargeable to the general revenue. There is a restriction on the expenditure whether from loans or from revenue, in the provisions of the Public Works Act. Under that Act the question of constructing all works estimated to cost more than £20,000, except those connected with the maintenance of railways, is referred by resolution of the Legislative Assembly to the Parliamentary Standing Committee appointed during the first session of each parliament. The Committee investigates and reports to Parliament, and the Assembly decides whether it is expedient to carry out the proposed work, and if the decision be favourable, a Bill based thereon must be passed before the authorisation is absolute.

The loan appropriations, in quinquennial periods since 1875, are shown in the following table, the amounts proposed to be expended on public works being distinguished from those required for the redemption of previous loans:—

Period.	Amount appropriated—		
	For Public Works and Services.	For Redemption of Loans.	Total.
	£	£	£
1875-9	10,708,768	...	10,708,768
1880-4	26,457,803	...	26,457,803
1885-9	11,123,394	2,113,800	13,237,194
1890-4	15,927,993	2,910,800	18,838,793
1895-9	13,661,046	2,275,200	15,936,246
1900-4	17,690,893	2,841,612	20,532,505
1905-9	10,509,590	7,480,054	17,989,644
1910-14	31,303,452	5,413,050	36,716,502
1915-19	31,898,271	...	31,898,271
1920	13,110,400	...	13,110,400

RAILWAYS LOAN ACCOUNT.

The Railways Loan Account, which was opened under the authority of Act No. 4, 1910, together with subsequent Acts passed in the years 1913 and 1915, increased to £8,000,000 the maximum amount which could be borrowed. This account was applied to meet the cost of duplicating portions of main trunk lines, constructing deviation works, and providing additional rolling-stock, &c.

The following were the transactions during the year 1919-20.

Receipts—	£	Expenditure—	£
Balance brought forward from		Duplications—	
1918-19	44,042	Southern Line	22,665
		South Coast Line	18,644
		Western Line	2,733
	£44,042		£44,042

During the period of ten years ended 30th June, 1920, the gross receipts were £8,342,771, viz.:—Proceeds of loans, £7,959,731; repayment to credit of votes, £283,040; and advance from Consolidated Revenue, £100,000. The whole of the proceeds have now been expended as follows:—Main Suburban line, £35,522; Southern, £3,476,900; Western, £1,184,761; Northern, £1,054,286; South Coast, £1,754,055; rolling-stock, £566,890; repayment to Consolidated Revenue, £100,000; and redemption of loans, £170,357.

LOAN ACCOUNTS.

The following statement shows the amount of loans raised from the commencement of the Loan Account, in 1853, to the 30th June, 1920, and the proceeds available for expenditure, including the moneys credited to the Railways Loan Account:—

Treasury Bills, Debentures, Inscribed and Funded Stock sold to the 30th June, 1920	£244,715,885
Discount, Interest, Bonus, and Charges	6,071,870
Net amount raised	£238,644,015
Less Amount of Proceeds included in Public Debt, but not credited to Loan Accounts	5,107,862
Net amount available for Public Works, etc.	£233,536,153

On the 30th June, 1920, an amount of £91,939,803 had been redeemed, of which £9,696,211 was a charge on the Consolidated Revenue, leaving £152,776,082 outstanding at the close of the last financial year. This amount is exclusive of the liabilities on account of the Closer Settlement Fund debentures, reference to which is made on a subsequent page. The aggregate amount of interest actually paid by the State on loans to the 30th June, 1920, was £115,865,629, the liability during 1919-20 being £6,563,940.

The services to which the available sum of £233,536,153 was applied are shown in the following table. The redemptions are included in the total, as although they are not items of expenditure on works and services, their inclusion is necessary to account fully for the total expenditure.

	£	£
Reproductive Works:—		
Railways	83,814,832	
Tramways	9,221,849	
Water Supply	12,746,456	
Sewerage	8,667,109	
Sydney Harbour Trust	8,561,915	
Darling Harbour Resumptions	1,305,848	
Industrial Undertakings	666,455	
Housing Fund	615,716	
Partly Productive Works:—		125,600,180
Conservation of Water, Artesian Boring, etc.	6,592,142	
Harbours and Rivers—Navigation	6,313,341	
Roads, Bridges, and Punts	1,841,220	
		14,746,703
Public Buildings and Sites	11,643,589	
Immigration	569,930	
Public Works in Queensland prior to separation	49,855	
Commonwealth Services—		12,263,374
Construction of Telegraph and Telephone Lines	1,297,582	
Post and Telegraph Offices	464,263	
Fortifications and Defence Works	1,457,536	
Lighthouses	144,288	
Customs Buildings	54,481	
Quarantine Buildings	18,099	
Government Dockyard—Cockatoo Island	502,988	
Naval Victualling Stores—Darling Harbour	26,450	
		3,965,887
Redemptions:—		£156,575,944
Loans repaid under various Acts	51,475,097	
Treasury Bills for Loan Services	30,768,495	
		82,243,592
		£238,819,536
Less Debit Balance, General Loan Account		5,283,383
Total		£233,536,153

The sum actually expended from loans on public works and services was £156,575,944, and an analysis shows that the proportional allocation of this amount was as follows:—Reproductive works, 80 per cent.; partly productive works, 9 per cent.; other, 8 per cent.; Commonwealth services, 3 per cent.

It will be seen that the proceeds of loans have been used judiciously, as most of the works are self-supporting, and have assisted materially in developing the State's resources, enhancing largely the value of the public estate.

The loan expenditure on account of various services during each of the past five years ended 30th June is shown below:—

Head of Service.	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£
Railways	4,787,669	3,706,422	2,294,547	1,441,105	2,387,303
Tramways... ..	195,963	136,387	117,561	102,752	202,652
Water Supply	760,693	731,211	691,006	515,984	732,333
Sewerage	389,593	348,918	257,030	182,946	310,330
Water Conservation and Irrigation	385,078	355,420	239,776	328,778	998,459
Harbours, Wharves, and Docks	1,045,741	1,021,444	451,644	290,329	432,231
Public Works, Buildings, etc.—					
Public Abattoirs, Homebush	201,669	249,435	152,882	16,329	37,277
Other... ..	44,071	72,074	67,561	55,952	63,458
Pastures Protection Boards, for					
Wire-netting ... ..	...	...	...	7,206	26,187
Grain Elevator and Bulk Wheat Handling ... ..	...	...	40,797	523,375	643,021
Industrial Undertakings, including Housing Fund	81,229	87,606	65,864	43,429	453,449
Returned Soldiers' Settlement, etc. ... ..	...	85,324	230,654	417,957	1,506,246
Closer Settlement ... ..	...	...	...	...	1,000,000
All Other Services	334,620	122,040	48,755	48,904	54,387
Gross Expenditure... ..	8,226,326	6,916,281	4,658,077	3,975,046	8,847,333
Less Repayments to Credit of Votes	53,222	54,102	170,566	56,159	52,428
Net Expenditure on Public Works, etc.	£ 8,173,104	6,862,179	4,487,511	3,918,887	8,794,905
Loans repaid by New Loans (including Treasury Bills)	2,814,025	1,467,083	10,767	12,813,724	15,181,648
Total	£ 10,987,129	8,329,262	4,498,278	16,732,611	23,976,553

The loan expenditure, exclusive of redemptions, conversions, and renewals, is shown herewith for the period of thirty-nine years 1842-1880, and in decennial periods from 1881 to 1920.

Years.	During Each Period.		At the End of Each Period.	
	Amount.	Per Inhabitant.	Amount.	Per Inhabitant.
	£	£ s. d.	£	£ s. d.
1842-1880	16,316,529	41 12 2	16,316,529	21 9 11
1881-1890	27,639,022	29 8 8	43,955,551	39 3 7
1891-1900	20,515,704	16 6 8	64,471,255	47 12 1
1901-1910	26,876,468	18 0 4	91,347,723	56 11 11
1911-1920	65,228,221	35 5 8	156,575,944	78 6 5

The total expenditure from loans now exceeds the public debt by £3,799,862. As a general rule, loans are renewed on maturity, and while the total actual expenditure increases each year, the outstanding debt may be increased or reduced according to the operations necessary to the flotation or redemption of loans.

PUBLIC DEBT (PROPER).

The first loans raised by New South Wales were for the promotion of immigration. From 1831 to 1841 the expenses attached to immigration were met by the Land Fund, into which were paid the proceeds of land sales, but these proved insufficient for the purpose in 1841, and it became necessary to obtain additional funds.

It was, therefore, decided by the Governor to borrow on the security of the Territorial or Land Revenue, and a debenture loan of £49,000 was offered locally on the 28th December, 1841. The loan was issued during 1842 in two instalments, the nominal rates of interest being 5*d.* and 4*d.* per cent., respectively, per diem. This was the first loan floated in Australia, as well as the first raised by an Australian Government. It was not until 1854 that a loan was placed on the London market.

Between 1842 and 1855 ten loans, amounting in all to £705,200 were raised for immigration purposes. Debentures representing £329,700 were redeemed from the Territorial Revenue, and the balance, £375,500, was taken over as a public liability upon the institution of Responsible Government.

The Public Debt in November, 1855, when Responsible Government was proclaimed, was £1,000,800, distributed under the following heads:—

Raised on the Security of Territorial Revenue—	£
Immigration	423,000
Sydney Railway Company's Loan	217,500
Raised on the Security of General Revenue—	
Amount for Sydney Sewerage	54,900
„ „ Sydney Water Supply	28,000
„ „ Railways	256,400
„ „ Public Works	21,000
Total	£1,000,800

The following table shows the amount of Public Debt outstanding at the end of each quinquennial period. The growth of the debt was not rapid until after the year 1880. During the next five years twenty millions and a half were added to the total, and in the next quinquennium approximately thirteen millions. The greatest addition in any of the quinquennial periods shown was made in the five years from 1910 to 1915, when over thirty-five millions were added to the total.

Year.	Amount.	Year.	Amount.	Year.	Amount.
	£		£		£
1842	49,500	1870	9,681,130	1900	65,332,993
1845	97,900	1875	11,470,637	1905	82,321,998
1850	132,500	1880	14,903,919	1910	92,525,095
1855	1,000,800	1885	35,564,259	1915	127,735,405
1860	3,830,230	1890	48,383,333	1920	152,776,082
1865	5,749,630	1895	58,220,933		

The total debt quoted above and in subsequent tables, unless otherwise mentioned, is exclusive of Debentures and Ministerial certificates issued under Closer Settlement Acts, the amount at 30th June, 1920, being £4,126,835.

The following table shows the position of the public debt as at 30th June, 1911, and annually thereafter. The amount at 30th June, 1918, includes £10,076,000 floated in February, 1918, being part of a loan of £12,648,477 for redemptions due 1st September, 1918, which will explain the difference in the amount per head for the years 1917 to 1919.

As at 30th June.	Authorised to date.	Raised.	Redeemed.			Public Debt on 30th June.	
			From Con- solidated Revenue and Sinking Fund.	From General Loan Account, including Renewals.	Total.	Total.	Per Head.
	£	£	£	£	£	£	£ s. d.
1911	153,188,227	138,797,372	8,475,887	34,797,559	43,273,446	95,523,926	57 9 9
1912	159,512,197	143,662,006	8,775,887	34,833,484	43,609,371	100,052,635	57 10 9
1913	169,186,717	154,464,714	9,519,705	38,774,262	48,293,967	106,170,747	58 13 9
1914	183,018,817	165,746,770	9,519,705	39,532,034	49,051,739	116,695,031	62 16 9
1915	207,445,569	185,651,798	9,519,705	48,396,688	57,916,393	127,735,405	68 7 8
1916	220,603,887	191,244,436	9,519,705	51,210,713	60,730,418	130,514,018	69 19 8
1917	228,636,874	200,340,248	9,524,105	52,677,796	62,201,901	138,138,347	73 19 5
1918	245,493,790	214,797,361	9,524,105	52,688,563	62,212,668	* 152,624,693	79 18 11
1919	249,677,612	222,340,928	9,664,105	65,502,287	75,166,392	147,174,536	75 1 4
1920	279,207,980	244,715,885	9,696,211	82,243,592	91,939,803	152,776,082	75 7 11

* Includes £10,076,000 raised in 1918, and held to meet loans due in next financial year.

In considering the figures under the head of loans redeemed, the loans paid off from revenue or from sinking fund can alone be said to be redeemed. Where an old loan is repaid from the proceeds of subsequent loans there is merely a change in the form of the liability, which up to the time of the war was accompanied frequently by some reduction of the interest charge.

Prior to 1900, the State Government depended largely upon the London money market for the flotation of its loans, but during the last twenty years the requirements have been met to a much greater extent locally, as will be seen from the following statement, which shows the public debt on each register at quinquennial intervals from 1900 to 1920. Stocks may be transferred at any time from London to Sydney. The amount registered in Sydney in 1920 includes £7,400,000 advanced by the Commonwealth Government, which is repayable not later than 1925, and bears interest at 4½ per cent. approximately.

As at 30th June.	Registered in London.		Registered in Sydney.		Total Public Debt.
	Amount.	Proportion to Total Debt.	Amount.	Proportion to Total Debt.	
	£	per cent.	£	per cent.	£
1900	55,060,650	84·28	10,272,343	15·72	65,332,993
1905	64,007,550	77·75	18,314,448	22·25	82,321,998
1910	67,154,805	72·58	25,370,290	27·42	92,525,095
1915	86,167,288	67·46	41,568,117	32·54	127,735,405
1920	101,977,445	66·75	50,798,637	33·25	152,776,082

From the above table it will be noted that the amount of liabilities held locally at the close of the financial year 1919-20 amounted to about one-third of the total indebtedness.

The annual payments under each head for interest and for expenses of the public debt since 1911 are shown below:—

Year ended 30th June.	Interest.	Re-demptions.	Expenses Connected With Management of Inscribed Stock.	Commission Paid to Financial Agents in England and New South Wales.	Total Interest and Charges paid.		Average Rate of Interest Payable on Debt.
					Total.	Per Inhabitant.	
	£	£	£	£	£	£ s. d.	per cent.
1911	3,227,315	409,349	19,095	4,159	3,659,918	2 4 8	3·52
1912	3,430,096	436,921	19,088	2,918	3,889,023	2 5 11	3·46
1913	3,516,233	450,602	19,990	1,511	3,988,336	2 4 10	3·54
1914	3,881,011	5,632	21,171	1,039	3,908,853	2 2 8	3·49
1915	4,125,600	5,688	21,394	1,492	4,154,174	2 4 7	3·60
1916	4,552,765	6,504	21,705	2,117	4,583,091	2 9 2	3·71
1917	4,914,211	6,868	22,297	1,991	4,945,367	2 13 1	3·81
1918	5,188,754	6,819	22,746	1,988	5,220,307	2 15 2	3·98
1919	5,462,991	6,833	20,861	2,382	5,493,067	2 16 11	4·10
1920	6,030,721	6,976	20,213	4,169	6,062,079	3 0 8	4·30

The interest paid during each year shown above is exclusive of payments on account of trust funds and special deposits held by the Government, and on closer settlement debentures.

The public debt is partly funded and partly unfunded, the former comprising debentures and inscribed and funded stocks; and Treasury bills constituting the latter. The amounts outstanding, and the annual interest payable on the 30th June, 1920, were as follow:—

Description of Stock	Amount Outstanding, 30th June, 1920.	Annual Interest Payable.
Debentures—	£	£
Matured	19,350	...
Still bearing Interest	13,947,000	671,015
Inscribed and Funded Stock—		
Matured	3,905	...
Still bearing Interest	128,521,627	5,436,324
Total, Funded Debt...	£142,491,882	£6,107,339
Treasury Bills—		
Matured	13,400	...
Still bearing Interest	10,270,800	456,601
Total, Unfunded Debt	£10,284,200	£456,601
Total, Public Debt	£152,776,082	£6,563,940

The following table shows the total outstanding on 30th June, 1920, at each rate of interest, and the annual amount payable thereon.

Rate per cent.		Amount of Stock and Bills.	Annual Interest payable.
		£	£
5½	...	18,076,000	1,039,370
5¼	...	13,270,464	729,876
5¼	...	15,327,809	804,710
5	...	6,746,082	337,164
4½	...	6,848,184	306,944
4½	...	7,400,000	305,250
4	...	28,147,141	1,125,742
3¾	...	2,648,015	99,186
3¼	...	37,265,515	1,304,286
3	...	17,047,072	511,412
Total		£152,776,082	£6,563,940

The total debt shown in the foregoing table includes £36,655 not bearing interest, viz.:—£2,800 floated at 5 per cent., £27,200 at 4½ per cent., £3,600 at 4 per cent., and £3,055 at 3¾ per cent. It should also be noted that the rate given for the £7,400,000 outstanding, at 4½ per cent., is approximate only, as it has not been fixed definitely.

The amounts shown in preceding tables do not represent the total liabilities of the State Government, as they are exclusive of Debentures and Ministerial Certificates issued for the purchase of estates under Closer Settlement Acts, Advances by the Commonwealth Government, Trust Funds and Special Deposits used by the Treasurer, and payments on Bank Accounts still to be transferred. Details of these items are shown below, and the corresponding figures for 1919 are included for purposes of comparison:—

Liabilities.	As at 30th June, 1919.		As at 30th June, 1920.	
	£	£	£	£
Public Debt Proper ... ..	...	147,174,536	...	152,776,082
Debentures and Ministerial Certificates under Closer Settlement Acts	...	1,404,150	...	4,126,835
Trust Funds and Special Deposits used by Treasurer—				
Advances by Commonwealth—				
Soldiers' Settlement ...	20,000	...	1,996,731	...
Wheat Storage	Nil.	...	750,000	...
	20,000	...	2,746,731	...
Accounts overdrawn, covered by Special Deposits and Special Accounts	2,045,406	2,065,406	5,909,822	8,656,553
Payments by Banks on Public Account still to be transferred ... ..	...	542,792	...	778,017
Total Liabilities ... ..	...	151,186,884	...	166,337,487
Per Head of Population ... ..	...	£76 19 11	...	£82 2 7

DATES OF MATURITY.

The dates of repayment extend to 1963, and the sums falling due for redemption each year vary considerably, as will be seen from the following table, which shows the due dates and the amount repayable in London and in Sydney:—

Due Date.	Registered in—		Total.
	London.	Sydney.	
	£	£	£
Matured	18,550	18,105	36,655
Minimum date expired ... ..	...	7,395,208	7,395,208
1920-21 ... ..	...	965,000	965,000
1921-22 ... ..	...	7,181,143	7,181,143
1922-23	6,900,000	3,276,757	10,176,757
1923-24	1,999,300	3,130,249	5,129,549
1924-25	16,429,166	19,830,417	36,259,583
1925-26 ... ..	...	3,083,331	3,083,331
1926-27	5,997,200	4,801,426	10,798,626
1927-28	4,999,900	36,100	5,036,000
1928-29 ... ..	...	4,000	4,000
1929-30 ... ..	...	165,040	165,040
1932-33	13,059,773	16,227	13,076,000
1933-34	12,636,046	50,254	12,686,300
1934-35	4,999,320	680	5,000,000
1935-36	12,474,165	25,835	12,500,000
1950-51	12,068,650	181,350	12,250,000
1962-63	10,394,175	105,825	10,500,000
Interminable ... ..	...	530,190	530,190
Permanent	1,200	1,500	2,700
Total	£ 101,977,445	50,798,637	152,776,082

The latest due date has been given in the table, but in several cases the loans may be redeemed earlier, subject to the Government giving notice to that effect, at periods ranging from three to twelve months.

Cost of Raising Loans.

The charges incidental to the issue of loans in London are heavy. Operations are conducted by the Bank of England and by the London and Westminster Bank, and the former charges $\frac{1}{4}$ per cent. per £100 of stock on all loan issues, and £350 per million annually for the inscription and management of stock, including the payment of the half-yearly dividends; while the latter charges $\frac{1}{4}$ per cent. and £150 per million respectively for similar services. In Sydney the Bank of New South Wales and the Commercial Banking Company of Sydney (Limited) transact all Government banking business. The former acts as the financial agent for the State in Victoria, and undertakes the payment of the half-yearly dividends on local debentures and funded stock. The Treasury directly conducts the operations connected with the issue of New South Wales Funded Stock and Treasury bills, and no local loan has been underwritten.

The following statement shows the charges for the negotiation of loans floated during the period from 1914 to 1920, inclusive of the accrued interest and bonuses allowed to investors. Local Debentures and Treasury bills have not been included, as those disposed of in Sydney are usually sold at par, and little expenditure, if any, is incurred, while the securities under these headings negotiated in London are generally for short periods pending the flotation of long-dated loans.

Year when Floated.	Amount of Principal.	Gross Proceeds.	Charges, etc.				Total.	Expenses per £100 of Gross Proceeds.
			Stamp Duty, Postage, and other Expenses.	Bank Commission.	Paid to Investors—Interest Bonus and Discount Bonus.	Brokerage and Underwriting.		
	£	£	£	£	£	£	£	£ s. d.
Issued in London as Debentures and Stock.								
1915	*7,000,000	6,965,000	23,310	17,500	9,015	106,553	156,378	2 4 11
1917	†2,500,000	2,500,000	3,095	6,250	14,389	38,650	62,384	2 9 11
1918	*6,000,000	5,925,000	30,895	15,000	15,598	83,740	150,242	2 10 9
	*13,076,000	13,076,000	11,240	32,690	25,621	134,278	203,829	1 11 2
1919	*3,000,000	2,985,000	4,295	7,500	7,881	44,356	64,062	2 2 11
1919-20	*5,000,000	4,910,000	6,918	12,500	11,240	68,995	99,653	2 0 7
Issued in London as Inscribed Stock.								
1914	7,500,000	7,312,500	46,875	13,750	55,473	115,270	236,368	3 3 1
Issued in Sydney as Funded Stock.								
1914	532,056	532,056	Nil.	Nil.	Nil.	1,300	1,300	0 4 11
1917	1,770,154	1,770,154	"	"	"	2,110	2,110	0 4 8
1918	979,313	979,313	"	"	"	Nil.	Nil.	Nil.
1919	1,492,367	1,492,367	"	"	"	"	"	"
1919-20	14,778,156	14,778,186	"	"	"	20,000	20,000	0 2 8

* Floated as Debentures, but portion subsequently converted into Stock.

† Debentures.

The Sydney sales take place at the Treasury on the basis of £100 cash for every £100 of stock, and a commission of $\frac{1}{4}$ per cent. is allowed when a

broker is engaged. The cost of negotiation for issues in Sydney during the past ten years was about 2s. 6d. per £100 of gross proceeds, whilst the charges for London loans, including 1½ per cent. for underwriting, averaged £2 5s. 10d.

STOCK QUOTATIONS.

The average market prices of stock in Sydney are shown in the following table for each month of the year 1919-20, the figures being taken from the *Sydney Stock and Share List*.

Date.	4½ per cent. Stock.	4 per cent. Stock.	3½ per cent. Stock.	3¼ per cent. Stock.	3 per cent. Stock.	Date.	4½ per cent. Stock.	4 per cent. Stock.	3½ per cent. Stock.	3¼ per cent. Stock.	3 per cent. Stock.
1919.	£	£	£	£	£	1920.	£	£	£	£	£
July ...	*	*	*	91½	*	Jan. ...	*	*	*	*	60
Aug. ...	*	*	92½	*	*	Feb. ...	*	*	*	*	60
Sept. ...	*	93	*	91	*	Mar. ...	*	*	*	*	*
Oct. ...	*	*	*	*	*	Apr. ...	*	*	*	*	*
Nov. ...	*	93½	*	*	*	May ...	*	*	*	*	*
Dec.....	*	93½	*	*	*	June ...	*	*	*	*	*

* No quotations.

The only London prices available for the twelve months ended 30th June, 1920, as shown in the *Economist*, relate to the 4½ per cent. stock, which was quoted at 92½ in July, 1919. It rose to 92½ in November of that year, and declined again from that month to May, 1920, when the price was 86, but a recovery took place the following month; when the quotation was 92.

REDEMPTIONS AND SINKING FUNDS.

Under the provisions of the State Debt and Sinking Fund Act, 1904, the State Debt Commissioners' Board was constituted, the members being the Treasurer, the Chief Justice, the Speaker of the Legislative Assembly, and the Under Secretary for Finance and Trade; and the Board controls certain trust funds and special accounts. The original Act provided for a general sinking fund, and a sum of £350,000 was paid each year to the credit of the fund, while under the Treasury Bills Deficiency Act, 1905, an additional £50,000 was required to be transferred to the fund whenever a sufficiently large surplus enabled this to be done. The Commissioners apply the credit balance in purchasing or paying-off stock, debentures, or Treasury bills; and they are empowered to invest the moneys in approved securities. The State Debt and Sinking Fund (Amendment) Act, 1914, provided that where at the close of a year there is a deficiency on the Consolidated Revenue Account the Commissioners shall repay any amount, not being greater than such deficiency, which had been issued from the fund to the Commissioners during the year. Since the last-mentioned Act was passed the amount of £350,000 has been paid to the Commissioners each year, and has been returned to the Treasury.

The transactions under the Act for the financial year ended the 30th June, 1920, were as follow:—

RECEIPTS.		£
Annual Contribution from Consolidated Revenue Fund		350,000
Country Towns Water Supply	6,052	
Country Towns Sewerage	1,793	
Closer Settlement under Crown Lands Act of 1895	6,976	
	<hr/>	14,821
Interest—Funded Stock	10,310	
Deposit with Colonial Treasurer... ..	3,060	
	<hr/>	13,370
Balance brought forward from 1918-19		388,259
		<hr/>
Total		£766,450
EXPENDITURE.		
Annual contribution from Consolidated Revenue Fund		350,000
Redemption of 3½ per cent. Funded Stock matured 10th August, 1919 (face value £32,106)		31,811
Balance carried forward to 1919-20—	£	
Invested in N.S.W. Funded Stock	267,361	
On Deposit with Colonial Treasurer	117,214	
On Account Current	64	
	<hr/>	384,639
Total		£766,450

LIABILITIES OF THE STATE AND AMOUNTS DUE FROM VARIOUS SOURCES.

On the 30th June, 1920, the liabilities of the State, as shown on page 277, were £166,337,487, but this amount should be decreased by advances to be repaid by annual instalments of principal and interest under the headings shown below:—

	£
Country Towns Water Supply	1,414,782
Country Towns Sewerage and Drainage	474,253
Water and Drainage Trusts	120,088
Other Services	60,342
	<hr/>
Total	£2,069,465

There is also the property transferred to the Federal Government, valued at £3,965,687, on which interest is paid at 3½ per cent. per annum, and the balance at credit of the Sinking Fund, £384,639, so that the net amount of the liabilities is reduced to £161,109,663.

FINANCIAL RELATIONS BETWEEN THE STATES AND THE COMMONWEALTH.

The relations between States and Commonwealth are such that neither can truly gain by obtaining advantage over the other. The affairs of each are so intertwined that if one be hampered the other must be affected also, and the development of Australia, on which both are dependent, will be retarded.

One of the most difficult problems to be solved in formulating a constitution for the Commonwealth of Australia was the determination of the relative shares of the Commonwealth and States respectively in the proceeds of taxation from Customs and Excise. Each of the two governing powers was invested with authority to levy direct taxation, consequently no difficulty arose in this respect; but the power to impose tariffs through Customs and Excise duties was vested in the Commonwealth Parliament. Hence it became necessary to decide some proportion of the revenue derivable from these sources of indirect taxation which should constitute by legal right the share of the States *qua* States in these imposts.

From the time when the Federal Constitution was under discussion to the time when the Surplus Revenue Act was passed in 1910, it was universally admitted that in any arrangement between the Commonwealth and the States the proportion of Customs and Excise Revenue to be retained by the one, and the proportion to be handed back to the other, should be based on the respective needs of each. Practically the only difference of opinion was whether expenditure on such services as it has been the public policy of the States or Commonwealth to undertake, and which are called "Business Undertakings" in New South Wales, should be included in the "needs," or whether it should be premised that they should pay for themselves.

It was in recognition of these needs that it was provided by section 87 of the Commonwealth Constitution Act, popularly known as the "Braddon" section, that during the first ten years of the existence of the newly-created Australian Commonwealth there should be returned to the States three-fourths of the net revenue from Customs and Excise; also, that such proportion should continue to be returnable after the ten-year period until the Commonwealth Parliament should decide what other disposition of these revenues should be made.

During the early years of the experience of the Commonwealth the question of the policy to be pursued at the expiry of the period of ten years named in the Braddon section was not immediately pressing, because (1) the needs of the Federation had not become sufficiently urgent to cause a necessity for appropriating the full quarter allocated for Commonwealth requirements, and (2) the fact that a term of years had yet to ensue before a fresh arrangement could be made under the Constitution, tended to the postponement of the determination of a question which was fully recognised to be intricate and difficult of solution.

Towards the close of the ten-year period, however, it became evident that more revenue would be required to enable the Federal Government to fulfil its assigned functions. A number of conferences were held by the Premiers of the several States, and attempts were made to devise an acceptable plan relating to the allocation of the Customs and Excise revenue, but until the year 1909 a definite agreement was not reached. In that year it was agreed that the amount to be returned should be 25s. per head of population, and the original proposal was that the Constitution should be altered to provide that payment. At the subsequent necessary referendum, however, the proposal was defeated by a small majority, and the Surplus Revenue Act of 1910 was passed by the Commonwealth Parliament. The Act provides that for ten years, from 1st July, 1910, and thereafter, until Parliament provides otherwise, the Commonwealth shall pay to each State by monthly instalments an annual sum amounting to 25s. per head of its population.

This measure was a temporary expedient, and the matter has been discussed at length by representatives of the Government of the Commonwealth and of the States in conference many times without reaching

finality. The last conference of Premiers was held in May, 1920, and continued in July, but although the parties arrived at satisfactory agreements upon several important matters, some involving heavy expenditure, they were unable to agree upon the two most important questions of finance, namely, the co-ordination of borrowing, and the per capita payment to the States.

It is interesting to consider the following table, which shows, taking the combined expenditure of the Commonwealth and States on administrative or governmental functions, that is, exclusive of business undertakings, the proportion of the total expenditure which was incurred by the States and by the Commonwealth in 1901-2, the first year of the Commonwealth, in 1909-10, the year before the commencement of the Surplus Revenue Act, in 1913-14, the year before the War, and in 1919-20, the latest year. The table shows also the proportion of Customs and Excise revenue retained by the Commonwealth in each of those years:—

Year.	Proportion of Total Expenditure (exclusive of Business Undertakings).		Proportion of Customs and Excise retained by Commonwealth.
	By States.	By Commonwealth.	
1901-02 ...	per cent. 85	per cent. 15	per cent. 15
1909-10 ...	79	21	25
1913-14 ...	73	27	56
1919-20 ...	71	29	69

In 1919-20, expenditure by the Commonwealth on war services has not been included for the purposes of this statement.

The following statement shows the extent to which the States' revenues are dependent on the per capita payments from the Commonwealth. It gives the proportion per cent. of the revenue (excluding receipts of business undertakings) of each State from the principal sources in 1919-20, and it is obvious that if the Commonwealth payments were reduced materially the States could balance their accounts only by severe economy or by heavy increases in taxation.

State.	Proportion of Revenue obtained from—				
	Commonwealth Payments.	Taxation.	Land.	All Other Sources.	Total.
New South Wales ...	per cent. 23·1	per cent. 46·5	per cent. 17·9	per cent. 12·5	per cent. 100
Victoria ...	25·0	42·7	5·1	27·2	100
Queensland ..	14·2	52·6	20·4	12·8	100
South Australia ...	18·3	44·1	8·6	29·0	100
Western Australia ...	20·6	29·0	14·1	36·3	100
Tasmania ...	27·4	46·6	7·7	18·3	100
All States ...	21·2	45·0	13·8	20·0	100

The receipts of business undertakings have been excluded on the assumption that the charges for those services should be fixed to meet the expenditure thereof.

The next statement shows the principal sources of revenue and the principal heads of expenditure of the States and of the Commonwealth in 1919-20, and is included to show the relation of the various States to each other, and of all the States to the Commonwealth.

Heading.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	All States.	Commonwealth.
<i>Revenue.</i>								
	£	£	£	£	£	£	£	£
GOVERNMENTAL--								
Payments by Commonwealth ..	2,472,717	1,847,085	892,836	578,094	598,273	†357,630	6,746,635	..
Taxation--								
Customs and Excise ..	..	..	..	..	..	..	..	21,574,559
Income Tax ..	2,308,567	915,551	2,024,316	662,384	271,388	279,476	6,460,382	12,848,123
Land Tax ..	2,834	314,217	459,188	146,356	46,415	87,785	1,056,775	2,110,306
Probate Duties ..	1,060,650	881,423	698,382	192,540	121,951	56,271	3,005,217	1,441,817
Other ..	1,590,767	1,048,576	142,859	390,570	404,443	192,044	3,769,259	3,872,588
Total Taxation ..	4,992,518	3,119,767	3,323,745	1,391,830	844,197	609,570	14,291,633	41,847,690
Land ..	1,915,439	377,633	1,290,198	270,881	408,800	100,024	4,362,975	..
Other Public Services ..	543,278	573,274	115,162	417,065	879,348	116,005	2,649,132	249,991
Other Revenue ..	791,501	1,438,052	693,725	500,739	175,605	124,273	3,723,895	3,672,842
Total Governmental ..	10,685,153	7,400,811	8,315,666	3,158,609	2,906,223	1,307,508	31,774,270	45,770,523
Business Undertakings ..	17,965,043	8,465,373	4,978,077	3,424,179	2,957,278	507,523	38,297,473	7,012,225
Total Revenue ..	28,650,496	15,866,184	11,293,743	6,582,788	5,863,501	1,815,031	70,071,743	52,782,748
<i>Expenditure.</i>								
GOVERNMENTAL--								
Administrative and Departmental ..	11,018,130	5,875,667	4,193,925	2,459,969	2,076,260	766,375	26,390,326	6,651,167
Interest, excluding Business Undertakings ..	1,074,896	392,136	773,453	541,902	678,256	368,710	3,829,359	911,250
Sinking Fund and Redemptions ..	6,976	350,100	..	10,000	314,442	95,002	785,520	1,312,812
Defence ..	..	..	..	..	..	..	..	2,912,620
War Services, including Pensions and Interest ..	..	..	..	..	..	..	..	24,751,908
Total Governmental ..	12,100,002	6,620,908	4,967,378	3,011,871	3,068,958	1,230,093	31,005,205	86,539,767
BUSINESS UNDERTAKINGS--								
Working Expenses ..	12,851,435	6,278,106	4,407,437	2,270,480	2,387,864	400,619	23,595,941	6,508,676
Interest and Sinking Fund ..	5,258,576	2,847,450	1,892,095	1,174,688	1,074,903	197,589	12,445,301	476,723
Total Business Undertakings ..	18,110,011	9,125,556	6,299,532	3,445,168	3,462,767	598,208	41,041,242	6,985,399
New Works ..	..	..	..	..	..	..	..	312,735
Payments to States ..	..	..	..	..	..	..	..	6,720,492
Total Expenditure ..	30,210,013	15,752,459	11,266,910	6,437,039	6,531,725	1,828,301	72,046,447	50,558,388

* Includes other Stamp Duties—not shown separately.

† Includes £90,000, special grant.

In the above table the amounts shown as expended as interest on the capital expenditure on business undertakings were known absolutely in New South Wales, but were estimated for the other States, where the information is not known definitely, on the assumption that the average rate of interest paid on the whole public debt was the rate on the loan expenditure of these undertakings. It is believed that the error due to this assumption is not large.

The administrative and departmental services of the States comprise such important matters as Education, Hospitals and Charities, Police and Law, Local Government, Mines, Agriculture, and Forestry; and of the Commonwealth, Invalid and Old Age Pensions, Maternity Allowances, Defence, and Trade and Customs.

Relatively to population, the heads of Revenue and Expenditure of New South Wales, of all the States combined, and of the Commonwealth, in 1919-20 appear as follow:—

Heading.	Per head of population.		
	New South Wales.	All States.	Commonwealth.
<i>Revenue.</i>			
	£ s. d.	£ s. d.	£ s. d.
GOVERNMENTAL—			
Payments by Commonwealth...	1 4 9	1 5 8	...
Taxation—			
Customs and Excise ... ..	...	...	4 2 3
Income Tax	1 3 1	1 4 8	2 9 0
Land Tax ... ..	...	0 4 0	0 8 0
Probate Duties	0 10 8	0 11 6	0 5 6
Other	0 15 10	0 14 4	0 14 9
Total Taxation	2 9 7	2 14 6	7 19 6
Land	0 19 2	0 16 8	...
Other Public Services	0 5 5	0 10 1	0 0 11
Other Revenue	0 7 11	0 14 2	0 14 0
Total Governmental	5 6 10	6 1 1	8 14 5
Business Undertakings... ..	8 19 8	7 6 0	1 6 9
Total Revenue	14 6 6	13 7 1	10 1 2
<i>Expenditure.</i>			
GOVERNMENTAL—			
Administrative and Departmental... ..	5 10 5	5 0 7	1 5 5
Interest, excluding Business Undertakings... ..	0 10 9	0 14 7	0 3 5
Sinking Fund and Redemptions	0 0 1	0 3 0	0 5 0
Defence ... ..	...	...	0 11 1
War Services, including Pensions ... ..	...	...	4 14 4
Total Governmental	6 1 3	5 18 2	6 19 3
BUSINESS UNDERTAKINGS—			
Working Expenses	6 8 7	5 9 0	1 4 10
Interest and Sinking Fund	2 12 7	2 7 5	0 1 10
Total Business Undertakings... ..	9 1 2	7 16 5	1 6 8
New Works ... ..	...	...	0 1 2
Payments to States ... ..	...	...	1 5 7
Total Expenditure	15 2 5	13 14 7	9 12 8

The payments by the Commonwealth to all the States in 1919-20 represented 25s. 8d. per head of population, the excess of 8d. per head over the 25s. mentioned above being due to a special payment to Western Australia, and a special grant of £90,000 to Tasmania. Under the Surplus Revenue Act of 1910 a moiety of the special payment to Western Australia is deducted from the amounts payable to the State at the rate of 25s. per head, so that the sum actually paid to New South Wales in 1919-20 represented only 24s. 9d. per head.

The Commonwealth Constitution Act of 1901 empowered the Commonwealth to take over from the States their public debts as existing at the establishment of the Commonwealth. In 1910 a proposed law to alter the Constitution so as to authorise the transfer of all the debts incurred by the States was ratified by means of a referendum, but no further action has been taken.

The public debts of the State as at 30th June, 1920, amounted to £416,577,938, and of the Commonwealth to £381,415,317, of which £335,496,490 was incurred on account of the war. The following table shows the public debt of each State and of the Commonwealth, also the total amount of interest payable. In the statement on page 284 of the finances of the States and Commonwealth the interest payable appears partly under Governmental Services and partly under Business Undertakings.

State.	Public Debt.†		Interest Payable.	
	Total.	Per Head.	Total.	Per Head.
	£	£ s. d.	£	£ s. d.
New South Wales... ..	*152,776,082	75 7 11	*6,563,040	3 4 10
Victoria	87,647,739	58 2 5	3,288,100	2 3 7
Queensland... ..	68,948,930	94 1 0	2,821,642	3 17 0
South Australia	43,753,146	92 9 8	1,843,232	3 17 11
Western Australia	46,822,003	138 8 1	1,858,467	5 9 10
Tasmania	16,630,038	76 2 11	691,816	3 3 4
All States	416,577,938	78 12 10	17,066,297	3 4 5
Commonwealth—				
War Debt	335,496,490	63 18 10	15,905,800	3 0 7
Other	45,918,827	8 15 0	2,177,000	0 8 4
Total Commonwealth ..	381,415,317	72 13 10	18,082,800	3 8 11
Grand Total	797,993,255	151 6 8	35,149,097	6 13 4

* Exclusive of Closer Settlement Debentures.

† Gross amount—Sinking Funds not deducted.

The Public Debt as shown above appears large, but no less than 75 per cent. of the total amount, ranging from 57 per cent. in Western Australia to 81 per cent. in New South Wales, has been spent on works of a reproductive character, such as Railways, Tramways, Water Supply, Sewerage, Harbours, and Rivers. The balance of the debt has been expended on other necessary works or services, namely, Roads, Bridges, Industrial Undertakings, Promotion of Agriculture, Assistance to Returned Soldiers, Aid to Farmers, and other matters, which, although not returning direct revenue, have assisted in the development of the State.

With regard to the Commonwealth Debt, the War expenditure accounts for 88 per cent. of the total liability.

PRIVATE FINANCE.

MINTING.

The Royal Mint of England has three branches in Australia, viz., one each at Sydney, Melbourne, and Perth. The earliest branch, at Sydney, was opened on the 14th May, 1855.

Gold coins only are struck at the Sydney Mint; silver and bronze Australian coins are struck at the London Mint and forwarded to the Sydney Branch, for distribution at the order of the Commonwealth Treasurer. The value of gold coin and bullion issued up to the end of 1919 was £146,929,752, of which £139,966,500 represented coin, the value of sovereigns being £135,185,500, and of half-sovereigns, £4,781,000. Coins of the latter denomination were not issued from 1917 to 1919.

The gold bullion issued from the Mint includes pure gold in small quantities for industrial use, but the bulk consists of bars of fine gold issued to local banks. The amount of gold bullion issued during 1919 was valued at £117,000, the total from 1855 to the end of 1919 being 1,690,128 oz., valued at £6,963,252.

The first issue of bronze coin from the Sydney Mint took place in 1868, and of silver in 1879, the values of each to the end of the year 1910 being bronze £103,450, and silver £1,239,400. The issue of British silver and bronze coin in the Commonwealth ceased in 1910, and Australian coins were first issued in that year.

Australian silver and bronze coins issued to the end of 1919 from the Sydney Mint were valued at £1,403,420. The values of the several coins issued in 1918 were—Florins, £25,000; shillings, £10,000; and sixpences, £1,700; the total value of the year's issue being £36,700. Silver coins were not issued in 1919.

The coinage or nominal value of silver per standard ounce is 5s. 6d., and the average London market price per ounce during 1919 was 4s. 10-31d., the difference, Os. 7-69d., representing the seigniorage, or gross profit. After allowing for mint expenses, the net profit accrues to the Commonwealth Government, which received £103,285 and £7,461 respectively as net profits from Australian silver and bronze coinage in 1919. The average price of standard silver in the London market in each year since 1911 has been as follows:—

Year.	Price of Silver per standard oz.	Year.	Price of Silver per standard oz.
	s. d.		s. d.
1911	2 0-56	1916	2 7-28
1912	2 4-06	1917	3 4-93
1913	2 3-56	1918	3 11-77
1914	2 1-19	1919	4 10-31
1915	1 11-67	1920	5 1-21

Light gold coins in parcels of not less than £50 nominal value are received and recoined free of charge, but depositors are required to bear the loss by abrasion. The nominal value of the gold coin withdrawn from circulation during 1915 was £663, and for the whole period since the opening of the Mint £1,084,327. The influence of the War on the currency of the British Empire is evidenced in the fact that no gold coins were withdrawn from circulation during the years 1916 to 1919.

Worn British silver coin of the value of £56,500 was withdrawn from circulation through the Sydney Mint during 1920, and the aggregate value withdrawn to the end of that year was £705,072. No Australian silver coins have yet been withdrawn from circulation.

The receipts of the Mint are paid into the Consolidated Revenue of New South Wales, and represent charges for coining gold, fees for assays, &c., and profits on the sale of silver. The Mint retains all silver contained in deposits, but payment is made for all silver in excess of 8 per cent. of the gross weight at a rate fixed by the Deputy Master. The price paid from the 3rd February, 1921, was 2s. 6d. per ounce fine.

For assaying and coining gold the charge is 1d. per ounce standard, and a charge is made for melting and refining gold insufficiently treated for direct conversion into coin, the maximum being at the rate of 3d. per ounce gross, and the minimum 1d., with an additional 1s. per ounce on deposits containing more than 5 per cent. of base metal. The minimum charge on any one deposit is 6s., except in the case of deposits containing more than 5 per cent. of base metal, when the minimum charge is 10s. 6d.

The cost of maintenance of the Sydney Branch of the Royal Mint is borne by the State Government, a statutory endowment of £15,000 being set apart annually for that purpose, and additional sums are appropriated when required, the total grants for 1919 being £16,500. Special votes for construction, repairs, and furniture expended by other departments have also been made. The expenditure from Consolidated Revenue during 1919 amounted to £16,930, and the total receipts amounted to £10,968, showing a net loss to the State of £5,962 on the year's transactions.

CURRENCY AND COINAGE.

The coins current in New South Wales in 1909, when the Commonwealth Coinage Act was passed, corresponded with those of the monetary system of the United Kingdom, and were issued by the Royal Mint of England through its Sydney Branch.

The Commonwealth Treasurer was given power under that Act to issue silver and bronze coin of specified denominations. A nickel coinage was also authorised, but has not been issued. The principal variation of the Australian from the British system is the elimination of the half-crown from the silver coinage of the Commonwealth.

A tender of payment made in British or Australian gold coins is legal for any amount, in silver coins for a maximum amount of forty shillings, and in bronze for a maximum amount of one shilling.

For gold coins the standard fineness is $\frac{11}{12}$ fine gold, $\frac{1}{12}$ alloy, or millesimal fineness 916.6; for silver coins, $\frac{37}{40}$ fine silver, $\frac{3}{40}$ alloy, or millesimal fineness 925; bronze coins are of mixed metal—copper, tin, and zinc.

Standard or sovereign gold of 22 carats fineness is worth £3 17s. 10½d. per ounce, which is the price paid for the gold contained in deposits sent to the Sydney Branch of the Royal Mint for melting, assaying, and coining; pure or 24-carat gold is worth £4 4s. 11½d. per oz.

The nominal value of one ounce of silver coined into eleven sixpences is 5s. 6d., and of one pound (avoirdupois) of bronze coined into pence 4s., and into half pence or farthings 3s. 4d.

PAPER CURRENCY.

Bank Notes.

Prior to 1910 the control of paper currency was vested in private banking institutions which had used their right to issue bank notes. The original purpose of the note issue was to obviate the necessity for keeping gold

reserves in branch banks, and originally the circulation was confined practically to country districts. In New South Wales the note currency is subject to a tax at the rate of 2 per cent. per annum, and the Commonwealth Government has imposed a 10 per cent. tax, with the result of practically forcing the notes of the trading banks out of circulation.

The total liability in notes and bills of banking institutions operating in New South Wales in 1900, and at intervals since 1910, is shown in the following table, the figures being given as recorded for the quarter ended the 31st December of each year:—

Year.	Amount in Circulation.		
	Notes.	Bills.	Total.
	£	£	£
1900	1,447,641	209,995	1,657,546
1910	2,243,128	370,199	2,613,327
1911	400,784	411,792	812,576
1915	91,559	426,597	518,156
1916	84,702	575,248	659,950
1917	76,355	646,332	722,687
1918	70,972	704,926	775,898
1919	63,178	768,999	832,177
1920	72,310	1,074,453	1,146,763

Australian Notes.

As a consequence of the Australian Notes Act, 1910-1914, the Commonwealth Treasurer was authorised to issue notes, which are legal tender throughout the Commonwealth, and are redeemable in gold at the seat of the Federal Government. These notes were issued in the following denominations:—10s., £1, £5, and £10, and any multiple of £10. The Act was repealed by the Commonwealth Bank Act, 1920, which provided for the establishment of a Note Issue Department of the Bank, under the management of a Board composed of the Governor of the Bank (Chairman), and three other directors, to which all the assets and liabilities of the Treasurer under the Australian Notes Act were transferred. The Board may print, issue, re-issue, and cancel Australian notes, and must hold in gold coin and bullion a reserve of an amount not less than one-fourth of the amount of notes issued. The issue of 5s. notes is also authorised.

The value of the Australian notes in circulation on the 30th June, 1920, was £56,949,030, and the gold reserve held against this note issue was £23,658,092, representing 41·54 per cent. of the circulation; on 27th December, 1920, the value of the notes in active circulation in the hands of the public was £28,555,915 and notes valued at £29,095,486 were held by banks; the gold reserve amounted to £23,712,480, being 41·13 per cent. of the total circulation; and 83·03 per cent. of the notes in active circulation.

MONEY ORDERS AND POSTAL NOTES.

Exchange by means of money orders and postal notes is conducted by the Post and Telegraph Department of the Commonwealth. Remittances may be forwarded by money order from the principal post offices in New South Wales to other parts of the world, either direct to the place of payment if within the Commonwealth, or through intermediary agencies to places

outside Australia. The commission charged ranges from 6d. for amounts not exceeding £2 to 2s. for amounts above £17 and up to £20 if payable in the Commonwealth; the charges for money orders payable in the United Kingdom are 6d. up to £2 and 3d. for each additional £1. Special rates are chargeable for the United States. The money-order and postal-note systems are both effective with regard to small remittances within the State, but as public convenience is met by the postal note the money-order system is confined almost entirely to amounts exceeding £1.

The money-order system was initiated in January, 1863. In that year there were 3 orders issued for every hundred persons in New South Wales, and the total value of the orders was £53,682. During the year ended the 30th June, 1920, the total number of orders issued was 890,837, or 45 for every one hundred persons, and the total value £5,235,409, as shown in the following statement:—

Where Payable.	Issued in New South Wales.		Where Issued.	Paid in New South Wales.	
	No.	Value.		No.	Value.
In New South Wales	703,926	£ 4,338,224	In New South Wales	832,798	£ 4,378,605
In other States ..	102,090	532,745	In other States ...	129,362	720,392
Beyond the Commonwealth.	84,821	364,440	Beyond the Commonwealth.	56,025	268,714
Total ...	890,837	5,235,409	Total ...	1,018,185	5,367,711

Postal notes were first issued in New South Wales on the 1st October, 1893. The total number issued during the year ended the 30th June, 1920, was 4,315,887, of which 3,030,931 were for payment in the State, and 331,975 notes issued in other States were cashed in New South Wales. The commission ranges from $\frac{1}{2}$ d. on notes up to 1s. 6d. in value to 3d. on notes for amounts ranging from 10s. to £1. The poundage collected on postal-note issues in New South Wales during the same period was £28,675.

The transactions in 1895 and in subsequent years were as follow:—

Year.	New South Wales Postal Notes.			Postal Notes of Other Australian States Paid in New South Wales.
	Pa'd in New South Wales.	Pa'd in Other Australian States	Total Value.	
	£	£	£	£
1895	243,188	16,369	259,557	13,362
1900	462,087	26,396	488,483	25,362
1905	637,465	85,703	723,168	87,203
1910	910,136	182,000	1,092,136	129,304
*1916	1,155,445	266,770	1,422,215	123,057.
*1917	1,125,817	317,296	1,443,113	120,372
*1918	1,090,582	307,054	1,397,636	122,419
*1919	1,110,501	289,956	1,400,457	117,422
*1920	1,141,341	327,033	1,468,374	122,295

* Year ended 30th June.

BANKS.

Institutions which transact banking business are required under the Banks and Bank Holidays Act to furnish in a prescribed form quarterly statements of their assets and liabilities, and in 1920 they were required to furnish special returns under the Census Act of 1901. From these returns, and from the periodical balance-sheets issued by the banking companies, the information contained in the following tables has been prepared.

There are seventeen banking institutions, including the Commonwealth Bank of Australia, which transact ordinary business within the State.

The tables deal with the returns of fourteen banks except when otherwise specified.

Capital and Profits.

The paid-up capital of the banks doing business in New South Wales on the 30th June, 1920, exclusive of the Commonwealth Bank of Australia, the Comptoir National d'Escompte de Paris, and the Yokohama Specie Bank, was £22,944,369.

The following table shows the amount of the paid-up capital and reserve funds of the banks at intervals since 1895. The paid-up capital represents the amount contributed to each bank operating in New South Wales, irrespective of the countries in which it was subscribed:—

Year.	Banks.	Capital Paid up.	Reserve Funds.	Year.	Banks.	Capital Paid up.	Reserve Funds.
		£	£			£	£
1895	13	19,704,957	4,175,912	1916	15	18,953,756	13,614,142
1900	13	16,807,069	4,529,109	1917	15	19,685,604	14,082,000
1905	13	13,965,931	5,474,199	1918	14	19,360,499	14,657,000
1910	15	16,193,550	8,462,235	1919	14	20,751,314	16,002,000
1915	15	18,891,145	12,984,000	1920	14	22,944,369	17,410,000

The decrease in the year 1905 was due to the writing down of the capital of certain banks. During the next period the capital was materially increased by additional calls on shares, and by the commencement of operations in the State by two new banks. Against these increases must be placed the estimated deficiency in connection with the Special Assets Trust Company of the Commercial Bank of Australia.

The amount of dividend paid during 1895 and subsequent years by the banks, to which the preceding table relates, is shown below, also the average rate per cent. of dividend in relation to paid-up capital and reserves:—

Particulars.	1895.	1905.	1915.	1919.	1920.
Amount of dividend paid during year ...	£540,409	£893,288	£1,773,232	£1,996,151	£2,299,379
Average rate per cent. per annum of dividend ...	2.22	4.44	5.32	5.19	5.39

Liabilities within New South Wales.

The following statement shows the average liabilities within New South Wales, exclusive of those to shareholders. Up to 1905 the figures for

December quarter are given; from 1910 onward those for June quarter are shown. Interest-bearing deposits in the last six years include savings banks deposits in the Commonwealth Bank of Australia:—

Year.	Notes.	Deposits.			Other Liabilities.	Total Liabilities within N.S.W.
		At Interest.	Without Interest.	Total Deposits.		
	£	£	£	£	£	£
1890	1,503,404	25,114,127	9,932,310	35,046,437	278,792	36,828,633
1895	1,223,864	20,406,822	10,222,437	30,629,259	183,929	32,037,652
1900	1,447,641	20,009,081	12,224,510	32,233,591	288,499	33,963,731
1905	1,430,335	22,211,627	14,859,427	37,071,054	358,673	38,860,062
1910	1,801,807	26,642,873	23,512,712	50,155,585	471,233	52,428,625
1915	95,505	35,031,367	33,186,317	68,217,684	1,655,801	69,968,990
1916	87,316	36,435,167	43,610,878	80,046,045	2,650,093	82,783,460
1917	80,765	37,449,286	46,599,978	84,049,264	2,119,369	86,249,398
1918	73,615	40,363,818	46,125,775	86,489,593	2,417,424	88,980,632
1919	69,509	48,649,516	45,215,578	93,865,094	3,814,839	97,749,442
1920	73,265	50,495,134	52,878,126	103,373,260	2,562,273	106,008,799

The value of notes in circulation has declined steadily since 1915, a result due to the issue of the paper currency of the Commonwealth, and the consequent recall of notes issued by trading banks.

At the 30th June, 1920, deposits represented 97·5 per cent. of the liabilities (exclusive of those due to shareholders), and deposits not bearing interest 51·2 per cent. of the total deposits; corresponding figures for previous years were as under:—

Year.	Proportion of Deposits Not Bearing Interest to Total Deposits.	Proportion of Total Deposits to Liability to Public.	Year.	Proportion of Deposits Not Bearing Interest to Total Deposits.	Proportion of Total Deposits to Liability to Public.
	per cent.	per cent.		per cent.	per cent.
1890	28·4	95·1	1916	45·5	96·7
1895	33·4	95·6	1917	44·6	97·4
1900	37·9	94·9	1918	46·7	97·2
1905	40·1	95·4	1919	51·8	96·0
1910	53·1	95·7	1920	51·2	97·5
1915	51·4	97·5			

Assets within New South Wales.

The following table shows the average assets within New South Wales, and in order to institute a comparison between the figures of the various banks, necessary adjustments have been made by excluding from the assets the balances due from branches and agencies outside New South Wales:—

Year.	Coin, Bullion, and Australian notes.	Advances.	Landed Property.	Other Assets.	Total Assets within N.S.W.
	£	£	£	£	£
1890	5,659,057	41,623,049	1,601,589	2,796,100	51,679,795
1895	7,516,278	35,707,153	1,919,017	479,881	45,622,329
1900	6,126,126	34,385,388	1,874,099	650,814	43,036,427
1905	8,823,260	32,447,659	1,799,231	623,987	43,694,137
1910	12,980,593	37,482,907	1,824,349	1,014,456	53,302,305
1915	22,102,401	51,379,741	2,108,633	1,807,112	77,397,887
1916	24,778,481	59,101,909	2,255,032	2,789,703	88,925,125
1917	23,330,449	63,031,127	2,348,946	2,373,983	91,084,505
1918	22,498,864	73,015,430	2,589,946	2,769,934	100,674,174
1919	23,202,887	88,808,710	2,378,000	4,656,664	119,046,261
1920	23,484,721	89,063,144	2,477,601	4,246,969	119,272,435

Coin and bullion together represent only 8·8 per cent. of the average assets of the banks, and advances represent in the aggregate 74·7 per cent. of the total assets held by the banks against their liabilities.

The proportion of metallic reserves which banking institutions should keep constantly on hand is not fixed by any enactment, and consequently the amount of coin and bullion varies considerably. The ratios of coin, bullion, and Australian notes for various periods from 1890 are shown below :—

Year.	Proportion of Coin, Bullion, and Australian Notes—		Year.	Proportion of Coin, Bullion, and Australian Notes—	
	To Total Liabilities.	To Deposits at Call and Note Circulation.		To Total Liabilities.	To Deposits at Call and Note Circulation.
	per cent.	per cent.		per cent.	per cent.
1890	15·4	49·5	1916	27·9	56·7
1895	16·5	34·7	1917	25·6	50·0
1900	18·0	44·8	1918	22·3	48·7
1910	24·8	51·3	1919	19·5	51·2
1915	28·6	66·4	1920	19·7	44·4

Deposits and Advances by Banks.

Under the head of advances are included notes and bills discounted, and all other debts due to the banks. The bulk of the advances are secured by the mortgage of real estate, or by the deposit of deeds over which the lending institutions acquire a lien, but the extent to which trade bills are discounted is not disclosed. The following table supplies a summary of these transactions at various dates from 1890 :—

Year.	Deposits.	Advances.	Ratio of Advances to Deposits.	Advances per cent. of Total Assets.	Amount of Advances per Head.
	£	£	per cent.		£ s. d.
1890	35,046,437	41,623,049	118·8	80·5	37 2 0
1895	30,629,258	35,707,153	116·6	78·3	28 5 0
1900	32,233,591	34,385,388	101·2	79·9	25 4 0
1905	37,071,054	32,447,659	87·5	74·3	22 1 9
1910	50,155,585	37,482,907	74·7	70·3	23 4 6
1915	68,217,684	51,379,741	75·3	66·6	27 10 1
1916	80,046,045	59,101,969	73·8	66·5	31 13 10
1917	84,049,264	63,031,127	75·0	69·2	33 12 7
1918	86,489,593	73,015,430	84·4	72·5	38 5 1
1919	93,865,094	88,808,710	94·6	74·6	45 5 11
1920	103,373,260	89,063,144	86·2	74·7	43 19 1

In June quarter, 1920, the advances showed an increase over the previous year's figure of £254,400, the average annual increase during the previous quinquennium being over £8,000,000. The advances in connection with the wheat harvest were less than usual owing to the unfavourable season, and the amount per head decreased by £1 6s. 10d., while the ratio of advances to total assets remained the same as in the previous year.

Deposits increased by £9,508,100, and the ratio of advances to deposits declined from 94·6 to 86·2 per cent. ; the fixed deposits increased by £7,662,500, and the deposits without interest by £1,845,600.

A classification of fixed deposits and of current accounts according to the amount of deposit at or about 30th June, 1920, is shown below; the figures are exclusive of particulars of the Commonwealth Bank, which are not available:—

Classification.	Current Accounts.		Fixed Deposits.		Total Deposits.	
	Number of Depositors.	Amount of Deposits.	Number of Depositors.	Amount of Deposits.	Number of Depositors.	Amount of Deposits.
		£		£		£
£200 and under ...	138,316	6,861,694	19,616	2,311,361	157,932	9,173,055
£201- £500 ...	21,115	6,631,746	13,259	4,782,938	34,374	11,414,684
£501- £1,000 ...	8,669	6,044,161	7,539	5,899,738	16,208	11,943,899
£1,001- £2,000 ...	4,127	5,753,740	3,153	4,678,921	7,280	10,432,661
£2,001- £3,000 ...	1,138	2,570,722	894	2,333,276	2,032	4,903,998
£3,001- £4,000 ...	568	1,840,924	319	1,158,742	887	2,999,666
£4,001- £5,000 ...	302	1,630,521	395	1,900,880	697	3,531,401
£5,001-£10,000 ...	625	3,344,651	426	3,424,564	1,051	6,769,215
£10,001-£15,000 ...	136	1,624,475	65	826,113	201	2,450,588
£15,001-£20,000 ...	67	1,356,646	42	778,569	109	2,135,215
Over £20,000 ...	96	8,218,687	58	4,779,924	154	12,998,611
Total ...	175,159	45,877,967	45,766	32,875,026	220,925	78,752,993

Of the total number of depositors there were 87 per cent. whose deposits did not exceed £500, and the money held on their account represented 26·2 per cent. of the total deposits; depositors of £2,000 and under represented 97·6 of the total, and their money 54·6 of the deposits. Small deposits were more numerous in current accounts of which 79 per cent. did not exceed £200 as compared with 42·9 per cent. of the fixed deposits, the amounts of their deposits being 15 per cent. and 7 per cent. respectively of the total deposits; persons wishing to place at interest small sums of money generally avail themselves of the facilities offered by the savings banks.

Classification.	Proportion of Depositors in each Group.			Proportion of Deposits in each Group.		
	Current Accounts.	Fixed Deposits.	Total Deposits.	Current Accounts.	Fixed Deposits.	Total Deposits.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
£200 and under ...	79·0	42·9	71·5	15·0	7·0	11·7
£201- £500 ...	12·0	29·0	15·5	14·5	14·6	14·5
£501- £1,000 ...	4·9	16·5	7·3	13·2	18·0	15·2
£1,001- £2,000 ...	2·3	6·9	3·3	12·5	14·2	13·2
£2,001- £3,000 ...	·6	1·9	·9	5·6	7·1	6·2
£3,001- £4,000 ...	·3	·7	·4	4·0	3·5	3·8
£4,001- £5,000 ...	·2	·9	·3	3·5	5·8	4·5
£5,001-£10,000 ...	·4	·9	·5	7·3	10·4	8·6
£10,001-£15,000 ...	·1	·1	·1	3·5	2·5	3·1
£15,001-£20,000 ...	·1	·1	·1	3·0	2·4	2·7
Over £20,000 ...	·1	·1	·1	17·9	14·5	16·5
Total ...	100	100	100	100	100	100

INTEREST, DISCOUNT, AND EXCHANGE RATES.

The interest on fixed deposits is from 2 to 3 per cent. for sums deposited for six months, for twelve months' deposits the rate is 4 per cent., and for

two years, $4\frac{1}{2}$ per cent. The rates quoted are low, and the strength of the deposits shows that money equal to requirements is freely subscribed.

Under normal conditions the rate of interest paid on fixed deposits is uniform for all banks, and discount and overdraft rates fluctuate with the interest paid to depositors.

The bank exchange rate on London, at sixty days' sight, is on the average about 1 per cent., but it is subject to some variations. In May, 1893, it was $3\frac{1}{2}$ per cent., the banks at that date requiring all their available assets.

The interest rates allowed on deposits for twelve months, and charged on overdrafts, also the discount and exchange rates at intervals from 1890 to 1920 were as follow :—

Year.	Bank Rates of Interest.		Bank Discount Rates.		Exchange Rate on London at 60 Days' Sight.	
	Allowed on Deposits for Twelve Months.	Charged on Overdrafts.	Bills at Three Months.	Bills over Three Months.	Buying.	Selling.
1890	per cent. $4\frac{1}{2}$	per cent. 9	per cent. 7	per cent. 8	per cent. $99\frac{3}{4}$ to 100	per cent. $100\frac{1}{4}$ to $101\frac{1}{4}$
1900	3	6 to 7	5 to $5\frac{1}{2}$	$5\frac{1}{2}$ to $6\frac{1}{2}$	$98\frac{3}{4}$,, $99\frac{1}{4}$	$100\frac{1}{4}$,, $100\frac{3}{4}$
1910	3	6 ,, $7\frac{1}{2}$	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, 99	$99\frac{3}{4}$,, $99\frac{7}{8}$
1915	$3\frac{1}{2}$ to 4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$100\frac{1}{4}$,, $100\frac{3}{4}$
1916	4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$100\frac{1}{4}$,, $100\frac{3}{4}$
1917	4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$99\frac{3}{4}$,, $100\frac{3}{8}$
1918	4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$99\frac{3}{4}$,, $100\frac{3}{8}$
1919	4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$99\frac{3}{4}$,, $100\frac{3}{8}$
1920	4	6 ,, 8	5 ,, 6	6 ,, 7	$98\frac{3}{4}$,, $99\frac{1}{4}$	$99\frac{3}{4}$,, $100\frac{3}{8}$

Banks' Exchange Settlement.

The Banks' Exchange Settlement Office, which was established in Sydney on the 18th January, 1894, is not a clearing-house in the accepted meaning of the term, since the exchanges are effected daily at the banks by the staff of each institution. The results of these operations are notified to the secretary of the Banks' Exchange Settlement, who establishes the daily credit of each bank with the "pool," which is under the control of three trustees, and consists of £750,000 in gold. This money is deposited in the vaults of three of the banks, and may not be circulated or distributed. The contributions to the "pool" are graduated according to the volume of the operations of the individual bank. The secretary notifies each institution daily of the amount of its credit with the "pool," and it is not permissible for any balance to remain below 25 per cent. of the fixed contribution. In the event of it reaching this margin, the bank is required to make up the deficiency with gold. The payment, however, is not made to the "pool," but to such other banks as may happen to have to their credit with the "pool" a larger sum than is required by the agreement. This arrangement retains the "pool" intact.

The growth in the volume of exchanges is shown in the following table :—

Year.	Amount of Exchanges.	Year.	Amount of Exchanges
	£		£
1895	108,509,860	1915	357,803,425
1900	144,080,314	1916	422,371,972
1910	274,343,666	1917	444,532,930
1911	304,488,435	1918	552,216,829
1912	330,621,122	1919	590,097,732
1913	348,741,175	1920	764,546,357
1914	353,068,040		

The transactions of this office have grown steadily since its establishment, and the large annual increases indicate a remarkable activity in trade, and afford an accurate commentary on the growth of the general prosperity of the State.

COMMONWEALTH BANK OF AUSTRALIA.

During 1911 the Federal Parliament passed an Act to provide for the establishment of a Government Bank, to be called the Commonwealth Bank of Australia. The Act confers on the Bank authority to carry on general banking business, and to exercise the functions of an ordinary bank of issue. In accordance with the policy of conserving the control of the Australian note issue in the hands of the Federal Treasurer, the bank was not authorised to issue notes until 1920, when, as stated on a previous page, the administration of the note issue was transferred to the Bank, and a separate department was established for its control.

The capital of the bank is fixed at £10,000,000, to be raised by the issue and sale of debentures, but no debentures have yet been issued. In addition to ordinary banking, a department for the transaction of savings bank business has been established.

The bank was inaugurated on the 15th July, 1912, by the opening of a postal savings bank department, but the ordinary banking business was not commenced until the 20th January, 1913.

The head office of the Commonwealth Bank is at Sydney, but the bank has offices and agencies throughout the States and Papua, as well as in New Zealand, London, Rabaul, and other parts of the world. Savings bank business is conducted at all the branches, and at agencies and post offices throughout the Commonwealth, Papua, and New Zealand.

The following statement shows the liabilities and assets of the Commonwealth Bank in New South Wales in the June quarter of each of the last five years:—

Particulars.	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£
Liabilities—					
Deposits at interest—					
Savings Department	2,551,085	3,533,812	4,237,590	5,139,350	5,296,606
Ordinary	1,403,288	1,381,626	2,456,097	6,309,694	8,890,139
Deposits without interest	9,480,235	13,492,367	10,628,957	7,951,358	7,940,139
Total deposits	13,434,608	18,407,805	17,322,644	19,400,402	22,126,884
Other liabilities	318,541	396,797	346,465	386,370	119,469
Total Liabilities	13,753,149	18,804,602	17,669,109	19,786,772	22,246,353
Assets—					
Coin and Bullion	196,390	633,260	1,327,363	1,117,214	801,713
Australian Notes	4,835,615	5,447,775	4,502,707	4,852,941	1,319,167
Advances	5,396,290	10,020,916	13,537,531	18,112,713	18,938,721
Landed Property	195,942	299,365	317,495	285,261	303,336
Other Assets	1,725,186	1,167,128	1,539,918	3,357,858	1,994,964
Total Assets	12,349,423	17,568,444	21,225,014	27,725,957	23,357,901

GOVERNMENT SAVINGS BANK OF NEW SOUTH WALES.

The Government Savings Bank of New South Wales is under the control of three Commissioners, and in addition to the Savings Department, they conduct business in connection with advances to farmers and others. The work of the Advance to Settlers Board relating to loans was transferred to the Commissioners as from 1st January, 1907, and departments were established for advances in connection with Closer Settlement Promotion, Irrigation Farms, and Homes. The conditions under which advances to settlers and to irrigation farmers are made are shown in the chapter relating to Agriculture. The work of the Closer Settlement Department was, however, transferred to the Department of Lands as from 1st July, 1919, and details are shown in the chapter relating to Land Settlement.

The Irrigation Farms Advance Department provided financial aid to settlers in the irrigation areas, but these farmers may now obtain loans from the Commissioner for Water Conservation and Irrigation, and no new advances have been made by the bank since 1918.

The Advances for Homes are made to enable persons to acquire homes or to pay off existing mortgages on their homes; particulars are shown in the chapter relating to Social Condition.

The loans current in each department of the bank at the end of the last five years were as follows:—

30th June.	Savings Bank.	Advance to Settlers.	Closer Settlement Promotion.	Advances for Homes.	Irrigation Farms.	Total Loans by Government Savings Bank.
	£	£	£	£	£	£
1916	2,472,613	2,513,332	1,819,708	492,115	19,767	7,317,535
1917	2,376,288	2,522,674	1,926,990	730,125	19,450	7,575,527
1918	2,263,279	2,544,054	2,185,326	983,160	15,659	7,991,478
1919	2,113,188	2,599,751	2,260,931	1,415,635	15,314	8,404,819
1920	1,929,974	2,903,885	*	2,176,583	13,927	7,024,369

* Transferred to Department of Lands.

In 1921 the departments of the bank were re-organised in terms of the Government Savings Bank (Rural Bank) Act, 1920, and business is conducted now in three separate departments, viz., the Savings, the Rural Bank, and the Advances for Homes. In the Rural Bank Department the Commissioners accept money on current account to be operated on by cheque, receive fixed deposits at interest, and issue deposit stock bearing interest and repayable on notice; with the approval of the Governor the operations may be extended to include the general business of banking.

The main purpose of the Rural Bank is to afford financial assistance to primary producers; advances may be made to new settlers on the basis of £ for £ on improvements, up to a maximum of £5,000; and as the deposits provide funds for lending purposes, overdrafts will be granted on approved security to persons concerned in rural pursuits.

On the 30th June, 1920, there were 142 branches and 503 agencies of the Government Savings Bank; the number of accounts was 867,538; the

balance at the credit of depositors, £44,427,441; and the interest paid to depositors during the year, £1,457,972. A classification of the deposits as at 30th June, 1920, is shown hereunder:—

Classification.	Number of Depositors.	Amount of Deposits.	Proportion in each Group.	
			Depositors.	Deposits.
	£	£	per cent.	per cent.
£100 and under	730,103	9,871,860	84.2	22.2
£100—£200	63,565	8,866,239	7.3	20.0
£200—£300	34,809	8,111,362	4.0	18.3
£300—£400	14,301	4,900,197	1.6	11.0
£400—£500	10,187	4,532,311	1.2	10.2
Over £500	14,573	8,145,472	1.7	18.3
Total	867,538	44,427,441	100	100

Deposits under £100 represented about 22 per cent. of the total amount, deposits between £100 and £500 about 60 per cent., and sums over £500 about 18 per cent. The rate of interest paid since 1st July, 1920, has been 4 per cent. on sums up to £500 for all accounts, and 3½ per cent. on any excess up to £1,000 on personal accounts, but without limit on the accounts of Friendly Societies, Trade Unions, and institutions or associations not carried on for trade or profit.

Combining the figures shown above with those of a similar table for trading banks, as shown on a previous page, it will be seen that, excluding those with the Commonwealth Bank, there were 913,304 deposits at interest amounting in the aggregate to £77,302,467; of these 813,284 or 89 per cent., representing £21,049,460 or 27 per cent. of the value, did not exceed £200, and deposits not exceeding £500 represented 97 per cent. of the total number and 56 per cent. of the total value. If current accounts are taken into consideration, the proportion not exceeding £200 is 89 per cent. of the number and 26 per cent. of the value, the corresponding figures for those not exceeding £500 being 99 per cent. and 52 per cent. respectively.

Deposits in Savings Banks.

The following statement shows the particulars of deposits in the savings banks in New South Wales at the end of each year of the decennium ended the 30th June, 1920. The returns of the savings department of the Commonwealth Bank are included in the figures for the last eight years.

At 30th June.	Number of Depositors.	Amount of Deposits.		
		Total.	Per Depositor.	Per head of Population.
		£	£ s. d.	£ s. d.
1911	522,251	23,381,014	44 15 4	14 1 5
1912	577,232	26,539,640	45 19 6	15 5 3
1913	647,124	29,568,282	45 13 10	16 6 10
1914	717,737	33,167,523	46 4 3	17 17 2
1915	755,835	35,562,649	47 1 0	19 0 7
1916	806,882	37,363,272	46 6 1	20 2 7
1917	872,351	40,836,747	46 16 3	21 17 4
1918	920,337	43,039,012	46 15 3	22 12 2
1919	984,951	47,070,342	47 15 9	24 0 2
1920	1,053,893	49,933,535	47 7 7	24 12 10

At 30th June, 1920, the deposits in the trading banks and the savings banks in New South Wales, including the Commonwealth Bank, amounted to £148,010,189, or £73 Os. 10d. per head of population.

An agreement exists between the various savings banks in Australia for the transfer of the money of depositors, and similar arrangements are in existence with the United Kingdom.

The deposits in the Savings Banks in New South Wales compare favourably with those of other States, as the following table shows:—

State.	Depositors, 30th June, 1920.	Amount of Deposits in all Savings Banks.	Average Amount.	
			Per Depositor.	Per Head.
	No.	£	£ s. d.	£ s. d.
New South Wales ...	1,053,893	49,933,535	47 7 7	24 12 10
Victoria	1,014,223	42,317,863	41 14 6	28 2 7
Queensland	361,149	17,909,571	49 3 8	24 5 11
South Australia...	377,435	15,496,514	41 1 2	32 16 0
Western Australia	204,005	7,096,573	34 15 9	21 4 11
Tasmania... ..	108,239	3,900,181	36 5 10	18 2 10
Northern Territory	987	57,103	57 17 2	13 9 2
Total	3,122,981	136,741,343	43 15 8	25 16 0

INCORPORATED COMPANIES.

The legislation relating to incorporated companies in New South Wales is contained principally in the Companies Act, 1899, the amending Acts of 1900, 1906, and 1907, the Companies (Death Duties) Act, 1901, and the Companies (Registration of Securities) Act, 1918. These enactments follow the general provisions of Imperial Acts relating to companies, with deviations embodying the results of local experience.

Under the Companies Act, 1899, the liability of members of limited companies may be fixed either by shares, or by guarantee; in unlimited companies no limitation is placed on the liability of members. A special feature of the Act is the embodiment of provisions for the formation and registration of companies in connection with the mining industry under the "No-Liability System," as previously defined in the No-Liability Mining Companies Act, 1896.

The formation of a company, association, or partnership of more than ten persons in a banking business, or of twenty in other businesses trading for profit, is prohibited, unless such company, association, or partnership is registered under the Act, or incorporated under some other enactment, by royal charter, or by letters patent. Special provision is made for associations formed to promote commerce, art, science, religion, charity, or other useful or beneficial objects.

An important amendment of the company law was made in 1918, when the Companies (Registration of Securities) Act was passed to provide for the registration of debentures issued by companies.

The following particulars relating to companies are recorded for the past five years.

Year.	Limited Companies.			No-Liability Mining Companies.		
	New Companies.	Nominal Capital.	Total Fees received.	New Companies.	Nominal Capital.	Total Fees received.
		£	£		£	£
1915	286	7,074,617	4,153	15	170,450	57
1916	156	4,187,075	3,068	7	125,009	40
1917	159	5,918,267	2,785	8	77,500	39
1918	221	6,428,907	4,013	15	238,500	51
1919	267	9,137,360	4,616	12	118,253	45

CO-OPERATIVE TRADING SOCIETIES.

Societies formed for the mutual benefit and advantage of the members only are registered under the Building and Co-operative Societies Act, 1901.

The transactions of co-operative societies during the last five years are given in the following table:—

	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Number of Societies	46	46	44	44	50
Number of Members	38,968	38,370	40,791	43,239	43,381
Liabilities—	£	£	£	£	£
Share Capital	253,185	274,409	310,776	348,341	319,309
Reserves and Net Profits ..	151,492	156,468	171,542	194,914	223,160
Other Liabilities	119,675	168,254	166,256	184,100	216,014
Total Liabilities	£ 524,352	599,131	648,574	727,355	788,483
Assets—					
Freehold, Plant, etc.	168,217	188,518	202,880	211,342	219,439
Stock	225,448	281,746	313,826	252,327	377,946
Other Assets	130,687	128,867	131,868	163,686	191,098
Total Assets	£ 524,352	599,131	648,574	727,355	788,483

Considering the amount of capital invested, the results are sufficiently satisfactory to justify the further development of these institutions. The majority of existing societies are engaged in the sale of groceries, provisions, boots, and clothing, or in the manufacture and supply of food and other commodities in general use. Outside the Sydney metropolitan area most of the societies are in the mining districts.

During the year 1919-20 the sales amounted to £2,478,801, and the expenses, including interest and depreciation, to £326,512, equal to 13·2 per cent. on the amount of sales. The balances of profit amounted to £200,497, but in five cases there were losses amounting to £1,684. The profit on sales was at the rate of 8·0 per cent.

BENEFIT BUILDING AND INVESTMENT SOCIETIES.

Under the existing law any number of persons may form a benefit building and investment society to enable members to erect or purchase dwellings, etc., by loans secured to the society by mortgage until the amount of the shares has been fully paid. These institutions are registered as permanent building societies or as Starr-Bowkett terminating building societies.

The aggregate liabilities, assets, &c., of permanent building societies for the last five years are shown in the following statement:—

	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Number of Societies	8	8	8	8	8
Liabilities—	£	£	£	£	£
Deposits... ..	504,493	488,051	485,139	485,910	485,764
Share Capital	272,958	287,502	291,375	293,012	298,920
Reserves... ..	133,986	146,469	143,125	138,102	142,705
Other Liabilities	23,915	34,362	43,791	53,117	57,435
Balance of Profit	33,390	27,465	31,557	52,826	63,171
Total	968,742	983,849	994,987	1,022,967	1,047,995
Assets—					
Advances	731,227	739,809	733,582	774,077	839,465
Other Assets	237,515	244,040	261,405	248,890	208,530
Total	968,742	983,849	994,987	1,022,967	1,047,995

The income of the societies operating in 1919-20 was £89,732, while the expenditure during the year amounted to £76,993.

Particulars relating to Starr-Bowkett Building Societies for the same years are shown below.

	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Number of Societies ...	109	109	106	114	119
Liabilities—	£	£	£	£	£
Members' Subscriptions.	995,749	1,076,112	1,221,961	1,333,832	1,443,803
Other Liabilities ...	36,892	37,210	42,127	38,828	53,438
Balance of Profit ...	94,752	115,009	130,624	146,410	164,956
Total ...	1,127,393	1,228,331	1,394,712	1,519,070	1,662,197
Assets—					
Advances ...	1,036,019	1,127,296	1,290,341	1,401,392	1,521,608
Other Assets ...	91,374	101,035	104,371	117,678	141,189
Total ...	1,127,393	1,228,331	1,394,712	1,519,070	1,662,197

FRIENDLY SOCIETIES.

The particulars relating to the membership, the sickness, and the mortality of Friendly Societies will be found in the chapter of this volume relating to Social Condition. The following tables will, therefore, deal with these societies from a financial standpoint only.

Receipts and Expenditure.

The receipts and expenditure of Friendly Societies during the ten years ended the 31st December, 1919, are shown in the following statement.

Year.	Receipts.				Expenditure.					
	Contributions.	Interest.	Other.	Total.	Sick Pay.	Funeral Donations.	Medical Attendance and Medicine.	Expenses of Management.	Other.	Total.
	£	£	£	£	£	£	£	£	£	£
1910	372,220	59,312	32,561	464,093	124,789	30,051	128,627	54,184	46,672	384,323
1911	413,027	64,261	38,043	515,331	148,576	35,359	143,040	59,154	45,989	435,118
1912	450,097	69,599	32,493	553,189	166,270	40,828	157,821	66,495	42,654	474,058
1913	489,698	75,038	37,365	602,101	173,451	45,952	170,594	69,226	41,914	501,137
1914	466,961	80,707	34,915	612,583	172,796	44,446	182,308	87,358	39,463	526,371
1915	491,923	87,591	34,597	614,116	177,198	50,131	182,705	88,419	23,767	522,220
1916	508,033	95,193	28,545	631,771	172,497	61,566	178,926	89,630	35,718	538,357
1917	524,341	109,947	53,433	678,726	168,986	69,371	178,789	96,330	40,349	554,325
1918	543,269	117,941	114,895	776,105	183,735	84,663	183,370	96,939	116,888	662,595
1919	551,278	117,524	40,740	709,542	274,929	89,265	186,801	106,115	59,501	716,611

The total amount disbursed in 1919 on account of benefits amounted to £550,995. The figures afford convincing evidence of the importance of the societies and of their immense value to the community. The enormous increase in sick pay during 1919 was directly due to the epidemic of influenza, which caused greater loss to the societies than the war.

The total number of members who left Australia on active service was 17,722, of whom 3,090 were killed. Claimants for sick pay numbered 2,591, and received sick pay to the amount of £41,988, while the total amount paid for death benefits was £86,062.

The apparent increase in the expenses of management since 1913 is due to the fact that the figures for those years include certain items of expenditure classified previously under the heading "Other."

Accumulated Funds.

The following comparative table shows the accumulated assets of all funds at the close of each of the last ten years.

Year.	Sickness and Funeral Funds.	Medical and Management Fund.	Other Funds.	Total.
	£	£	£	£
1910	1,297,017	75,048	48,080	1,420,145
1911	1,378,722	78,264	49,852	1,506,838
1912	1,463,502	82,538	51,715	1,597,755
1913	1,559,102	87,446	52,171	1,698,719
1914	1,641,704	88,256	54,971	1,784,931
1915	1,734,858	89,421	52,548	1,876,827
1916	1,820,708	101,092	48,471	1,970,271
1917	1,916,846	122,759	55,067	2,094,672
1918	1,954,085	190,995	63,102	2,208,182
1919	1,953,336	199,115	65,345	2,217,796

Prior to 1916 the sickness and funeral funds were required to be kept separate, but legislation passed in that year provided that where such funds were administered by one central body for the whole society they should be deemed to be one fund.

The following statement shows the receipts and expenditure during 1919, and the accumulated funds of the Friendly Societies in each State of the Commonwealth. The particulars for New South Wales include figures regarding a number of miscellaneous societies, which are medical institutes and dispensaries, registered under the Friendly Societies Act, though their benefits differ somewhat from those of the ordinary friendly society:—

State.	Receipts.	Expenditure.	Funds.	
			Total.	Per Member.
	£	£	£	£ s. d.
New South Wales	751,379	740,806	2,236,642	12 1 2
Victoria	664,526	680,943	3,056,666	21 3 9
Queensland	336,924	304,561	980,780	17 19 2
South Australia *	272,663	218,581	1,377,149	20 10 10
Western Australia	98,375	100,604	278,653	15 3 1
Tasmania	98,968	89,662	270,777	12 0 4
Total, Commonwealth	2,222,835	2,135,157	8,200,667	16 13 2

* Year 1918.

INSURANCE.

In New South Wales insurance companies are subject to the Companies Acts, but there is no legislation dealing specifically with the conduct of

nsurance business. The Life, Fire and Marine Insurance Acts of 1902 and 1917 were passed to provide for the protection of life insurance policies and annuities against creditors, and the issue of special policies in substitution for those lost or destroyed. The section of the 1902 Act relating to marine insurance was superseded by the Commonwealth Marine Insurance Act of 1909, and the amount of assurance payable on the death of children was limited by a Commonwealth Act passed in 1905.

LIFE ASSURANCE.

Particulars relating to life assurance institutions are obtained from the reports published by the companies and from official returns required under the Census Act of 1901. During 1920 there were eighteen institutions operating in the State. Of these, nine were local, four had their head offices in Victoria, one in New Zealand, one in the United Kingdom, and three in the United States of America. Eight of the companies are mutual, and ten are partly proprietary, the profits being divided between the shareholders and the policyholders. Several companies, uniting life with other classes of insurance, have local branches or agencies, but their transactions in life risks in this State are unimportant.

Ordinary Branch—New South Wales Business.

The business in force in the ordinary branch during the year 1919 in New South Wales only is given below :—

Institutions with Head Office in—	Policies in Force, exclusive of Annuities.	Amount Assured exclusive of Bonuses and Re-assurances.	Bonus Additions.	Total.	Annual Premiums Payable.
	No.	£	£	£	£
New South Wales ...	157,032	41,453,074	6,846,355	48,299,429	1,370,175
Victoria ...	45,505	10,203,169	193,227	10,396,396	384,659
New Zealand...	539	55,700	*	55,700	2,348
United Kingdom ...	111	35,411	*	35,411	1,085
United States ...	4,719	2,205,797	71,035	2,276,832	70,513
Total ...	207,906	53,953,151	7,110,617	61,063,768	1,828,780

* Not available.

Of the amount assured nearly 96 per cent. is with the Australasian societies, 77 per cent. being with institutions with head offices in New South Wales, and 19 per cent. with Victorian institutions; and 4 per cent. is with the American companies. The amount held by the British society is comparatively small as it does not now accept life business in New South Wales. The average amount of assurance, exclusive of bonuses and re-assurances, per policy held in Australasian societies is £255, in the British £319, and in the American £467.

The business may be classified broadly in three categories (1), whole-life assurance payable at death only; (2), endowment assurance payable at the end of a specified period or at death prior to the expiration of the period; (3), endowment payable only in case of survival for a specified period.

Particulars regarding each class of assurance in the ordinary branch in force in 1918 and 1919 are shown below :—

Classification.	1918.				1919.			
	Policies in Force.	Amount Assured exclusive of Bonuses and Re-assurances.	Bonus Additions.	Annual Premiums Payable.	Policies in Force.	Amount Assured exclusive of Bonuses and Re-assurances.	Bonus Additions.	Annual Premiums Payable.
	No.	£	£	£	No.	£	£	£
Assurance...	84,337	31,277,336	4,880,940	992,879	87,444	33,534,943	5,141,726	1,045,809
Endowment Assurance	103,094	17,823,175	1,847,458	676,474	106,235	18,684,162	1,935,678	711,726
Endowment	14,128	1,712,190	33,963	71,896	14,227	1,734,046	33,213	71,245
Total...	201,559	50,812,701	6,762,361	1,741,249	207,903	53,953,151	7,110,617	1,828,780

The majority of the policies, 51 per cent., are in the form of endowment assurance; whole-life policies represent 42 per cent. and endowment 7 per cent. of the total number. The amount assured under the whole-life policies represents 62 per cent. of the total amount (exclusive of bonus additions), the average per policy being £384; endowment assurance policies, with an average of £176 per policy, cover 35 per cent. of the total amount assured; and endowment policies, with an average of £122 per policy, 3 per cent.

Industrial Branch—New South Wales Business.

In addition to the ordinary transactions in life assurance, a large industrial business has grown up during recent years. The policies in this class are usually for small amounts, and the premiums in most cases are payable weekly or monthly.

Industrial business in New South Wales is transacted only by Australasian companies, of which nine combine industrial with ordinary business, while one limits its operations to industrial and medical benefit transactions.

The following table shows the industrial business in force in New South Wales during 1919 :—

Institutions with Head Office in—	Policies in Force, Exclusive of Annuities.	Amount Assured, Inclusive of Bonuses.	Annual Premiums Payable.
	No.	£	£
New South Wales ...	199,741	5,829,888	348,580
Victoria ...	86,596	2,207,779	172,687
New Zealand...	8,236	239,119	14,399
Total ...	294,573	8,276,786	535,666

In the industrial branch 70 per cent. of the policies and 75 per cent. of the amount assured were held in the form of endowment assurance; whole-life policies represented 26 per cent. of the policies and 21 per cent. of the amount assured. The average amount per policy was £28, viz., assurance £23, endowment assurance £30, and endowment £26.

A classification of the industrial business in force in New South Wales in 1918 and in 1919 is shown below:—

Classification.	1918.			1919.		
	Policies in Force.	Amount Assured inclusive of Bonus Additions.	Annual Premiums Payable.	Policies in Force.	Amount Assured inclusive of Bonus Additions.	Annual Premiums Payable.
Assurance ...	No. 72,828	£ 1,623,728	£ 90,530	No. 75,339	£ 1,754,804	£ 97,750
Endowment Assurance...	188,317	5,364,394	359,212	207,577	6,220,749	416,282
Endowment ...	12,571	314,291	22,706	11,657	301,233	21,634
Total ...	273,713	7,302,413	472,448	294,573	8,276,786	535,666

Comparative Statements.

The next statement shows the ordinary and industrial business in force in New South Wales in each of the last ten years, excluding bonuses:—

Year.	Ordinary Branch.			Industrial Branch.		
	Policies.	Amount Assured.	Annual Premiums Payable.	Policies.	Amount Assured.	Annual Premiums Payable.
	No.	£	£	No.	£	£
1910	155,531	35,972,590	1,164,948	143,209	3,123,666	184,607
1911	159,928	37,591,311	1,212,409	156,194	3,411,133	205,886
1912	167,399	39,652,665	1,274,797	173,941	3,918,060	238,800
1913	173,834	41,432,591	1,382,162	191,333	4,413,289	273,997
1914	178,483	42,602,910	1,432,261	202,439	4,712,117	296,597
1915	181,671	43,520,335	1,465,347	211,881	5,000,621	318,306
1916	187,514	45,460,333	1,550,311	229,723	5,599,819	358,126
1917	192,962	47,633,367	1,644,692	248,637	6,298,166	404,836
1918	201,559	50,812,701	1,741,249	273,716	7,301,713	472,448
1919	207,906	53,953,151	1,828,780	294,573	8,275,956	535,666

A feature of this table is the large increase in industrial insurance; since 1910 the number of these policies per 1,000 of the population has increased from 87 to 147 and the amount assured from £1 18s. 2d. to £4 2s. 9d.

The number of ordinary policies per 1,000 of the population in 1919 was approximately 104, as compared with 95 in 1910, and the sum assured rose from £21 19s. 2d. to £26 19s. 6d. per head of the population, as will be seen from the figures shown hereunder:—

Year.	Policies per 1,000 of Population.		Average Amount Assured.		Average Annual Premium payable.		Amount Assured per Head of Population.	
	Ordinary.	Industrial.	Ordinary.	Industrial.	Ordinary.	Industrial.	Ordinary.	Industrial.
	No.	No.	£	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1910	95	87	231	22	7 9 10	1 5 9	21 19 2	1 18 2
1911	94	92	235	22	7 11 7	1 6 4	22 2 7	2 0 2
1912	94	98	237	23	7 12 4	1 7 6	22 5 10	2 4 0
1913	95	104	238	23	7 19 0	1 8 8	22 12 3	2 8 2
1914	96	109	239	23	8 0 6	1 9 4	22 17 7	2 10 7
1915	97	113	240	24	8 1 4	1 10 1	23 5 4	2 13 6
1916	101	124	242	24	8 5 4	1 11 2	24 9 5	3 0 3
1917	102	131	247	25	8 10 6	1 12 8	25 4 4	3 6 8
1918	104	142	252	27	8 12 9	1 14 6	26 7 1	3 15 9
1919	104	147	260	28	8 15 11	1 16 4	26 19 6	4 2 9

New Business in New South Wales.

The new business, ordinary and industrial, effected in New South Wales during the last five years is compared in the following table:—

Year.	Ordinary Branch.			Industrial Branch.		
	Number of Policies.	Amount Assured.	Annual Premiums Payable.	Number of Policies.	Amount Assured.	Annual Premiums Payable.
		£	£		£	£
1915	15,976	3,784,193	147,554	45,188	1,258,683	86,959
1916	16,372	4,109,923	166,301	50,649	1,516,518	102,668
1917	18,010	4,914,896	192,308	53,491	1,720,790	115,738
1918	21,643	5,972,028	252,052	62,279	2,138,259	145,630
1919	21,543	6,483,990	236,541	64,199	2,437,850	160,699

AUSTRALASIAN SOCIETIES.—GENERAL TRANSACTIONS.

The receipts of the societies are represented chiefly by the collections from premiums on policies, and by interest arising from investments. Payments on account of death claims, policies matured and surrendered, cash bonuses, and the expenses of management constitute the bulk of the disbursements, the excess of receipts over expenditure representing the additions to the funds.

Total Business.

Details of the total business—ordinary and industrial—of the Australasian societies are shown in the following table:—

Year.	Societies.	Policies in Force.	Receipts.	Expenditure.	Accumulated Funds, including Paid-up Capital.		Interest.	
					Additions during the Year.	Total Amount at end of Year.	Amount Received.	Average Rate Realised on Mean Funds.
	No.	No.	£ 000	£ 000	£ 000	£ 000	£ 000	per cent.
1895	10	268,242	3,392	2,334	1,058	20,438	1,037	5.21
1900	11	331,868	4,093	2,648	1,445	26,491	1,162	4.51
1905	14	756,585	5,437	3,834	1,603	34,916	1,528	4.48
1910	11	1,056,173	7,131	4,619	2,512	46,196	1,963	4.46
1915	14	1,424,196	9,474	6,084	3,390	61,825	2,763	4.59
1916	15	1,509,834	10,186	6,614	3,572	65,397	3,012	4.73
1917	14	1,596,696	10,916	7,742	3,174	68,571	3,197	4.77
1918	14	1,701,682	11,765	8,060	3,705	72,276	3,449	4.89
1919	14	1,04,30	12,619	8,44	4,215	76,491	3,735	5.02

The annual additions to the funds have shown a considerable increase since 1905, and there has been a gradual increase in earning power since that year, when 4.48 per cent. was earned, but the most recent rate (5.02 per cent.) is lower than that of 1895. A comparison with the bank rate of interest on fixed deposits, given on a previous page, shows that diminished rates were general until a slight increase took place between the years 1910 and 1915, and continued during following years, and the interest earned by the insurance companies has held a correlation to the general tendency.

Receipts and Expenditure.

The following table shows the aggregate receipts and disbursements of the Australasian institutions during 1919 for both classes of business, though the figures relating to the ordinary branch include those of the industrial branch in the case of one company (the People's Prudential), which did not keep the accounts of each department separately.

Particulars.	Ordinary Branch.	Industrial Branch.	Total.
Receipts—			
Premiums—	£	£	£
New	1,016,403	8,140	1,024,543
Renewal	5,986,971	1,776,947	7,693,918
Consideration for Annuities... ..	50,278	...	50,278
Interest	3,385,016	267,136	3,652,152
Other (Rents, etc.)	181,735	15,963	197,698
Total Receipts	10,620,403	1,938,186	12,618,589
Expenditure—			
Claims	4,837,165	404,271	5,241,436
Surrenders	711,127	21,741	732,868
Annuities	117,742	295	118,037
Cash Bonuses and Dividends	294,276	69,642	273,918
Expenses	1,264,525	657,333	1,921,858
Amount written off to Depreciation, Reserves, etc.	88,130	27,597	115,727
Total Expenditure	7,222,965	1,180,879	8,403,844

Expenses of Management.

The expenses of management of the ordinary business in 1919 represented in the aggregate 11·91 per cent. of the total receipts, and 18·06 per cent. of the premium income, and the industrial branch, 38·33 and 32·90 per cent. respectively. The ratio between management expenses and premium income must necessarily vary with the volume of new business transacted and the age of the society, quite apart from the competition for new business. The following figures show the cost of management, including commission and taxes, and the proportion of premium income and gross receipts, ordinary and industrial departments being included.

Year.	Management Expenses.	Premium Income.	Gross Receipts.	Management Expenses.	
				Per cent. of—	
				Premium Income	Gross Receipts.
	£	£	£		
1895	438,524	2,380,167	3,392,423	18·42	12·93
1900	565,380	2,799,512	4,093,376	20·19	13·81
1905	858,741	3,500,448	5,437,589	24·53	15·79
1910	1,016,153	5,074,204	7,131,250	20·03	14·25
1915	1,252,438	6,591,572	9,474,126	19·00	13·22
1916	1,364,058	7,138,291	10,185,839	19·11	13·39
1917	1,535,242	7,575,821	10,916,726	20·26	14·06
1918	1,688,742	8,164,587	11,765,144	20·68	14·35
1919	1,921,858	8,768,739	12,618,589	21·92	15·23

The management expenses of the ordinary and industrial branches can be stated separately for the five years 1915 to 1919, and the proportions are shown in the following table.

Year.	Ordinary Branch		Industrial Branch.	
	Proportion of Management Expenses to—			
	Premium Income.	Total Receipts.	Premium Income.	Total Receipts.
	per cent.	per cent.	per cent.	per cent.
1915	15·39	10·32	38·86	34·12
1916	15·45	10·28	33·82	33·82
1917	16·34	10·86	33·23	33·21
1918	16·65	11·05	38·06	32·80
1919	18·06	11·91	33·33	32·90

In 1919 the lowest proportion of management expenses to premium receipts in the ordinary branch shown by any company was 13·6 per cent. and the highest was 68·0 per cent.; in relation to the total receipts, the highest and lowest proportions were 8·5 per cent. and 65·2 per cent. respectively.

The expenses of the industrial branch are necessarily very high in proportion to the receipts, on account of the house-to-house method of collection, which is an essential feature of the system; the proportion of management expenses to premium receipts ranged from 34·6 per cent. to 78·0 per cent. and the proportion to the total receipts from 28·9 per cent. to 72·9 per cent.

Liabilities and Assets.

The following table gives a summary of the liabilities and assets of the Australasian societies for the year 1919:—

Liabilities.	Assets.
Assurance Funds—	Loans—
£	£
Participating in Profits ... 72,751,764	On Mortgage ... 20,745,405
Non-participating in Profits 912,456	,, Municipal and Other
Claims Investment Fund ... 31,139	Local Rates ... 10,147,112
Other Assurance Funds ... 2,048,062	,, Reversionary, Life, and
Total ... 75,743,421	Other Interests ... 568,333
Guarantee and Contingency	,, Policies ... 7,956,358
Funds ... 31,024	,, Personal Security ... 14,164
Investment Fluctuation Fund 160,274	,, Government Securities.. 247,725
Claims admitted but not paid 1,391,888	,, Other Debentures and
Outstanding Accounts... 3,345,534	Bonds ... 567,167
Other Liabilities—	,, Miscellaneous Loans ... 35,575
Paid-up Capital ... 495,301	Total ... 40,281,839
Reserve Funds ... 76,388	Government Securities ... 34,242,233
Miscellaneous—including	Real Estate ... 3,418,547
Deposits ... 1,113,990	Other Assets ... 4,415,231
Total Liabilities... £82,357,820	Total Assets ... £82,357,820

Loans on mortgage, municipal securities, the policies of members, etc., represent 49 per cent. of the total assets. In former years insurance companies sought only these forms of investment, but recently attention has

been given to the Government securities and investments in shares, and considerable sums are deposited with banks, or invested in freehold and leasehold property, and since 1915 large sums have been subscribed to the various War Loans. Investments on personal security are unusual, advances being generally combined with life policies, and the total amount invested under this heading in the year 1919 was only £14,164. In some of the States companies are obliged by law to deposit certain sums with the Treasury as a guarantee of good faith, and these amounts are included in their balance-sheets under the head of Government securities or of deposits. The ratio of loans on mortgages, policies, &c., to total assets for the years quoted in the previous table was as follows:—

Year.	per cent.	Year.	per cent.
1895...	... 72·57	1916...	... 66·15
1900...	... 69·21	1917...	... 61·36
1905...	... 61·54	1918...	... 53·46
1910...	... 65·94	1919...	... 48·91
1915...	... 72·06		

The aggregate liabilities and assets of the Australasian societies for the period 1895 to 1919 are shown in the following table:—

Year.	Societies.	Liabilities.			Assets.		
		Paid-up Capital and Accumulated Funds.	Other Liabilities.	Total.	Loans on Mortgages, Policies, etc.	Securities, Freehold Property, etc.	Total.
	No.	£	£	£	£	£	£
1895	10	21,497,059	...	21,497,059	15,600,229	5,896,830	21,497,059
1900	11	27,471,223	...	27,471,223	19,013,579	8,457,644	27,471,223
1905	11	35,867,362	...	35,867,362	22,072,061	13,795,301	35,867,362
1910	11	45,668,204	775,785	46,443,989	30,625,778	15,818,211	46,443,989
1915	14	61,259,104	1,932,233	63,191,337	45,535,992	17,655,345	63,191,337
1916	15	64,866,998	3,209,131	68,076,129	45,029,269	23,046,840	68,076,129
1917	14	68,369,382	3,654,576	72,023,958	44,192,716	27,831,242	72,023,958
1918	14	72,303,303	6,071,445	78,374,748	41,899,959	36,474,789	78,374,748
1919	14	76,506,408	5,851,412	82,357,820	40,281,539	42,075,981	82,357,820

FIRE, MARINE, AND GENERAL INSURANCE.

The Fire Brigades Act, 1909, and its amendments apply to 79 districts, but by proclamation its provisions may be extended to other areas. The equipment for fighting fire includes 33 permanent and 30 volunteer stations and brigades in the metropolitan area (of which 5 permanent stations and brigades are within the boundaries of the City of Sydney), and 97 brigades in the country or extra-metropolitan division of New South Wales.

The Board of Fire Commissioners of New South Wales, representing the city and suburban area, the country area, the volunteer brigades, and the

insurance companies, with a president appointed by the Government, exercises control in regard to fire prevention in declared districts, and may recover charges for attendance at fires outside such districts. The Board is charged with the establishment and maintenance of permanent fire brigades, and the authorisation and subsidising of volunteer bodies; the funds are raised by contributions of one-third individually of the estimated requirements for each district, by insurance companies, by municipalities, and by the Government; and a *pro rata* contribution is charged against each owner of property assured in any company which is not registered within the State. To ensure efficient operation of these provisions periodical returns are required by the Board from municipalities, insurance companies, and property owners.

The following table shows the revenue account and balance-sheet of the Board of Fire Commissioners for the year ended the 31st December, 1919 :—

Revenue.		Expenditure.	
	£		£
Balance from 1918	12,201	Administration	6,142
Subsidy from Government	47,815	Salaries, and Payments to Volunteers	94,557
Subsidy from Municipalities and Shires	47,815	Buildings, Equipment, and other expenses	42,110
Subsidy from Fire Insurance Com- panies and Firms	47,815	Equipment and Property Charges	17,740
Other Sources	4,937	Balance	34
Total	£160,583	Total	£160,583

Liabilities.		Assets.	
	£		£
Fund Account	55,025	Land and Buildings	158,807
Reserves, and Trust Accounts	2,002	Plant Account and Fire Appliances	87,636
Debentures and Accrued Interest	101,500	Stocks on Hand	19,907
Revenue and Expenditure Account	34	Cash Account	152
Property and Equipment Fund	95,764	Other	681
Administration Account	984		
Other	11,874		
Total	£267,183	Total	£267,183

The estimates of revenue adopted by the Board for 1920 amounted to £193,248, being £143,424 for the Sydney Fire District, and £49,824 for the Country Fire Districts. In Sydney, suburbs, and shires included in the Sydney Fire District, the ratio of municipal contributions to the assessed annual value was 7s. 6d. per £100 in 1920; during the previous five years the ratio varied between 5s. 5d. (in 1916) and 6s. 1d. (in 1917).

Under the Act, the contributions payable by insurance companies are proportionate to the premiums received by or due to the companies during the year; in 1919 contributions amounting to £47,153 were received from 90 insurance companies, and in addition contributions amounting to £662 were received from 61 individual firms who insured goods with companies not registered in New South Wales. The contributions to the Sydney Fire District in 1919 represented £4 16s. 7d. per £100 of premium, and in the remaining districts the percentage ranged from £1 16s. 7d. to £14 7s. 7d.

There were 79 companies transacting fire, marine, and general insurance (as distinct from life assurance) business in New South Wales during 1920, their total receipts from premiums, interest, rents, &c., in all countries being £133,816,669, and total expenditure £125,792,957, viz.: losses, £63,211,134; management, commission, and taxes, £42,610,390; and other items, £19,971,433. The aggregate liabilities amounted to £339,601,788, of which £26,925,590 represented paid up capital; £39,540,964 reserve funds, £209,336,764 insurance and other funds; and £63,798,470 outstanding losses and other liabilities. The assets comprised the following items:—mortgages and other loans, £29,662,540; Government securities and other investments, £200,546,386; land and house property, £18,446,465; cash on deposit, current account, and in hand, £19,195,877; and other assets, £71,750,520. The nature of the local insurances effected during the year ended 30th June, 1920, is shown in the following table:—

Nature of Insurance.	Revenue in New South Wales.	Expenditure in New South Wales.						
		Losses, less Re-insurances.	Expenses of Management.		Total.	Proportion of Premium Income.		
			Com-mission and Agents' Charges	Other.		Losses.	Com-mission and Agents' Charges	Other Management Expenses.
Premiums less Re-insurances and Returns.	£	£	£	£	£	percent.	percent.	percent.
Fire	1,880,079	735,834	177,173	416,280	1,329,287	53·32	12·84	30·16
Marine	507,728	203,371	39,388	105,637	353,396	41·64	7·76	20·81
Accident	70,970	37,623	12,179	23,491	73,293	53·01	17·16	33·10
Employers' Liability and Workman's Compensation ..	287,989	140,155	25,604	70,336	286,095	54·33	9·92	27·26
Public Risk, Third Party ..	20,453	4,762	2,502	5,541	12,805	23·28	12·23	27·09
Plate-glass	29,778	11,724	4,741	8,077	24,542	39·37	15·92	27·12
Motor Car and Motor Cycle ..	91,753	43,704	10,614	24,701	78,819	47·41	11·57	26·92
Hailstone	8,958	871	1,526	2,325	5,222	9·72	17·04	31·54
Boiler Explosion	6,257	1,784	761	3,724	6,019	27·71	8·97	59·52
Live Stock	27,647	11,832	4,948	8,599	25,429	42·98	17·90	31·10
Burglary	15,735	11,554	2,057	4,258	17,869	73·20	13·03	26·97
Guarantee	11,563	4,869	1,233	2,865	8,967	42·11	10·66	24·78
Loss of Profits	34,103	16,494	3,446	9,061	29,001	48·37	10·10	26·57
Elevator	451	68	96	71	235	15·08	21·29	15·74
Sprinkler	938	90	91	183	364	9·59	9·70	19·51
Other	920	127	125	302	554	13·80	13·59	32·83
Total Premiums	2,465,372	..	..	..	..	..	..	..
Total Interest, &c.	83,296	..	..	..	..	..	..	..
Total	2,548,668	1,229,662	286,284	685,951	2,201,897	49·88	11·61	27·82

The total premiums amounted to £2,465,372, and the losses to £1,229,662, the latter being 49·88 per cent. of the premiums. The expenses for commission and agents' charges were £286,284, and for general management £685,951, making a total of £972,235, being 39·43 per cent. of the premium income, or 38·15 of the gross revenue.

According to the local statements, fire business comprises about 56 per cent. of the total general insurances. The premiums received for fire risks during 1919–20 were £1,380,079, and the losses amounted to £735,834, or 53·32 per cent.

Of all classes of general insurance against risk, the highest proportionate loss was sustained by companies which undertook to furnish indemnities in the event of loss by burglary, employers' liabilities in compensating injured workmen, loss by fire, incapacitation by accident, and loss of profits, in the order named.

The succeeding table shows the total revenue and expenditure during the last five years. The transactions of the fire branch have been shown

separately, as they comprised more than half of the total business. The interest receipts could not be distributed under the various headings, and have been included in one item.

Year ended 30th June.	Revenue.			Expenditure.			Total Expendi- ture.
	Premiums.	Interest.	Total Revenue.	Losses.	Management.		
					Commis- sion and Agents' Charges.	Other Manage- ment Ex- penses.	
	£	£	£	£	£	£	£
1916	Fire ...	973,134		452,549	137,596	262,099	852,214
	Other ...	696,003		287,515	71,671	147,785	506,971
	Total ...	1,669,137	49,600	1,718,737	740,064	209,267	409,834
1917	Fire ...	1,043,871		588,194	132,309	301,877	1,022,380
	Other ...	718,297		516,060	76,103	168,857	761,017
	Total ...	1,762,168	53,616	1,815,784	1,104,254	208,403	470,734
1918	Fire ...	1,117,849		415,707	153,373	314,918	883,998
	Other ...	917,328		253,108	94,128	225,524	672,760
	Total ...	2,035,177	65,148	2,100,325	768,815	247,501	540,442
1919	Fire ...	1,227,914		533,394	165,812	377,065	1,076,271
	Other ...	937,828		353,733	96,435	237,492	687,660
	Total ...	2,165,742	72,590	2,238,332	887,127	262,247	614,557
1920	Fire ...	1,380,079		735,834	177,173	416,280	1,329,287
	Other ...	1,085,293		493,828	109,111	269,671	872,610
	Total ...	2,465,372	83,296	2,548,668	1,229,662	286,284	685,951	2,201,897

The following statement shows the proportion of expenditure to premium income for the same years.

Year ended 30th June.	Losses.	Management.		Total Expenditure	
		Commission and Agents' Charges.	Other Management Expenses.		
	per cent.	per cent.	per cent.	per cent.	
1916	Fire ...	46·50	14·14	26·93	87·57
	Other ...	41·31	10·29	21·23	72·83
	Total ...	44·34	12·54	24·56	81·44
1917	Fire ...	56·35	12·67	28·93	97·95
	Other ...	71·84	10·60	23·51	105·95
	Total ...	62·66	11·83	26·71	101·20
1918	Fire ...	37·19	13·72	28·17	79·08
	Other ...	38·49	10·26	24·58	73·33
	Total ...	37·77	12·16	26·55	76·48
1919	Fire ...	43·44	13·50	30·71	87·65
	Other ...	37·72	10·28	25·32	73·32
	Total ...	40·96	12·19	28·33	81·53
1920	Fire ...	53·32	12·84	30·16	96·32
	Other ...	45·50	10·06	24·34	80·40
	Total ...	49·88	11·61	27·82	89·31

BANKRUPTCY.

The following statement shows the number of bankruptcy petitions in each of the last five years :—

Year.	Petitions in Bankruptcy.			Petitions With-drawn, Refused, etc.	Sequestrations.			
	Voluntary.	Com-pulsory.	Total.		Orders Granted.	Liabilities.	Assets.	Ratio of Assets per £ of Liabilities.
1915	301	147	448	43	405	428,700	166,748	s. d. 7 10
1916	243	145	393	43	350	383,448	303,893	15 10
1917	178	123	301	31	267	227,663	208,093	18 3
1918	184	113	297	33	264	221,928	115,776	10 5
1919	193	123	316	34	282	323,222	189,920	11 9

The estates freed from sequestration during the last five years numbered 473, being only 30 per cent. of the sequestrations. Occasionally applications for certificates are refused, and, taking these into consideration, it would appear that during the period referred to out of 100 bankrupts 70 were unable, or too indifferent, to take the necessary steps to free themselves from bankruptcy.

The property of an uncertificated bankrupt, even if acquired subsequently to sequestration, is liable to seizure on behalf of unsatisfied creditors.

During 1919 the liabilities, according to the bankrupts' schedules, amounted to £323,222, and the assets to £189,920. The qualification "according to the bankrupt's schedules" is necessary, as the assets and liabilities established after investigation by the Court differ widely from those furnished.

TRANSACTIONS IN REAL ESTATE.

The Real Property Act, commonly known as the "Torrens" Act, was passed in 1862 to regulate the procedure in regard to land transfers. This Act and its amendments were consolidated in 1900, and its main features are the transfer of real property by registration of title instead of by deeds, the absolute indefeasibility of the title when registered, and the protection afforded to owners against possessory claims—as the title issued under the Act stands good, notwithstanding any length of adverse possession. All lands sold by the Crown since the passage of that measure have been conveyed to purchasers under its provisions, the transactions under the old law being restricted to grants issued prior to 1862, and governed by the Deeds Registration Act. The area for which such grants were issued amounted to 7,478,794 acres; 2,399,377 acres have since been brought under the provisions of the "Torrens" Act, hence 5,079,417 acres still remain under the old tenure. Lands may be placed under the Real Property or the "Torrens" Act only when the titles are unexceptional.

The area of conveyed Crown lands and of private estates brought under the Act during the five years ended 1919 was as follows :—

Year.	Area.			Value.		
	Crown Lands.	Private Lands.	Total.	Crown Lands.	Private Lands.	Total.
	acres.	acres.	acres.	£	£	£
1915	354,268	36,188	390,456	317,208	948,820	1,266,028
1916	423,303	23,352	446,655	393,749	674,678	1,068,427
1917	400,978	21,878	422,856	371,549	855,073	1,226,622
1918	388,672	26,628	415,300	371,330	1,229,323	1,600,653
1919	568,750	32,358	601,108	563,670	1,878,792	2,442,432

For the whole period during which the "Torrens" system has been in operation, 37,281,666 acres, valued at £36,945,693, have been conveyed under its provisions; and 2,399,377 acres, valued at £45,087,944, have been brought under it, the deeds under the old Act, thus being automatically cancelled.

The following table shows for each year of the past decade the amount paid as money consideration on sales of private lands, estates sold on long terms being excluded.

Year.	Conveyances or Transfers (000 omitted).			Year.	Conveyances or Transfers (000 omitted).		
	Under Deeds Registration Act.	Under Real Property (Torrens) Act.	Total.		Under Deeds Registration Act.	Under Real Property (Torrens) Act.	Total.
	£	£	£		£	£	£
1910	4,058	11,959	16,017	1915	3,153	11,850	15,003
1911	4,602	16,426	21,028	1916	3,370	12,189	15,559
1912	5,502	18,380	23,882	1917	3,979	11,619	15,598
1913	4,726	16,079	20,805	1918	3,995	16,835	20,830
1914	3,613	16,585	20,198	1919	4,859	21,070	25,929

As already mentioned, the Real Property Act provides that on the issue of a certificate the title of the person named on the certificate is indefeasible. Provision is made, however, for error in transfer, by which persons might be deprived of their property; as, should the transfer be made to the wrong person, the holder of the certificate cannot be dispossessed of his property unless he has acted fraudulently. To enable the Government to compensate persons who, through error, may have been deprived of their properties, an assurance fund was created by means of a contribution of one halfpenny in the pound on the declared capital value of property when first brought under the Act, and upon transmission of titles of estates of deceased proprietors.

It is a sterling testimony of the value of the Act, and of the facility and accuracy of its working, that payments from the assurance fund to the 31st December, 1907, in respect of titles improperly granted, amounted only to £16,326. In 1907 this fund, as a separate account, was closed, and the amount at credit, £255,059, was transferred to the Closer Settlement Account, in accordance with the provisions of section 6 of the Public Works and Closer Settlement Funds Act, 1906, and all assurance contributions under section 191 of the Real Property Act, 1900, and all claims for compensation, are now dealt with under the Closer Settlement Act.

The estimated unimproved capital value of land in the State in the year 1918 was £213,819,000, and the improved value was £518,183,000. The total area alienated (exclusive of Federal Capital transactions) amounted on the 30th June, 1919, to 42,645,875 acres, of which, as already stated, 39,681,043 acres are held under the Real Property or "Torrens" Act. The total alienated area is subject to all the operations of lien and mortgage, to State municipal rating, and to State and Federal taxation.

MORTGAGES.

Mortgages, except those regulated by the Bills of Sale Acts and the Merchant Shipping Act, may be registered at the Registrar-General's office, but there are a large number of unregistered mortgages of which no record is obtainable.

In the case of the registered mortgages, the amount of consideration for which a mortgage stands as security is not always stated in the deeds, the words "valuable consideration" or "cash credit" being inserted in cases where the advances are liable to fluctuation; and, as this frequently occurs when the property mortgaged is of great value, an exact statement of the total advances against mortgages cannot be made.

Mortgages of land are registered under the Deeds Registration Act or the Real Property Act, according to the title of the property at the date of mortgage. The consideration given generally represents the principal owing; in some cases, however, it stands for the limit within which clients of banks and of other loan institutions are entitled to draw.

Liens on wool, mortgages on live stock, and liens on growing crops are registered under special Acts. Mortgages on live stock are current till discharge, and liens on wool mature at the end of each season, terminating without formal discharge. The duration of liens on agricultural and horticultural produce may not exceed one year. Such advances do not usually reach large sums, as there is an element of uncertainty in the security offered.

Particulars regarding the registered mortgages of land, liens on crops and on wool, and mortgages of live stock, during the last five years are shown below, and the figures relate only to cases in which a specific amount is stated in the deeds, whether that amount was the sum actually advanced or not:—

Year.	Mortgages of Land.		Mortgages of Crops, Wool, and Live Stock.			
	Number.	Consideration.	Number.			Consideration.
			Crops.	Wool.	Live Stock.	
		£				£
1915	22,874	16,049,750	4,464	895	3,074	2,120,860
1916	21,019	17,075,878	2,492	774	2,689	1,668,613
1917	19,011	15,729,185	1,641	809	2,419	3,019,962
1918	22,625	16,401,662	1,496	1,023	3,017	1,764,928
1919	28,282	20,565,802	3,488	1,324	2,840	2,542,135

The figures in the last column represent the net amount of advances after allowing for loans negotiated both on wool and live stock.

Mortgages on Ships.

Mortgages of registered British vessels are arranged under the Imperial Merchant Shipping Act of 1894. Transactions of this nature are divided into two classes, one in which the vessel is the sole security, and the other in which the advances are made on the security of the "account current," which may consist of ships, wharfage appliances, land, and other properties. The deed of mortgage is generally executed for the full amount of the advance. Registrations are effected at the two ports of registry, Sydney and Newcastle, and the combined returns are given in the following statement.

Year ended 30th June.	Mortgage on Ships only.				Mortgage on Account Current.			
	Sailing Vessels.		Steam and Motor Vessels.		Sailing Vessels.		Steam and Motor Vessels.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£
1916	1	100	8	6,291	1	1	7	2,655
1917	2	1,600	4	15,309	...	...	2	1,001
1918	1	200	10	187,762	...	...	16	14,012
1919	1	500	3	5,535	...	...	4	25,500
1920	1	175	10	34,240	...	...	2	1

Bills of Sale.

Mortgages on personalty other than ships and shipping appliances, wool, live stock, and growing crops, are filed at the Supreme Court. A bill of

sale is ineffective as to certain household furniture unless the consent of the wife or the husband of the maker or the giver of the bill is endorsed thereon. The law requires that each document must be filed within thirty days after it is made or given, otherwise the transaction is void as against execution creditors and against the official assignee or the trustee of a bankrupt estate; also that the registration must be renewed every twelve months; to prevent fraud and imposition the records are open to the inspection of the public. The total amount of advances made annually on the bills of sale is not readily available, but according to the number of bills filed the sum must be considerable. A complete record is not made of bills terminated voluntarily, or by seizure, the official records showing only those discharged in the ordinary way. There are frequent seizures of the security given, which consists generally of household furniture and stock-in-trade, and it is regrettable that no record is kept of them; but neglect of registration of foreclosures is a weakness in procedure under all Acts regulating mortgage transactions. The bills filed and the discharges registered during the five years ended 1919 were as follow:—

Year.	Registrations.		Renewals Under Bills of Sale Act of 1898.
	Filed in Supreme Court.	Satisfied, or Orders for Discharge Made.	
1915	2,931	302	2,482
1916	2,511	365	2,478
1917	2,513	275	2,506
1918	3,056	353	2,414
1919	3,525	439	2,476

REGISTRATION OF MONEY-LENDERS.

Under the Money-lenders and Infants Loans Act, 1905, money-lenders must be registered at the Registrar-General's Office, and they must conduct their business only under their own or their firm names, and at their registered offices. The term "money-lender" includes every person or company the business of whom or which is that of money-lending, but it excludes licensed pawnbrokers, registered friendly societies, institutions incorporated by special Act of Parliament to lend money, and banking and insurance companies. The number of registrations and renewals during the year 1919 was 59.

ESTATES OF DECEASED PERSONS.

The following table shows the number of estates and the amount on which probate was paid during the ten years ended the 30th June, 1920. The figures for the year ended June, 1911 are exclusive of properties administered by the Curator of Intestate Estates, for which particulars are not available.

Year ended 30th June.	Estates.	Amount.	Year ended 30th June.	Estates.	Amount.
	No.	£		No.	£
1911	3,303	7,827,275	1916	5,107	10,783,406
1912	4,372	13,445,639	1917	5,309	11,554,726
1913	4,749	8,509,070	1918	6,476	11,859,375
1914	4,631	10,439,256	1919	6,873	11,818,222
1915	4,438	9,997,615	1920	7,172	17,106,876

According to the foregoing figures, probate was granted during the ten years ended the 30th June, 1920, on 52,430 estates, valued at £113,341,460, representing an average value per estate of £2,162.

The following table affords a comparison of the proportion of persons dying possessed of property, per hundred of the total deaths in each quinquennium since the year 1880. The figures shown in this, and in the succeeding tables for the years prior to, 1911, are exclusive of properties administered by the Curator of Intestate Estates.

Period.	Proportion of Deceased Persons with Estates per 100 Deaths.	Period.	Proportion of Deceased Persons with Estates per 100 Deaths.
1880-84	11·0	1910-14	22·9
1885-89	11·6	1915	22·7
1890-94	13·2	1916	25·4
1895-99	14·9	1917	32·2
1900-04	17·0	1918	37·5
1905-09	19·1	*1919	30·8

* Year ended June, 1920.

The preceding figures indicate a growing and wide diffusion of prosperity, but a more convincing illustration of the wide distribution of property in New South Wales is afforded by the next table, which shows the proportion of estates per 100 deaths of adult males, and per 100 deaths of adult males and females. The latter method of comparison is frequently neglected, but it is worthy of consideration, as large numbers of women are possessors of valuable property in their own right. The following figures are given for quinquennial periods, commencing with the year 1880.

Period.	Ratio of Estates per 100 Deaths of Adult Males.	Ratio of Estates per 100 Deaths of Adult Males and Females.
1880-84	34·6	22·3
1885-89	37·5	23·8
1890-94	41·2	25·8
1895-99	42·7	26·2
1900-04	46·0	27·8
1905-09	48·8	29·2
1910-14	56·6	34·0
1915	56·1	33·6
1916	62·5	37·2
1917	76·0	44·8
1918	88·1	51·8
*1919	72·3	41·9

* Year ended June, 1920.

The proportions shown in the preceding tables were increased considerably during the years 1917 and 1918 by reason of the fact that the figures relating to the estates include a large number—about 1,500 in 1917 and nearly 2,500 in 1918—left by members of the naval and military forces, and as the majority of these deaths occurred abroad they were not included in the number

of deaths. During the year ended June, 1920, there was a decrease in the proportions as compared with the previous year, but the figures were much higher than before the war.

The statement regarding the wide distribution of property in New South Wales must be taken relatively, and the following table, which shows the number of persons dying in possession of estates during the ten years ended June, 1920, affords a basis for testing the extent of its application.

Category.	Number of Deceased Persons leaving Property.	Value of Estates of Deceased Persons.	Proportion in each Group.	
			Number.	Value.
		£	per cent.	per cent.
Under £200	18,354	1,616,145	35·01	1·43
£200 to £1,000	20,341	9,467,660	38·80	8·35
£1,000 to £5,000	9,934	22,606,484	18·95	19·95
£5,000 to £12,500	2,361	18,004,028	4·50	15·88
£12,500 to £25,000... ..	803	13,982,807	1·53	12·34
£25,000 to £50,000... ..	389	13,049,986	·74	11·51
£50,000 and over	248	34,614,350	·47	30·54
Total	52,430	113,341,460	100	100

This table shows that, of the persons who died during the last ten years possessing property passed for probate, $\frac{1}{2}$ per cent. possessed $30\frac{1}{2}$ per cent. of the value, and on the other hand, 35 per cent. of the persons who died, possessed $1\frac{1}{2}$ per cent. of the value of the property.

RAILWAYS AND TRAMWAYS.

THE management of the State Railways and Tramways is in the hands of a Chief Commissioner and three Assistant Commissioners, the duties of the latter being allotted by the Governor upon the recommendation of the Chief Commissioner.

On 26th September, 1855, the first railway line, 14 miles in length, was opened for traffic between Sydney and Parramatta, and communication was established between Newcastle and East Maitland on 11th April, 1857.

The progress in construction of the State railways of New South Wales may be traced in the table given below, the figures covering the period ending on 30th June, 1920. Included in the mileage are the Campbelltown-Camden, and Yass tramways, which are worked with the railways.

Period.	Opened during the period.	Total opened at end of period.	Period.	Opened during the period.	Total opened at end of period.
	miles.	miles.		miles.	miles.
1855-9	55	55	1890-4	330	2,501
1860-4	88	143	1895-9	205	2,706
1865-9	175	318	1900-4	575	3,281
1870-4	85	403	1905-9	342	3,623
1875-9	331	734	1910-14	344	3,967
1880-4	884	1,618	1915-19	858	4,825
1885-9	553	2,171	1920	190	5,015

In addition to the mileage shown above there were at 30th June, 1920, 981 miles of sidings and crossovers.

The progress of the State railways can be gauged fairly by comparing the population and area of territory to each mile of line open for traffic at different periods. In 1900 the average population per mile of line was 482, and in 1920 it was 404. The decrease in the area of territory to each mile of line open has been very rapid, ranging from 4,434 square miles in 1860 to 62 square miles in 1920. The following statement shows the extension of railway facilities since 1860:—

Year.	Population to each Mile of Line open.	Area to each Mile of Line open.	Year.	Population to each Mile of Line open.	Area to each Mile of Line open.
	No.	sq. miles.		No.	sq. miles.
1860	4,979	4,434	1905	443	95
1865	2,861	2,170	1910	443	85
1870	1,471	916	1915	452	75
1875	1,360	710	1916	445	74
1880	881	366	1917	422	70
1885	548	179	1918	408	66
1890	523	142	1919	406	64
1895	501	123	1920	404	62
1900	482	110			

In addition to increasing the facilities by the construction of new lines, provision for the rapidly extending traffic is made by the duplication of existing main lines.

Works now in progress will duplicate the western line to Orange, 196 miles from Sydney; the southern to Cootamundra, 267 miles; and the South Coast line to Wollongong, 48 miles. The northern line has been duplicated as far as Singleton, and it is intended to continue the duplication to Werris Creek.

The following statement shows the length of line laid with one or more tracks at intervals since 30th June, 1900:—

At 30th June.	Single.	Double.	Triple.	Quadruple.	Total.
	miles.	miles.	miles.	miles.	miles.
1900	2,644	158½	...	8½	2,811½
1905	3,079½	193	...	8½	3,280½
1910	3,393	241½	...	8½	3,643
1915	3,692½	406½	8	27¾*	4,134½
1916	3,654	492½	7½	34*	4,188
1917	3,863½	532	7½	34*	4,437
1918	4,103½	533½	7½	34½*	4,679
1919	4,245	537	7½	35½*	4,825
1920	4,405	567	7½	35½*	5,015

* Includes 1 mile 9 chains with five tracks.

RAILWAY SYSTEMS.

The railways of the State are divided into three branches, each constituting a separate system.

Southern Lines.

The southern system has several offshoots serving the most thickly-populated district, and places the capital cities, Sydney, Melbourne, Adelaide, and Perth in direct communication.

Numerous branches traverse the fertile Riverina district. From Culcairn there are two branch lines, one connecting with Corowa on the Murray River, and the other with Holbrook; from The Rock a line extends to Oaklands, and from Wagga Wagga a branch to Humula is being extended to Tumberumba, and from Henty a branch extends to the Rand. From Junee a branch runs to Narrandera, where it bifurcates, one branch extending westerly to the town of Hay and the other in a southerly direction to connect with the Victorian railways at Tocumwal. From Cootamundra a southerly branch carries the line to Tumut, while an off-shoot is being made from Gilmore to Batlow; another branch, in a north-westerly direction, carries the line through Temora and Wyalong to Cudgellico, and a branch is under construction from Barmedman to Rankin's Springs. A branch line from Temora extends to Griffith, in the Murrumbidgee Irrigation Area, and a line connecting Griffith with Yanko and Hillston is being laid. From Stockinbingal, between Cootamundra and Temora, a cross-country line connects with the western system at Forbes.

From Murrumburrah a branch has been constructed to Blayney, on the western line, and from Koorawatha, on this connecting line, a branch joins Grenfell with the railway system, and there is a branch line from Cowra to Canowindra, which is being extended to Eugowra. From Galong there is a branch to Burrowa.

Nearer the metropolis, a branch from Goulburn to Nimmitabel brings the rich pastoral district of Monaro into direct communication with the metropolis. An extension from Nimmitabel to Bombala, a distance of 40 miles, has been commenced. From Goulburn also a branch line has been opened to Crookwell.

A small offshoot from the main southern line joins Campbelltown with Camden, and on the main suburban section of the southern system there are branch lines from Clyde to Carlingford, and from Lidcombe to Regent's Park.

The South Coast, or Illawarra line, which forms part of the southern system, has been constructed to Nowra, connecting the metropolis with the coastal district of Illawarra, which is rich in coal and in the produce of agriculture. From the Illawarra line a branch extends between Sydenham and Bankstown, with Liverpool as the objective.

Western Lines.

The western system of railways extends from Sydney over the Blue Mountains, and has its terminus at Bourke, a distance of 511 miles. Leaving the mountains, the western line throws out a branch from Wallerawang to Mudgee and Coonabarabran, which is being extended to join the north-western branch of the northern system at Burren Junction, and enters the Bathurst Plains, connecting with the metropolis the rich agricultural lands of the Bathurst, Orange, and Wellington districts.

At Blayney, as before stated, the western line is joined with the southern system by a branch line to Murrumburrah; from Orange a branch runs through Parkes to Condobolin; an extension from Condobolin to Broken Hill, a distance of 373 miles, has been commenced, and has been completed as far as Trida. A section from Menindee to Broken Hill has been laid. At Bogan Gate a branch line has been opened to Tottenham with two short extensions to the Mount Royal Mine and the Caroline Mine. Further west, branch lines extend from Dubbo to Coonamble, from Nevertire to Warren, and from Nyngan to the important mining district of Cobar. A line joining Dubbo with Molong is being laid. There is a connecting line from Narromine, on the main western line, *via* Parkes to Forbes, which is connected with Stockinbingal on the southern line. From Byrock a line branches off to Brewarrina. A line from Dubbo connects with the Wallerawang-Coonabarabran branch at Merrygoen, and a connecting line between this branch and the main northern line is under construction.

The western system includes also a short line from Blacktown to Windsor and Richmond, and a branch has been built from Craboon to Coolah.

Northern Lines.

The northern system originally commenced at Newcastle, but a connecting line crosses the Hawkesbury River by means of the Hawkesbury Bridge, thus making Sydney the centre of the whole of the railway systems of the State, and affording direct communication between the five State capital cities of Perth, Adelaide, Melbourne, Sydney, and Brisbane, a distance of 3,476 miles.

The northern system has a branch from Tamworth to Barraba, and there is a north-westerly branch from Werris Creek, *via* Narrabri and Moree, to Inverell, placing the Namoi and Gwydir districts in direct communication with the ports of Newcastle and Sydney. A branch runs from Moree to Mungindi, on the border of the State of Queensland. There is also a branch line from Narrabri to Walgett, with a further branch at Burren Junction to Collarenebri East.

From Muswellbrook a branch has been constructed to Merriwa, a distance of 51 miles. There is a short line connecting Newcastle with the tourist district of Lake Macquarie, and another line runs from East Maitland to Morpeth.

At West Maitland the North Coast railway branches from the main northern line; the construction is now proceeding in sections to meet a line which connects Murwillumbah, on the Tweed River, with Grafton, on the Clarence River; the sections from West Maitland to Macksville, from Raleigh to Coff's Harbour, and from Glenreagh to Grafton have been opened for traffic. On the Murwillumbah-Grafton line there is a branch from Casino to Kyogle. To provide an outlet for the produce of the fertile Dorrigo district, a branch of the North Coast line, from Dorrigo to Glenreagh, has been commenced. A short line, 13 miles in length, branches off the main northern line at Hornsby, and connects with the north shore of Port Jackson at Milson's Point, whence passengers are conveyed to the city by commodious ferry steamers.

Goods Lines.

A short line from the Central Station at Sydney connects with the wharves at Darling Harbour, and a line has been constructed from the stock saleyards at Flemington on the main suburban line to the Abattoirs at Homebush Bay; these lines are used for goods and live-stock only.

On account of the rapid growth of the traffic it has been found necessary to provide a means of access to the wharves, independent of the Central Station, by the construction of a line from Flemington to join the Sydenham-Bankstown branch of the South Coast line at Campsie, and a line from Wardell-road, also on this branch, to Darling Island, with a new shipping depôt at Glebe Island.

An extension from Sydenham has been commenced to serve the important manufacturing district of Botany.

Commonwealth Railways in New South Wales.

A short railway, 5 miles in length, has been constructed from Queanbeyan, on the Cooma-Nimmitabel branch, to connect Canberra, the Federal Capital, with the State railway system. The work of construction was undertaken on behalf of the Commonwealth Government by the Public Works Department of New South Wales, at a charge of 5 per cent. in addition to capital outlay. The line was opened for departmental goods traffic in May, 1914, and is worked by the New South Wales Government on behalf of the Commonwealth. A trial survey of a line from Canberra to Yass has been made.

Under the Seat of Government Acceptance Act the Commonwealth Government has the right to construct a line from Canberra to Jervis Bay, 140 miles; a preliminary survey of the route has been made.

SYDNEY AND SUBURBAN PASSENGER SERVICE.

A portion of the passenger traffic between Sydney and suburbs is conducted by suburban railways and ferry services, but the tramways form the most important means of communication.

The railway suburban traffic is conducted principally on the main trunk line, which runs in a westerly direction from Sydney to Granville, where the main southern and western railway systems separate; the northern system branches off at Strathfield (8 miles from Sydney). The South Coast railway, which has a branch from Sydenham (3 miles) to Bankstown (11 miles), brings passengers from the suburbs situated south of Sydney on

the western shore of Botany Bay. The passengers travelling by these lines, however, are conveyed to and from the Central Station by trains running through the city streets.

The populous suburbs of the north-western, central, and eastern divisions of the metropolitan area are served entirely by the tramways. On the north shore of Port Jackson there is a railway to connect the ferry service at Milson's Point with Hornsby on the main northern line; with this exception all the passengers from the northern suburbs connect by tramway at various points with the ferry services to the Circular Quay.

On account of the expansion of the commercial interests of New South Wales, and the consequent growth of population in and around Sydney, where the trade of the State is centralised, the tramway system has been extended steadily, but the requirements of suburban traffic are gradually outgrowing the capacity of the main city thoroughfares, which were not originally designed for this class of traffic. Thus the extension of the tramway system, combined with the increase in the mercantile vehicular traffic, has resulted in a state of congestion in some of the city streets that demands remedy. The urgent necessity is now recognised of supplying a more effective method of dealing with the rapidly increasing traffic than is possible under any system of surface tramways.

Proposed Improvements.

In October, 1913, a Bill to authorise the construction of a city railway was submitted to Parliament. The design included an underground loop railway around the city, joining the existing railway system near Redfern Station, and comprising three up and three down tracks; and double lines of tramway to connect the eastern and western suburban tram services with the city railway, the total length of the connection for the eastern suburbs being 1 mile 18½ chains, and for the western suburbs 1 mile 15½ chains. The cost of the work was estimated at £4,800,000.

This Bill was rejected by the Legislative Council, but in 1915 the City Railway and portions of the Eastern and Western Suburbs Railways to Bondi Junction and Weston-road, Balmain, respectively, were included in the list of works to be carried out by the Norton Griffiths Company under contract with the New South Wales Government, and the City and Suburban Electric Railways Act was passed. The design, as outlined in the Schedule of the Act, included the city railway, with two up and two down tracks forming a loop round the city, the total length being 16 miles 52 chains of single track, of which 8 miles 66 chains are below ground; the Eastern Suburbs Railway, double track throughout of a total length of 8½ miles of single track; and the Western Suburbs Railway, double track throughout, connecting with the main suburban line between Stanmore and Petersham Stations, the total length being 5 miles 44 chains of single track. The estimated cost, exclusive of land resumption, was £6,400,000.

The Norton Griffiths contract was cancelled in May, 1917, and work on the City Railway has been suspended.

GRADIENTS OF RAILWAYS.

In many cases the railways of New South Wales pass through mountainous country, and have been constructed with a large proportion of steep gradients, some of the heaviest being situated on the trunk lines.

In the southern system, the line at Roslyn, near Crookwell, reaches an altitude of 3,225 feet above sea level; and at Nimmitabel, the terminus of the Goulburn to Nimmitabel railway, the height is 3,503 feet. In the

western system, at Newnes Junction, on the Blue Mountains, a height of 3,503 feet is attained; and on the northern line the highest point, 4,473 feet, is reached at Ben Lomond.

Numerous deviations have been made during recent years in order to secure easier grades and curves, with the result that considerable economy in working and expedition in traffic have been effected.

The following statement shows the number of miles on different gradients in June, 1920:—

Gradients.	Southern System.	Western System.	Northern System.	Total.
1 in	miles.	miles.	miles.	miles.
18 to 30	3½	...	...	3½
31 „ 40	46½	62½	33	142½
41 „ 50	59½	51	85½	195½
51 „ 60	55½	75½	59½	191
61 „ 70	52½	58½	38½	149½
71 „ 80	165½	103½	162½	431½
81 „ 90	41½	44½	45½	131½
91 „ 100	111½	146½	87½	345
101 „ 150	170½	188½	152½	511½
151 „ 200	103	93½	87	283½
201 „ 250	53½	54½	42	150
251 „ 300	74½	85½	62½	222½
301 „ level	745½	789½	683½	2,218
Total	1,682½	1,753½	1,538½	4,974½

The above table is exclusive of the Government line from Broken Hill to Tarrawingee, measuring 39 miles 41 chains, and that at Wollongong of 1 mile 8 chains, the total length of these lines being 40 miles 49 chains.

COST OF RAILWAY CONSTRUCTION.

The average cost per mile open for traffic of the Government Railway lines, excluding expenditure for rolling-stock, machinery, furniture, and workshops and stores, has been £12,394—an amount which is by no means high considering the character of some parts of the country through which the lines have been carried, and the cost of labour.

The amount expended on rolling-stock, &c., to 30th June, 1920, was £17,157,887:—Rolling stock, £13,850,707; machinery, £1,024,423; workshops, £896,387; furniture, £10,370; stores advance account, £1,376,000. The total capital expenditure amounted to £79,318,917, an average of £15,815 per mile. The growth of the capital expenditure may be seen in the following table:—

Period.	Capital expended during period.	Total capital expended to end of period.	Period.	Capital expended during period.	Total capital expended to end of period.
	£	£		£	£
1855-9	1,278,416	1,278,416	1900-4	4,296,241	42,288,517
1860-4	1,353,374	2,631,790	1905-9	5,324,149	47,612,666
1865-9	2,049,539	4,681,329	1910-14	13,652,203	61,264,869
1870-4	2,163,217	6,844,546	1915	4,318,405	65,583,274
1875-9	3,561,949	10,406,495	1916	3,242,318	68,825,592
1880-4	9,673,643	20,080,138	1917	3,181,029	72,006,621
1885-9	9,759,029	29,839,167	1918	3,043,829	75,050,450
1890-4	6,016,104	35,855,271	1919	1,551,141	76,601,591
1895-9	2,137,005	37,992,276	1920	2,717,326	79,318,917

Of the £79,318,917 expended to 30th June, 1920, an amount of £659,930 has been provided from the Consolidated Revenue of the State, leaving a balance of £78,658,987 which has been raised by the issue of debentures and other stock. The net revenue for the year ended 30th June, 1920, after paying working expenses, was £3,512,863, which gave a return of 4·5 per cent. upon the total capital expenditure.

WORKING EXPENSES AND EARNINGS.

While the primary object of State railway construction has been to promote settlement, apart from consideration of the profitable working of the lines, the principle has nevertheless been kept in view that the railways should be self-supporting.

A statement of the working expenses and earnings of the railways during the year ended 30th June, 1920, is shown below:—

Working Expenses.	Earnings.
£	£
Maintenance of Way, Works, and Buildings 1,589,472	Passengers 5,137,247
Locomotive Power 3,726,101	Mails, Parcels, Horses, &c. 576,884
Greasing and Oiling Carriages and Waggon 13,726	Total Coaching... .. 5,714,131
Carriage and Waggon Repairs and Renewals 863,948	Refreshment Rooms 426,323
Traffic Expenses 2,535,814	Goods—
Compensation 27,210	Merchandise 3,801,555
General Charges 443,606	Live Stock 1,340,520
Refreshment Rooms 352,616	Wool 371,146
Gratuities, &c. 11,491	Minerals 1,294,571
Fire Insurance Fund 7,000	Total Goods 6,807,792
9,570,984	Rents 70,493
Balance, Net Earnings 3,512,863	Miscellaneous 65,108
Total ... £13,083,847	Total ... £13,083,847

The expenditure on locomotive power amounted to 39 per cent. of the total; traffic expenses to 26 per cent.; and maintenance of way, works, and buildings to 17 per cent. Of the earnings 39 per cent. was derived from the carriage of passengers, 4 per cent. from mails, parcels, &c., 3 per cent. from refreshment rooms, and 52 per cent. from the conveyance of goods.

As the carriage of goods and live stock constitutes the principal source of railway revenue, the earnings fluctuate in each year in accordance with the type of seasons experienced in the agricultural and pastoral districts. In unfavourable seasons the carriage of fodder and the transfer of live stock at reduced rates cause a diminution in the earnings, and at the same time an increase in the working expenses. The extension of the lines into sparsely settled districts also causes an increase in the proportion of working expenses to total earnings, as several of these lines earn little more than cost of maintenance.

The following table shows the gross earnings, working expenses, and the proportion of the expenditure to receipts, in stated years from 1890 up to 30th June, 1920:—

Year ended 30th June.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.	Year ended 30th June.	Gross Earnings.	Working Expenses.	Proportion of working expenses to gross earnings.
	£	£	per cent.		£	£	per cent.
1890	2,633,086	1,665,835	63·3	1916	8,006,078	5,661,168	70·7
1895	2,878,204	1,642,589	57·1	1917	8,380,084	5,915,360	70·6
1900	3,163,572	1,844,520	58·3	1918	8,954,880	5,940,447	66·3
1905	3,684,016	2,216,442	60·2	1919	9,958,173	6,904,450	69·3
1910	5,485,715	3,276,409	59·7	1920	13,083,847	9,570,984	73·2
1915	7,616,511	5,311,162	69·7				

The working expenses during the year ended 30th June, 1920, represented 73·2 per cent. of the gross earnings. In 1907 the proportion was 53·0 per cent., the lowest since the control of the railways was vested in Commissioners, but the percentage has risen steadily since that year, the increase being due mainly to advances in the salaries and wages of the staff and in the prices of necessary materials.

The following table shows the gross earnings, working expenses, and net earnings per train mile and per average mile open at five yearly intervals from 1900 onwards:—

Year ended 30th June.	Per train mile.			Per average mile open.		
	Gross Earnings.	Working Expenses.	Net Earnings.	Gross Earnings.	Working Expenses.	Net Earnings.
	d.	d.	d.	£	£	£
1900	85·36	49·77	35·59	1,139	664	475
1905	84·46	50·82	33·64	1,123	676	447
1910	85·12	50·84	34·28	1,513	904	609
1915	89·52	62·42	27·10	1,877	1,309	568
1920	137·51	100·59	36·92	2,635	1,927	708

NET EARNINGS AND INTEREST ON CAPITAL.

The net revenue from railways for the year ended 30th June, 1920, was £3,512,863, while the capital expended on lines open for traffic to that date was £79,318,917, including £659,930 paid from consolidated revenue. The amount thus available, to meet the interest charges on the capital expended, represents a return of 4·48 per cent. The following table shows the net

earnings and the interest returned on the total capital expended on railways, including the cost of construction and equipment for the year 1890 and subsequent periods:—

Year ended 30th June.	Net Earnings.	Interest on Capital.	Year ended 30th June.	Net Earnings.	Interest on Capital.
	£	per cent.		£	per cent.
1890	967,251	3·17	1916	2,344,910	3·45
1895	1,235,615	3·31	1917	2,464,724	3·50
1900	1,319,052	3·43	1918	3,014,433	4·10
1905	1,467,574	3·40	1919	3,053,723	4·03
1910	2,209,306	4·58	1920	3,512,863	4·48
1915	2,305,349	3·60			

During 1919-1920 there was an increase in the rate of interest returned on account of additional revenue produced as a result of increases in goods and coaching rates imposed on 1st November, 1918, and further increases on 1st January, 1920.

The table below shows the rate of interest returned on the capital expenditure for each of the years since 1909, with the amount by which such return falls short of or exceeds the actual rate of interest payable on the cost of construction. The rate of return on capital represents the interest on the gross cost of the lines:—

Year ended 30th June.	Interest returned on Capital.	Actual rate of Interest payable on Loans.	Gain (+) or Loss (—).	Year ended 30th June.	Interest returned on Capital.	Actual rate of Interest payable on Loans.	Gain (+) or Loss (—).
	per cent.	per cent.	per cent.		per cent.	per cent.	per cent.
1909	4·45	3·65	+0·80	1915	3·60	3·67	-0·07
1910	4·58	3·53	+1·05	1916	3·45	3·78	-0·33
1911	4·67	3·59	+1·08	1917	3·50	4·09	-0·59
1912	4·41	3·60	+0·81	1918	4·10	4·17	-0·07
1913	3·76	3·49	+0·27	1919	4·03	4·30	-0·27
1914	3·87	3·67	+0·20	1920	4·48	4·63	-0·15

The railways being owned by the State, public opinion at once demands a reduction in freights and fares, when the net earnings are much in excess of the interest requirements; substantial reductions were made in 1911 and 1912, but passenger fares and goods rates have been increased considerably since June, 1913.

COACHING AND GOODS TRAFFIC.

For the first ten years after the opening of the first railway in New South Wales the larger part of the earnings was obtained from the passenger traffic, no doubt owing to the fact that the first lines were entirely suburban. It was not until the line crossed the mountains and opened up the interior that the proportions changed, and the goods traffic became the principal source of revenue.

The following table gives the proportion of earnings from the coaching and goods traffic at intervals since 1890. The percentages shown for coaching

include earnings from miscellaneous sources and rents, and therefore differ slightly from those stated on a previous page:—

Year ended 30th June.	Proportion of Total Earnings.		Year ended 30th June.	Proportion of Total Earnings.	
	Coaching, &c.	Goods and Live Stock.		Coaching, &c.	Goods and Live Stock.
	per cent.	per cent.		per cent.	per cent.
1890	40·2	59·8	1916	45·8	54·2
1895	35·5	64·5	1917	45·7	54·3
1900	38·8	61·2	1918	48·0	52·0
1905	39·9	60·1	1919	43·7	56·3
1910	39·9	60·1	1920	47·7	52·3
1915	44·7	55·3			

Coaching Traffic.

The following table shows the number of passenger journeys and the receipts from coaching traffic since 1890:—

Year ended 30th June.	Passenger Journeys.	Gross Earnings from Coaching Traffic.	Per head of population.	
			Passenger Journeys.	Gross Earnings from Coaching Traffic.
	No.	£	No.	s. d.
1890	17,071,945	1,041,607	15·8	19 3
1895	19,725,418	1,001,107	15·9	16 2
1900	26,486,873	1,195,496	19·7	17 6
1905	35,158,150	1,428,190	24·4	19 10
1910	53,644,271	2,124,292	33·6	26 7
1915	58,774,451	3,315,294	47·7	35 7
1916	92,850,838	3,574,063	49·9	38 5
1917	96,709,846	3,637,656	51·8	39 0
1918	94,304,516	3,932,936	49·9	41 7
1919	98,568,768	3,978,181	51·0	41 2
1920	114,654,660	5,714,131	57·4	57 2

Particulars regarding the passenger traffic on suburban and country lines during the years 1915 and 1920 are shown below; suburban lines include distances within 34 miles of Sydney and Newcastle:—

Description.	Year ended 30th June, 1915.			Year ended 30th June, 1920.		
	First Class.	Second Class.	Total.	First Class.	Second Class.	Total.
SUBURBAN LINES.						
Ordinary Passengers	5,812,729	28,355,665	34,168,394	6,814,174	35,680,397	42,494,571
Season Ticket Holders' Journeys	7,600,260	14,622,450	22,222,710	10,347,120	22,822,294	33,169,414
Workmen's Journeys . . . . .	.....	23,523,348	23,523,348	.....	28,648,006	28,648,006
Total Passenger Journeys	13,412,989	66,501,463	79,914,452	17,161,294	87,150,697	104,311,991
Miles Travelled	93,402,827	455,483,034	548,885,861	125,334,076	631,992,718	757,326,794
Average Mileage per Passenger	6·96	6·85	6·87	7·30	7·25	7·28
Amount Received from Passengers	238,519	787,676	1,021,195	372,618	1,818,003	1,690,621
Average Receipts per Passenger per Mile	0·60	0·42	0·45	0·71	0·50	0·54
COUNTRY LINES.						
Passengers	2,208,729	6,651,270	8,859,999	2,762,246	7,580,423	10,342,669
Miles Travelled	263,798,655	418,216,547	682,015,202	383,804,252	491,695,498	875,299,750
Average Mileage per Passenger	119·43	62·88	76·98	138·87	64·86	84·63
Amount Received from Passengers	812,761	1,076,728	1,889,489	1,754,125	1,692,501	3,446,626
Average Receipt per Passenger per Mile	0·74	0·62	0·66	1·1	0·83	0·86

Information relating to "passenger mileage" from 1911 onwards is contained in the following table:—

Year ended 30th June.	Passenger Train Mileage. (000 omitted.)	Passenger Journeys. (000 omitted.)	Total Passenger Miles. (000 omitted.)	Amount received from Passengers.	Average Number of Passengers carried per Train.	Average Mileage per Passenger Journey.	Average Receipt per Passenger Mile.	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
				£		miles.	d.	d.	
1911	8,094	60,920	906,217	2,074,860	112	14·88	0·55	8·17	244,066
1912	8,978	70,707	1,091,088	2,349,280	121	15·43	0·51	7·97	287,204
1913	9,667	79,490	1,192,584	2,571,446	123	15·00	0·54	7·76	308,002
1914	10,081	86,328	1,235,025	2,832,450	123	14·37	0·55	7·87	312,804
1915	10,099	88,774	1,230,901	2,910,684	122	13·87	0·57	7·87	303,402
1916	10,283	92,851	1,321,491	3,147,041	129	12·85	0·57	8·13	316,980
1917	10,435	96,710	1,473,707	3,202,167	141	15·24	0·52	7·95	341,690
1918	9,441	94,305	1,384,766	3,473,340	147	14·67	0·60	8·84	394,277
1919	9,689	98,569	1,367,691	3,533,869	141	13·88	0·62	8·60	288,725
1920	11,136	114,655	1,632,627	5,137,247	147	14·24	0·76	10·75	328,761

Passenger traffic is greatest within the Sydney and Newcastle suburban areas, and the rates of fares within a 34 miles radius of either of these cities are lower than for equal distances outside the areas mentioned. The following tables show the fares charged in 1910, 1915, and 1920 for stated distances from either Sydney or Newcastle.

Single Tickets.

Distance.	June, 1910.		June, 1915.		June, 1920.	
	First Class.	Second Class.	First Class.	Second Class.	First Class.	Second Class.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1	0 0 2	0 0 1	0 0 2	0 0 1	0 0 3	0 0 1½
5	0 0 6	0 0 5	0 0 5	0 0 4	0 0 7	0 0 5
10	0 1 0	0 0 8	0 0 9	0 0 6	0 1 1	0 0 9
20	0 1 11	0 1 2	0 1 6	0 0 11	0 2 1	0 1 3½
30	0 2 10	0 1 10	0 2 2	0 1 5	0 3 1	0 2 0
50	0 5 9	0 3 7	0 4 7	0 3 0	0 6 6	0 4 3
100	0 13 7	0 8 3	0 11 2	0 7 4	0 15 11	0 10 5
200	1 8 7	0 17 0	1 4 3	0 15 5	1 14 9	1 1 11
300	2 3 2	1 5 4	1 17 5	1 3 1	2 13 3	1 12 9
400	2 16 4	1 13 0	2 10 6	1 10 0	3 11 8	2 2 8
500	3 6 1	1 19 8	3 0 9	1 15 1	4 6 3	2 9 7

Periodical Tickets.

Distance.	June, 1910.			June, 1915.			June, 1920.		
	Work-men's Weekly.	Monthly.		Work-men's Weekly.	Monthly.		Work-men's Weekly.	Monthly.	
		Second Class.	First Class.		Second Class.	First Class.		Second Class.	Second Class.
	s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.
1	0 9	0 7 6	0 5 0	0 9	0 9 0	0 6 0	1 1	0 12 6	0 8 6
5	1 9	0 16 0	0 10 9	1 9	0 19 3	0 13 0	2 6	1 6 6	0 17 9
10	2 6	1 2 9	0 15 0	2 6	1 7 3	0 18 0	3 6	1 17 9	1 5 0
20	3 4	1 10 3	1 0 3	3 4	1 16 3	1 4 3	4 8	2 9 9	1 13 6
30	4 2	1 14 3	1 2 9	4 2	2 1 0	1 7 3	5 11	2 17 0	1 18 6
50	...	2 1 0	1 6 3	...	2 9 3	1 11 6	...	3 8 6	2 3 9
100	...	2 17 9	1 14 6	...	3 9 3	2 1 6	...	4 16 3	2 17 3
200	...	4 3 0	2 9 0	...	4 19 6	2 18 9	...	6 14 0	3 19 3
300	...	5 0 6	3 1 6	...	6 0 6	3 13 9	...	7 16 0	4 16 0
400	...	5 18 0	3 14 0	...	7 1 6	4 8 9	...	8 17 6	5 12 6
500	...	6 15 6	4 6 6	...	8 2 6	5 3 9	...	9 18 6	6 9 0

The above rates represent the maximum charges, but liberal concessions are made in respect of periodical tickets to school pupils, youths, and women. Cheaper fares are available for journeys to tourist districts and holiday resorts. Since June, 1920, the rates shown above as at that date have been increased by one-sixth.

Goods Traffic.

The following figures show how greatly the goods traffic has expanded, especially in recent years:—

Year ended 30th June.	Goods and Live Stock Traffic.		Per head of Population.	
	Tonnage.	Gross Earnings.	Tonnage.	Gross Earnings.
		£		£ s. d.
1890	3,788,950	1,569,356	3.5	1 9 0
1895	4,075,093	1,855,187	3.3	1 9 11
1900	5,531,511	1,936,217	4.1	1 8 5
1905	6,724,215	2,213,105	4.7	1 10 9
1910	8,393,038	3,290,640	5.3	2 1 3
1915	11,920,881	4,206,234	6.4	2 5 2
1916	11,915,500	4,329,971	6.4	2 6 6
1917	11,732,864	4,542,619	6.3	2 8 8
1918	11,293,060	4,652,113	6.0	2 9 2
1919	12,714,012	5,583,932	6.6	2 17 9
1920	13,293,528	6,807,792	6.6	3 8 1

A statement showing the class of goods carried on the railways since 1900 is shown below:—

Year ended 30th June.	General Merchandise.		Wool.	Live Stock.	Minerals.		Total Goods.
	Grain, Flour, &c. (Up Journey).	Other.			Coal, Coke, and Shale.	Other.	
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1900	361,052	1,151,564	84,678	188,595	3,406,769	338,853	5,531,511
1905	522,755	1,398,443	90,572	174,424	4,169,076	368,945	6,724,215
1910	608,405	2,100,203	138,779	463,669	4,553,965	528,017	8,393,038
1915	482,876	2,849,908	132,895	849,604	6,649,704	955,894	11,920,881
1916	852,019	2,753,295	111,083	797,065	6,410,503	991,535	11,915,500
1917	1,327,067	2,713,102	117,762	577,798	6,052,489	944,646	11,732,864
1918	1,398,994	2,720,939	120,612	523,683	5,696,830	832,002	11,293,060
1919	1,684,776	3,258,947	126,037	645,858	6,003,564	994,830	12,714,012
1920	764,457	3,685,983	117,171	900,933	6,732,859	1,092,125	13,293,528

The following table shows information relating to "ton mileage" for the last ten years:—

Year ended 30th June.	Goods Train Mileage. (000 omitted.)	* Tons Carried. (000 omitted.)	† "Ton-miles." (000 omitted.)	Earnings, exclusive of Terminal Charges.	Average Freight-paying Load carried per "Train."	Average Miles per Ton.	Earnings per "Ton-mile."	Density of Traffic per average mile Worked.
			No.	£	Tons.	Miles.	d.	Tons.
1911	8,913	10,055	810,949	3,079,783	90·98	80·65	0·91	218,403
1912	9,544	10,632	862,016	3,181,771	90·32	81·08	0·89	226,906
1913	9,517	11,402	861,940	3,153,626	90·57	75·60	0·88	222,608
1914	10,469	12,901	1,037,911	3,760,384	99·14	80·45	0·87	262,165
1915	10,321	11,660	916,923	3,633,613	88·84	78·64	0·95	226,010
1916	11,273	11,614	1,028,760	3,738,227	91·26	88·58	0·87	246,764
1917	9,866	11,468	1,136,485	3,936,639	115·19	99·10	0·83	263,502
1918	8,703	11,094	1,044,437	4,051,655	120·02	94·14	0·93	229,496
1919	10,246	12,469	1,237,806	4,889,343	120·80	99·27	0·95	261,306
1920	11,698	13,010	1,394,099	6,106,563	119·17	107·15	1·05	280,729

* Exclusive of coal, &c., on which shunting charges only were collected.

† "Ton-mileage" is the product of the load in tons and the distance in miles over which the load is carried.

Freight Charges.

The following table gives the charges per ton for haulage of the different classes of freight over distances of 100 and 500 miles in 1910, 1915, and 1920:—

Class of Freight.	June, 1910.		June, 1915.		June, 1920.	
	100 miles.	500 miles.	100 miles.	500 miles.	100 miles.	500 miles.
Ordinary Goods (per ton)—	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Highest Class Freight...	2 14 10	8 0 8	2 9 5	6 7 4	3 4 3	8 5 8
Lowest " " ...	0 8 11	1 2 6	0 8 11	1 1 6	0 11 8	1 8 0
Agricultural Produce (Up journey)...	0 7 6	0 12 0	0 7 6	0 12 0	0 9 9	0 15 7
Butter ...	0 18 10	2 18 5	1 0 9	3 2 0	1 7 1	4 0 7
Beef, Mutton, Veal, &c. (frozen) ...	0 9 2	2 5 10	0 9 2	2 5 10	0 12 6	3 2 6
Wool—Greasy ...	1 5 0	3 8 9	1 5 0	3 8 9	1 12 3	4 9 6
" —Scoured ...	1 9 2	3 15 0	1 9 2	3 15 0	1 17 8	4 17 6
Minerals—Crude Ore, not exceeding £20 per ton in value ...	0 4 2	0 15 8	0 4 2	0 15 8	0 6 0	1 1 3
Live Stock (per truck)—	3 3 4	9 6 3	3 9 8	9 11 2	4 14 8	13 0 0

The highest class freight includes expensive, bulky, or fragile articles, such as boots, drapery, drugs, groceries, furniture, liquors, crockery, glassware, cutlery, ironmongery, confectionery, and carpets; the lowest class includes agricultural produce, ore, manures, coal, coke, shale, firewood, limestone, stone, slates, bricks, rabbit-proof netting, timber in logs, and posts and rails.

EXPANSION OF TRAFFIC.

The expansion which has taken place in the volume of traffic on the railways of New South Wales will be seen from the following comparison; the earnings during the quinquennium 1916-1920, show an increase of £13,741,648, or 40 per cent., as compared with the earnings during the previous five years, the number of passengers increased by 29 per cent., and the tonnage of goods and live-stock, &c., by 5 per cent.:—

		Five years ended 30th June, 1915.	Five years ended 30th June, 1920.	Increase.	Percentage increase.
Earnings—					
Coaching Traffic ...	£	15,003,848	22,390,165	7,386,317	49
Goods and Live Stock ...	£	17,028,584	22,212,927	5,184,343	30
Coal, Coke and Shale ...	£	2,608,983	3,779,971	1,170,988	45
Total earnings	£	34,641,415	48,383,063	13,741,648	40
Passengers ...	No.	386,219,240	497,088,628	110,869,388	29
Goods and Live Stock ...	Tons	24,221,137	30,052,719	5,831,582	24
Coal, Coke and Shale ...	Tons	33,877,954	30,896,245	(-) 2,981,709	(-) 9
Total Tonnage		58,099,091	60,948,964	2,849,873	5

(-) Indicates decrease.

ROLLING-STOCK.

Information regarding the rolling-stock of New South Wales Railways on 30th June, 1919 and 1920, appears in the following table:—

Classification.	1919.	1920.	Classification.	1919.	1920.
Locomotives—			Merchandise—		
Engines	1,279	1,279	Goods, open	16,032	15,871
Tenders	1,039	1,040	Goods, covered	948	947
Coaching—			Meat trucks	428	428
Special & sleeping cars	121	96	Live-stock trucks	2,904	2,890
First-class	421	437	Brake-vans	586	599
Composite	215	215	Total	20,898	20,735
Second-class	902	917			
Brake-vans	136	136	Departmental Stock—		
Horse-boxes, carriages, trucks, &c.	239	288	Loco. coal, ballast, &c., waggons	1,753	1,803
Total	2,084	2,089			

About 300 of the 15-ton "S" trucks have been converted and made available for the transport of wheat in bulk. During the 1920-1 season 2,000,000 bushels were transported from the twenty-eight grain silos operating in the country to the terminal elevator at Glebe Island.

SIGNALLING AND SAFETY APPLIANCES.

Great progress has been made in providing safety appliances at various places. At many of the principal stations the points and signals are interlocked, and at the Central Station, Sydney, an electro-pneumatic system of signalling is in operation. During 1913, track block and automatic signalling—the first in Australia—was installed between Redfern Tunnel Signal-box and Sydenham Junction; this system has been extended to 170 miles 60 chains of double track.

Particulars regarding the various systems employed for the safe working of the lines in 1919 and 1920 are shown below:—

	1919.		1920.	
	Mls.	Chs.	Mls.	Chs.
Single Line.				
By electric tablet	350	71	318	6
electric train staff	1,698	50	1,823	63
train staff and ticket with line clear reports	1,451	38	1,451	38
train staff and ticket without line clear reports.	689	79	685	42
train staff and one engine only	116	57	116	57
	4,307	55	4,395	46
Double Line.				
By automatic signalling with track block working	125	73	170	60
absolute manual block system	478	32	458	19
permissive manual block system... ..	5	12	5	12
telephone	0	33	0	33
	609	70	634	44

The experimental installation of a locomotive cab signalling system laid down on the Richmond line in 1917 has been attended with success, and the system is now being installed on the line between Junee and Albury.

The Westinghouse brake is used on all the rolling stock of the Government railways.

RAILWAY ACCIDENTS.

The persons meeting with accidents on railway lines may be grouped under three heads—passengers, employees, and trespassers; and the accidents themselves may be classified into those arising from causes beyond the control of the persons injured, and those due to misconduct or want of caution.

The accidents may be further subdivided into those connected with the movement of railway vehicles and those apart from such movement.

Adopting such classifications, the accidents during the quinquennial period terminated on 30th June, 1920, are shown in the following table:—

Classification.	Accidents connected with the Movement of Railway Vehicles.					Accidents not connected with the Movement of Railway Vehicles.				
	1916.	1917.	1918.	1919.	1920.	1916.	1917.	1918.	1919.	1920.
Passengers—										
Causes beyond their own control—										
Killed ... ..	...	...	...	...	...	...	...	...	...	...
Injured	14	34	25	27	20	12	11	4	6	7
Their own misconduct, or want of caution—										
Killed	16	14	12	4	10	...	...	...	...	...
Injured	208	141	142	137	159	41	53	59	91	73
Servants of the Department—										
Causes beyond their own control—										
Killed ... ..	...	...	1	...	...	...	...	2	...	...
Injured	37	30	24	42	75	103	92	96	127	140
Their own misconduct, or want of caution—										
Killed	31	16	20	17	19	3	5	3	2	5
Injured	344	283	221	387	400	2,690	2,408	2,505	3,020	4,184
Trespassers and others—										
Killed	40	33	26	23	41	7	7	4	8	5
Injured	107	84	84	97	97	110	157	102	105	109
Total { Killed	87	63	59	44	70	10	12	9	10	10
Injured	710	572	496	690	751	2,956	2,721	2,766	3,349	4,513

The above return is compiled in a similar way to that adopted by the Board of Trade in England, and all accidents are reported which occur in the working of the railways, or on railway premises, to persons other than servants of the Department, however slight the injuries may be. In the case of employees of the Department all accidents must be reported which cause the employee to be absent for at least one whole day from his ordinary work.

The accident rates among passengers per million carried during the quinquennium ended 30th June, 1920, were as follow:—

	Killed.	Injured.
Accidents connected with movement of railway vehicles—		
Causes beyond their own control	·00	·24
Their own misconduct or want of caution	·11	1·58
Accidents not connected with movement of railway vehicles—		
Causes beyond their own control ... ..	...	·08
Their own misconduct or want of caution ... ..	...	·64
Total	·11	2·54

The amount of compensation paid during the twelve months ended 30th June, 1920, in connection with accidents on railways, was £27,210, of which £5,593 was personal, £21,617 being paid in respect of goods.

PRIVATE RAILWAY LINES.

In New South Wales the established policy has been to keep the railways under State management and control, and at the present time there are only 172 miles of private lines in operation, with the exception of short lines to connect coal and other mines with the main railways, on a few of which provision has been made for the carriage of passengers and goods.

In 1874 Parliament granted permission to a company to construct a line from Deniliquin, in the centre of the Riverina district, to Moama, on the River Murray, where it meets the railway system of Victoria. The line, which was opened in the year 1876, is of 5 ft. 3 in. gauge and 45 miles in length; a considerable proportion of the wool and other produce of the Riverina reaches the Melbourne market by this route. During the year 1888 a line of 3 ft. 6 in. gauge, and 35 miles 54 chains in length, was laid down from Silverton and Broken Hill to the South Australian border. A short line connects the Government railway at Liverpool with the Warwick Farm Racecourse. The Seaham Coal Company's line connects the West Wallsend and Seaham Collieries with Cockle Creek; and the line of the Commonwealth Oil Corporation extends from Newnes Junction, on the Western line, to the Wolgan Valley. The following table shows the operations of all private railway lines open to the public for general traffic during the year 1919.

Name of Private Railway.	Line.		Total Capital Expended.	Reserve Fund.	Debentures Outstanding.	Passengers Carried.	Goods Carried.	Live Stock Carried.	Train Miles Run.		
	Length.	Gauge.									
	m.	ch	ft.	in.	£	£	£	No.	tons.	No.	No.
Deniliquin and Moama.	45	0	5	3	162,673	14,010	...	16,017	23,786	560,484	48,24
(a) Silverton ...	35	54	3	6	482,724	78,069	...	38,826	*125,333	73,018	45,360
Warwick Farm ...	0	66	4	8½	5,700	...	...	31,059	...	551	68
Seaham Colliery...	6	0	4	8½	16,000	...	...	18,304	7,925	...	7,752
East Greta ...	19	35	4	8½	496,182	...	...	687,516	tons. 162,679	...	343,635
Hexham-Minmi ...	20	0	4	8½	£1,000,000	...	...	...	1,040	...	1,908
Commonwealth Oil Corporation.	33	0	4	8½	194,500	...	475,000	1,512	15,937	...	14,772
†New Red Head...	12	0	4	8½	102,000	...	...	†	†	†	†

* Includes 3,115 tons local shunting. † Year 1915. ‡ Not available. § Approximate.
(a) Year ended 30th June, 1920.

The Deniliquin and Moama Company possesses 4 locomotives, 6 passenger carriages, and 60 goods carriages and vans. The Silverton Company has 20 locomotives, 665 goods vehicles, and 1 passenger carriage; and passenger carriages are hired also from the South Australian Government railways as required. On the Warwick Farm line Government rolling-stock is used. The Seaham Colliery has 2 locomotives, but otherwise Government rolling-stock is used, 4 passenger carriages, and 1,685 goods vehicles being hired during 1919. On the East Greta railway there are 20 locomotives, 27 passenger carriages, and 45 goods carriages. The Hexham-Minmi Company has 1 locomotive, and 1 passenger carriage; and the Commonwealth Oil Corporation has 4 locomotives, 2 passenger carriages, 1 motor car, and 67 goods carriages and vans.

In addition to the private railway lines shown in the above table, there are several branches, connected principally with coal and other mines; a summary of them is given below:—

District.	Length. m. ch.	Gauge. ft. in.
Connected with Northern Line	95 54	4 8½
„ „ Western „ „ „ „ „ „ „ „	6 39	4 8½
„ „ South Coast „ „ „ „ „ „ „ „	3 40	3 6
	29 76	4 8½

RAILWAYS OF NEW SOUTH WALES AND OTHER COUNTRIES.

The position of the railways of New South Wales in relation to other important countries of the world is shown in the following table for the year 1920 in comparison with 1890, to illustrate the relative progress during the last thirty years. It is, however, necessary to remember that there are vital differences which really invalidate any effective comparison, as, for instance, differences in population, and in the assistance received or competition encountered from river or sea carriage. In cases where the figures for 1920 could not be obtained, those for the latest year available have been inserted.

Country.	1890.			1920.		
	Length of Railways.	Per Mile of Line Open.		Length of Railways.	Per Mile of Line Open.	
		Popu- lation.	Area.		Popu- lation.	Area
	miles.	No.	sq. miles.	miles.	No.	sq. miles.
New South Wales	2,263	496	137	5,199	390	59
Victoria	2,471	457	36	4,247	354	21
Queensland	2,142	180	509	5,942	124	113
South Australia	1,774	183	312	3,442	137	110
Western Australia	505	96	2,099	4,892	68	199
Tasmania	399	362	66	791	274	33
New Zealand	1,956	320	53	3,142	395	33
United Kingdom	19,943	1,896	6	23,709	1,940	5
Russia	17,363	5,291	120	35,987	3,977	55
Germany	24,270	1,931	9	39,439	1,719	5
France	21,899	1,745	9	30,709	1,290	7
Switzerland	1,869	1,569	8	3,705	1,062	4
Austria	15,267	2,481	16	14,512	2,012	8
Hungary				13,333	1,585	9
Canada	12,628	402	270	38,191	219	98
United States of America	154,276	398	19	266,031	337	11
Argentine Republic	3,635	825	319	21,858	379	53
Japan	534	74,171	276	7,147	7,956	21

RAILWAY GAUGES OF AUSTRALIA.

Excluding the Tasmanian lines the classification of the Government Railways according to gauge as at 30th June, 1920, may be seen below:—

Government Railways.	Mileage with Gauge.					Total Miles
	2 ft.	2 ft. 6 in.	3 ft. 6 in.	4 ft. 8½ in.	5 ft. 3 in.	
New South Wales	26	.....	40	4,975	.....	*5,041
Victoria ... ..	.....	122	.....	.....	4,092	4,214
Queensland	30	.....	5,655	.....	.....	5,685
South Australia ... ..	.....	.....	1,209	.....	1,124	2,333
Western Australia ... ..	.....	.....	3,539	.....	.....	3,539
Commonwealth ... ..	.....	.....	677	1,056	.....	1,733
Total	56	122	11,120	6,031	5,216	22,545

*Includes Burrinjuck line.

In consequence of the diversity of gauge interstate railway communication is seriously hampered; in a journey from Queensland to Western Australia, breaks of gauge occur at Wallangarra, where the systems of Queensland and New South Wales meet, at Albury, on the border of New South Wales and Victoria, at Terowie and Port Augusta in South Australia, and at Kalgoorlie, where the Commonwealth and the Western Australian lines connect.

The question of fixing the standard gauge has been the subject of many diverse professional opinions. The New South Wales gauge of 4 ft. 8½ in. has been recommended by the chief railway engineers of the Commonwealth and of the five States and by the Railway War Council, and has been adopted for the Port Augusta-Kalgoorlie railway.

Each year the problem of the unification of gauges becomes of more pressing importance because of its relation to questions of ordinary traffic as well as of defence; and the longer the delay the greater the cost becomes.

The necessity and urgency of a uniform gauge to connect the State capitals were affirmed in May, 1920, at a conference between the Prime Minister of the Commonwealth and the State Premiers, who also agreed upon the allocation of the cost and arranged that a committee of railway experts should report regarding costs, &c. Following upon the presentation of this report, at a further conference held in July, 1920, the question was again discussed, and it was finally decided that in the first place a thorough test should be made at Tocumwal of the third rail device; secondly, that the question of the gauge to be used, the scheme which would best meet requirements, and the estimated cost, should be investigated by a commission of two expert engineers from overseas and a chairman selected in Australia by the Prime Minister. The commission has been appointed since and has already held two sittings, which were devoted to making preliminary arrangements.

TRANSCONTINENTAL RAILWAYS.

It is the intention of the Federal Government to construct transcontinental railway lines to bring the States of the continent of Australia into direct communication. A line from Port Augusta in South Australia to Kalgoorlie in Western Australia was opened for traffic in November, 1917, the gauge of 4 feet 8½ inches having been adopted. The total length is 1,051 miles, making the distance by rail from Sydney to Fremantle

(Western Australia) 2,761 miles, divided up as follows:—Sydney to Melbourne, 583 miles; Melbourne to Adelaide, 483; Adelaide to Port Augusta, 259; Port Augusta to Kalgoorlie, 1,051; Kalgoorlie to Fremantle, 385. This line is required to facilitate the transport of troops, &c., in time of war, and accelerate the transit of European mails. Mail matter forwarded to Adelaide from Sydney by rail, and thence sent by steamer to Fremantle, takes six days, whereas the through railway journey occupies four days. When the heavy ballasting is completed it should be practicable to make the journey between Port Augusta and Kalgoorlie in about 24 hours; in the meantime, it takes about 35 hours.

TRAMWAYS.

With the exception of 2½ miles privately owned, the tramways of New South Wales are the property of the State Government. The standard gauge of 4 ft. 8½ in. has been adopted for all lines. The electric system was introduced into Sydney at the close of 1899, and the steam tramways in the metropolitan district have been converted. Of the 225½ miles of line open at 30th June, 1920, there were 154½ miles under the electric system and 71 miles worked by steam.

Line.	Length of Line.	Length of Single Track.
Electric—	mls. ch.	mls. ch.
City and Suburban	112 77	207 8
North Sydney	21 75	37 16
Ashfield to Mortlake and Cabarita	8 28	15 9
Rockdale to Brighton-le-Sands	1 20	1 20
Manly to The Spit and Manly to Narrabeen	10 58	15 38
	155 23	276 11
Steam—		
Arncliffe to Bexley	2 50	2 50
Kogarah to Sans Souci	5 45	6 79
Parramatta to Castle Hill	6 55	6 55
Sutherland to Cronulla	7 32	7 32
Newcastle City and Suburban	34 6	44 34
East to West Maitland	4 5	4 5
Broken Hill	10 4	11 35
	70 37	83 50
Total	225 65	359 61
Sidings, loops, and Cross-overs ... ..	.....	54 62

During the year ended 30th June, 1920, the length of tramway opened for traffic was 63 chains.

The tramway rolling-stock, on 30th June, 1920, consisted of 26 steam motors, 79 steam cars, 1,389 motor cars and 5 trail cars for electric lines, and 113 service vehicles, making a total of 1,612.

The capital cost of the State tramways to 30th June, 1920, amounted to £8,768,548, or £38,832 per mile open; the cost of construction was £4,508,008, or £19,964 per mile, and the expenditure on rolling-stock, workshops, machinery, &c., amounted to £4,260,540.

Working of Tramways.

The following statement shows the working of the various tramways in sections for the year ended 30th June, 1920. Three sections returned a profit during the period, and the total loss on all lines, after allowing for interest on capital, amounted to £8,449.

Line.	Cost of Construction and Equipment.	Passengers carried.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest on Capital.	Profit + Loss —
Electric—	£	No.	£	£	£	£	£
City and Suburban	6,501,865	269,255,935	2,370,309	1,990,070	380,239	301,665	+ 78,574
North Sydney	786,430	25,165,376	211,923	175,431	36,492	36,333	+ 159
Ashfield to Mortlake & Cabaritta	209,585	5,612,668	42,747	23,385	4462	9,611	— 5,349
Manly to The Spit and Manly to Narrabeen.	323,744	4,124,890	46,304	39,228	7,078	15,148	— 8,070
Rockdale to Brighton-le-Sands	20,925	827,814	5,464	3,662	1,802	976	+ 826
Steam—							
Arncliffe to Bexley	22,193	604,118	4,796	7,288	— 2,487	1,040	— 3,527
Kogarah to Sans Souci	29,518	1,122,123	12,748	15,375	— 2,627	1,338	— 4,010
Parramatta to Castle Hill	39,306	1,065,777	11,877	12,738	— 1,356	1,842	— 3,198
Sutherland to Cronulla	52,427	946,768	15,300	13,607	1,693	2,442	— 749
Newcastle City and Suburban	655,236	14,519,605	144,449	157,501	—13,052	27,448	—40,500
East to West Maitland	34,966	603,630	5,784	11,394	— 5,610	1,730	— 7,340
Broken Hill	92,353	1,035,947	10,596	21,554	—10,958	4,307	— 15,265
Total, All Lines.. .. .	8,768,548	324,884,651	2,881,797	2,486,121	395,676	404,125	— 8,449

Revenue and Expenditure.

In the following table are given details of revenue and expenditure, and capital invested for all State tramways, since 1880. The net earnings of the tramways for the year ended 30th June, 1920, amounted to 4.56 per cent. on cost of construction and equipment, as compared with 4.63 per cent., the actual interest payable, taking into consideration the actual sum obtained by the State for its loans, many of which were floated below par:—

Year ended 30th June.	Total Length of Lines.	Capital Expended on Lines open for Traffic.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest Returned on Capital.
	Miles.	£	£	£	£	per cent.
1880	4½	60,218	18,980	13,444	5,536	9.19
1890	39½	938,614	268,962	224,073	44,889	4.81
1900	71½	1,924,720	409,724	341,127	68,597	3.5
1910	165½	4,668,797	1,185,568	983,587	201,981	4.33
1915	219½	7,970,293	1,986,060	1,611,286	374,774	4.70
1916	220½	8,166,423	1,991,628	1,602,650	388,978	4.76
1917	224	8,309,629	2,008,539	1,691,367	317,172	3.82
1918	225½	5,470,091	1,992,641	1,803,260	389,381	4.60
1919	225½	8,568,133	2,237,701	1,850,724	386,977	4.54
1920	225½	8,768,548	2,881,797	2,486,121	395,676	4.5

During the year ended 30th June, 1920, the percentage of working expenses to the total receipts was 86.3, as compared with 82.7 in the previous year; the net earnings amounted to £395,676, which is equal to a net return per average mile open of £1,753, as compared with £1,716 per mile open in the previous year.

Tram Fares.

The following table shows the fares charged on the trams for one and more sections at five yearly periods since 1910. The average length of a section is $1\frac{1}{4}$ miles:—

Sections.	Week Days.			Sundays.		
	June, 1910.	June, 1915.	June, 1920.	June, 1910.	June, 1915.	June, 1920.
	d.	d.	d.	d.	d.	d.
1	1	1	$1\frac{1}{2}$	1	2	2
2	2	2	3	2	3	3
3	3	3	$3\frac{1}{2}$	3	4	4
4	4	4	4	4	5	5
5	5	5	5	5	6	6
6	6	6	6	6	6	6

In June, 1915, passengers travelling in the second section only were charged $1\frac{1}{2}$ d. In June, 1921, the fares charged on week days were 2d. for one section, 3d. for two sections, 4d. for three sections, 5d. for four sections, and 6d. for five or six sections; and on Sundays, 1d. more in each case.

Comparison of Tramway Traffic.

The following statement contains a comparison of the passenger traffic and the tram mileage since 1900. With the extension of the tramway system the earnings per tram mile decreased from 2s. 3d. in 1900 to 1s. in 1905, but have since risen to 2s. $1\frac{1}{2}$ d.; the working cost per tram mile dropped from 1s. 10d. to 10d. in 1905, but increased steadily to 1s. $10\frac{1}{2}$ d. in 1920.

Year ended 30th June.	Length of line open.	Passengers carried.	Tram mileage.	Earnings per tram mile.	Working cost per tram mile.
	miles.	No.	miles.	s. d.	s. d.
1900	71 $\frac{1}{2}$	66,244,334	4,355,024	2 3	1 10
1905	125 $\frac{1}{2}$	139,669,459	16,413,762	1 0	0 10
1910	165 $\frac{1}{2}$	201,151,021	20,579,386	1 1 $\frac{1}{2}$	0 11 $\frac{1}{2}$
1915	219 $\frac{1}{2}$	289,282,845	26,842,974	1 5 $\frac{1}{2}$	1 2 $\frac{1}{2}$
1916	220 $\frac{1}{2}$	292,021,774	26,451,442	1 6	1 2 $\frac{1}{2}$
1917	224	295,303,714	25,361,992	1 7	1 4
1918	225 $\frac{1}{2}$	255,740,838	21,762,244	1 10	1 5 $\frac{1}{2}$
1919	225 $\frac{1}{2}$	268,797,814	24,674,306	1 9 $\frac{1}{2}$	1 6
1920	225 $\frac{1}{2}$	324,884,651	26,889,077	2 1 $\frac{1}{2}$	1 10 $\frac{1}{2}$

The extension of the City and North Sydney tramways since 1905 may be seen in the following statement, also the enormous increase in the passenger traffic. All lines which communicate directly with the city of Sydney are

included in the category "City and Suburban"; the Ashfield, Kogarah, Arncliffe, and Rockdale lines, which act as feeders to the railways, and the Manly lines have not been included:—

Year ended 30th June.	City and Suburban.			North Sydney.		
	Length of line.	Passengers carried.	Tram mileage.	Length of line.	Passengers carried.	Tram mileage.
	miles.	No.	miles.	miles.	No.	miles.
1905	73½	120,973,934	14,413,273	11½	9,128,575	1,074,743
1910	94½	173,897,034	17,743,868	16½	13,677,491	1,651,153
1915	110½	240,545,317	22,242,010	19½	20,743,680	2,375,916
1916	111½	242,686,337	21,937,619	19½	20,813,257	2,279,494
1917	112½	244,712,191	20,884,254	20½	21,612,120	2,290,913
1918	112¾	212,372,470	17,650,438	21	19,233,753	2,225,771
1919	113	222,111,451	20,094,167	21	20,086,649	2,394,534
1920	113	269,255,935	21,811,695	22	23,165,376	2,705,620

TRAMWAY ACCIDENTS.

The accidents which occurred on tramways during the quinquennial period ended 30th June, 1920, are classified in the following table, in a similar way to those relating to the railways:—

Classification.	Accidents connected with the movement of tramway vehicles.					Accidents not connected with the movement of tramway vehicles.				
	1916.	1917.	1918.	1919.	1920.	1916.	1917.	1918.	1919.	1920.
Passengers—										
Causes beyond their own control—										
Killed...	...	...	...	...	...	...	...	...	...	...
Injured	77	43	57	47	157	1	2	...	...	...
Their own misconduct, or want of caution—										
Killed...	7	12	4	5	12	1	...	...	...	...
Injured	346	297	270	226	294	8	13	13	3	7
Servants of the Department—										
Causes beyond their own control—										
Killed...	1	...	...	...	...	...	...	...	...	...
Injured	47	74	64	87	70	29	31	36	41	79
Their own misconduct, or want of caution—										
Killed...	1	1	3	1	4	...	...	...	1	...
Injured	152	241	207	281	246	306	322	379	438	603
Others—										
Killed...	23	12	13	16	19	...	...	...	1	...
Injured	294	226	194	178	243	4	10	8	3	2
Total										
{ Killed...	32	25	20	22	35	1	...	...	2	...
{ Injured	916	881	792	819	1010	348	378	436	485	691

As the tramways usually traverse crowded streets, the number of accidents must be considered small.

The number of passengers carried on the tramways during the year ended 30th June, 1920, was 324,884,651, and the rate of fatal accidents among passengers was .04 per million. With one exception, the fatal accidents in the last five years were ascribed entirely to misconduct or want of caution on the part of passengers.

The amount of compensation paid during the twelve months ended 30th June, 1920, in respect of accidents on the tramways was £22,778, as compared with £14,297 for the preceding year.

PRIVATE TRAMWAYS.

There is one tramway under private control within the State—a steam tramway, which passes through the town of Parramatta, commencing at the Park and continuing as far as the Newington Wharf at Duck River, a distance of 2 miles 66 chains, where it connects with the Parramatta River steamers conveying passengers and goods to and from Sydney. The line has been constructed to the standard gauge of 4 feet 8½ inches, and was opened in 1883.

RAILWAYS AND TRAMWAYS.

A statement of the capital cost of the State Railways and Tramways, and the result of working during the last two years, is shown below:—

Particulars.	1919.			1920.		
	Railways.	Tramways.	Railways and Tramways.	Railways.	Tramways.	Railways and Tramways.
Cost of Construction and Equipment at 30th June ..	£ 76,601,591	£ 8,568,138	£ 85,169,729	£ 79,318,917	£ 8,768,548	£ 88,087,465
Year ended 30th June—						
Earnings	9,958,173	2,237,701	12,195,874	13,083,847	2,881,797	15,965,644
Working Expenses	6,904,450	1,850,724	8,755,174	9,570,984	2,486,121	12,057,105
Balance after paying Working Expenses	3,053,723	386,977	3,440,700	3,512,863	395,676	3,908,539
Interest on Capital	3,265,540	368,529	3,634,069	3,641,988	404,125	4,046,113
Deficit	211,817	*13,448	193,369	129,125	8,449	137,574

* Surplus.

EMPLOYMENT AND WAGES.

The amount of wages paid, together with the staff employed on the Government railways and tramways in June, 1920, is shown in the following statement, in comparison with the previous year:—

Particulars.	Year ended 30th June, 1919.			Year ended 30th June, 1920.		
	Railways.	Tramways.	Total.	Railways.	Tramways.	Total.
Persons employed—						
Salaried staff	4,937	794	5,731	4,913	759	5,672
Wages „	29,776	8,234	38,010	29,807	8,211	38,018
Total number	34,713	9,028	43,741	34,720	8,970	43,690
Wages paid—	£	£	£	£	£	£
Maintenance Branch	1,465,285	196,472	1,661,757	1,811,324	279,984	2,091,308
Locomotive „	2,038,872	.....	2,038,872	2,894,533	.....	2,894,533
Electric „ .. .. .	.....	336,153	336,153	.....	444,964	444,964
Traffic „	1,038,637	727,615	1,766,252	1,408,132	981,803	2,389,935
Total	4,542,794	1,260,240	5,803,034	6,113,989	1,706,751	7,820,740

The average number of men employed during the year ended 30th June, 1920, was 43,300, including an average of 1,562 employees serving with the Australian Imperial Force. The number of railway and tramway employees who had joined the Australian Imperial Force was 8,477. All permanent employees were paid the difference in their pay in railway and tramway service and in the defence forces; under certain conditions similar terms were allowed to members of the temporary staff.

A scheme to provide superannuation allowances for the officers of the railway and tramway service was introduced in 1910; particulars are shown in another chapter of this Year Book.

POSTS AND TELEGRAPHS

The postal, telegraphic, and telephonic services of New South Wales passed over to the Commonwealth, on 1st March, 1901, and on 1st November, 1902, uniform rates were established for the conveyance of newspapers and transmission of telegrams throughout Australia.

NUMBER OF POST OFFICES, &c.

The following table shows, in comparative form, the number of post offices, and the postal matter carried in the State of New South Wales.

Year.	Post Offices in New South Wales.	Receiving Offices.	Letters, Post-cards and Registered Articles.	Newspapers.	Packets.	Parcels.
1910	1,911	526	163,754,056	66,963,559	39,008,610	1,600,426
1911	1,948	542	189,656,401	71,619,194	36,283,500	1,748,822
1912	2,000	559	192,996,376	68,696,648	32,687,904	2,067,652
1913	2,025	571	212,639,659	64,874,811	33,583,889	2,318,453
1914	2,049	574	217,907,644	66,216,699	34,203,574	2,372,964
1915-16	2,074	566	219,525,661	72,067,335	33,343,149	2,537,970
1916-17	2,040	548	259,185,729	68,546,782	28,230,715	2,906,090
1917-18	2,031	548	255,177,316	62,320,777	24,844,315	2,923,254
1918 19	2,037	562	240,591,473	63,387,875	22,887,484	2,977,413
1919-20	2,034	559	256,062,161	61,407,862	20,038,008	2,951,391

Further particulars of the postal matter carried during the year ended 30th June, 1920, are shown below :—

Postal Matter.	Inland (Counted Once).	To and from other Australian States.	To and from Countries outside Australia.	Total.	Per Head of Population.
Letters and post-cards	190,320,608	40,259,408	23,041,444	253,621,460	126·9
Registered articles ...	1,664,386	467,186	309,120	2,440,701	1·2
Newspapers ...	43,958,304	12,556,641	4,892,917	61,407,862	30·7
Packets ...	15,478,898	2,865,737	1,693,373	20,038,008	10·0
Parcels ...	2,114,420	612,878	224,093	2,951,391	1·5

During 1919-20 the postal matter posted and received per head of population comprised—Letters, post-cards, and registered articles, 128 ; newspapers, 31 ; and packets and parcels, 12.

Value-payable Parcel Post.

Under a system of value-payable parcel post, the Department accepts for transmission within the Commonwealth parcels or letters sent in execution of orders, and collects from the addressees on behalf of the senders the charges due thereon. During the year ended 30th June, 1920, the number of parcels posted in New South Wales was 38,713, and the value collected was £85,055, the revenue, including postage, commission on value, registration, and money-order commission being £5,435.

DEAD LETTERS, &c.

The number of letters and other postal articles dealt with by the Dead Letter Office in New South Wales during the year ended 30th June, 1920, was as follows :—

How dealt with.	Letters and Post Cards.	Packets and Circulars.	Newspapers.
Returned direct to writers, or delivered	589,028	615,300	} 406,300
Destroyed in accordance with Act	100,266	121,100	
Returned as unclaimed to other States or Countries ...	143,542	7,931	
Total	832,836	744,331	406,300

RATES OF POSTAGE.

The principal postal charges in force within the Commonwealth and Papua are at the following rates, which came into operation on 2nd October, 1920.

Letters	2d. per $\frac{1}{2}$ oz.
Letter Cards	2d. each.
Post cards—Single	1 $\frac{1}{2}$ d. each.
Newspapers—Printed and published in Australia	1d. per 10 oz.
Printed and published outside Australia	1d. per 4 oz.
Magazines—Printed and published in Australia	1d. per 8 oz.
Printed and published outside Australia	1d. per 4 oz.
Books—Printed in Australia	1d. per 8 oz.
Printed outside Australia	1d. per 4 oz.
Printed papers	1d. per 2 oz.
Commercial papers, patterns, samples and merchandise ...	1 $\frac{1}{2}$ d. per 2 oz.
Parcels	6d. for 1 lb., and 3d. per lb. additional.

Licensed vendors of postage stamps may be allowed 2 $\frac{1}{2}$ per cent. commission, up to a maximum of 30s. per week. During the year ended 30th June, 1920, an amount of £5,523 was paid as commission to licensed vendors in New South Wales, the total so paid for all States of the Commonwealth being £21,242.

MAIL SERVICES.

The number of inland mail services in New South Wales during 1919–20 was 2,180; the cost of road services amounted to £230,374, and of railway services to £93,592.

The Postmaster-General establishes new mail services in the country districts of the State when the persons interested provide half the difference between cost and revenue.

OCEAN MAIL SERVICES.

A contract for the carriage of oversea mails fortnightly, between Australia and the United Kingdom, was arranged by the Commonwealth Government with the Orient Steam Navigation Company for a period of ten years, dating from 11th February, 1910. The Peninsular and Oriental Company also conducted a fortnightly service, under contract with the Imperial Government, and thus regular weekly communication *via* Suez was maintained until the war period. Since the close of the war these services have been carried out as far as possible with the reduced number of steamers available. At the present time (May, 1921), the Commonwealth Government is negotiating with the Orient Steam Navigation Company for the establishment of a four-weekly mail service between Australia and England *via* Suez to commence on the expiration of the present contract in September, 1921. A subsidy of £130,000 per annum is to be paid the Company,

and large fast steamers, fitted with refrigerating space, are to be employed. The contract will be renewed from year to year and will be subject to termination on twelve months notice being given by either contracting party.

The Imperial Government will probably arrange with the Peninsular and Oriental Steamship Company for the establishment of an alternate four-weekly service by the same route, so that a regular fortnightly mail service *via* Suez may be inaugurated at an early date.

Mails to Europe *via* America are carried by the Union Steamship Company, which maintains a monthly service *via* Auckland, Fiji, Honolulu, and Vancouver, subsidised by New Zealand and Canada, and a monthly service *via* Wellington and San Francisco, subsidised by New Zealand. American vessels of the Oceanic Steamship Company despatched every three weeks also carry mails between Sydney and San Francisco.

Mails to China, Japan, and other eastern ports are carried by various British steamships, also by the Dutch and Japanese.

A British service between Sydney and Singapore is subsidised by the Government of New South Wales, and a mail service to Lord Howe Island and Norfolk Island, Papua, Solomon Islands, New Hebrides, and the Marshall and Gilbert Islands is subsidised by the Commonwealth Government.

AEROPLANE MAIL SERVICES.

The Postal Department has established a committee for the purpose of watching the development of the aeroplane and advising the Department upon its use for the conveyance of mails. Investigations to date indicate that aeroplane services in Australia are practicable, but that the establishment of such services independently by the Postal Department would be too costly. The development of aviation, however, is of vital importance for the defence of Australia, and preliminary arrangements have been made with the Defence Department for the establishment of an experimental air mail service in Western Australia between Geraldton and Derby.

Under the Air Navigation Act, 1920, the Governor-General may make regulations for the purpose of giving effect within Commonwealth territories to the Convention for the Regulation of Aerial Navigation, signed in Paris, 13th October, 1919.

TELEGRAPHS.

The electric telegraph was first used by the public of New South Wales on 26th January, 1858, when the line from Sydney to Liverpool, 22 miles in length, was brought into operation. At 30th June, 1920, there were 2,247 telegraph stations. The following table gives a view of the telegraph business transacted in New South Wales since 1910 :—

Year.	Telegraph Stations.	Telegrams.			Revenue received.
		Transmitted, and delivered (Inland counted once).	In Transit.	Total.	
1910	1,399	5,220,962	386,216	5,607,178	£ 245,245
1911	1,406	5,505,935	413,777	5,919,712	253,398
1912	1,384	5,917,219	447,771	6,364,990	278,665
1913	1,602	6,116,945	456,722	6,573,667	297,965
1914	1,937	6,178,926	524,093	6,703,019	307,999
1915-16	2,107	6,402,092	624,992	7,027,084	331,924
1916-17	2,231	6,491,354	661,559	7,152,913	350,581
1917-18	2,237	6,870,263	728,154	7,598,417	386,919
1918-19	2,252	7,183,234	753,219	7,936,453	416,427
1919-20	2,247	8,283,993	760,105	9,044,098	455,014

Although the telephone system has been developed extensively during recent years, there has been no decline in the number of telegraph messages.

The telegrams received and despatched during the year ended 30th June, 1920, were classified as follows:—

Inland (counted once) ..	...	...	...	...	4,779,884
Interstate ... ..	...	...	...	...	2,975,970
To and from other countries (cablegrams) ...	...	...	...	...	528,139
In transit ... ..	...	...	...	...	760,105
Total ... ..	...	...	...	...	9,044,098

Excluding the telegrams in transit, the messages represented 4·1 per head of population.

CABLE SERVICES.

The following statement shows the particulars of the cable lines giving communication from Sydney:—

- To Europe—
 - via Darwin and Banjoewangie, Java (duplicate).
 - via Perth, Cocos, and Durban.
 - via Roebuck Bay and Banjoewangie.
 - via Southport, Norfolk Island, Fiji, Fanning Island, and Canada.
- To New Zealand—
 - via La Perouse and Nelson (duplicate).
 - via Southport, Norfolk Island, and Auckland.
 - via Bondi and Muriwai Creek.
- To New Caledonia—
 - via Bundaberg and Gomen.
- To Tasmania—
 - via Flinders and Low Head (duplicate).

Cable Messages.

The following table gives a comparison of the cable business transacted in New South Wales during the last five years, excluding messages to and from Tasmania. Messages in transit are excluded also, but the receipts from such business are included in the amount of revenue shown.

Year.	Cable Messages.		Amount Collected.	
	Sent from New South Wales.	Received in New South Wales.	Total.	Portion due to Commonwealth Government.
			£	£
1915-16	136,487	211,490	450,374	42,708
1916-17	186,143	260,284	503,587	48,107
1917-18	192,467	251,919	628,291	51,382
1918-19	196,521	274,180	899,833	67,058
1919-20	250,260	277,879	875,280	76,117

LETTER TELEGRAMS.

Letter telegrams were introduced in February, 1914; messages may be telegraphed during the night to certain offices and thence forwarded as ordinary letters—that is, delivered by first letter delivery, or despatched to address by mail. The messages must be written in plain language. Letter telegrams may be exchanged between any offices which are open for the receipt of ordinary business between 7 p.m. and midnight, or for ordinary or press business after 7 p.m.

DEFERRED TELEGRAMS.

A system of deferred telegrams came into operation on 1st January, 1912, by which telegrams, written in plain language, and subject to a delay not exceeding twenty-four hours, may be sent at half ordinary rates to those countries which have adopted the service, including the United Kingdom and all British Possessions to which the rate per word is not less than 10d., also to the Commonwealth wireless stations in the Pacific, and to Port Moresby and Flinders Island. Besides British territories the Commonwealth exchanges deferred telegrams with a number of foreign countries.

WIRELESS TELEGRAPHY.

The administration of the radio service, which was under the control of the Department of the Navy for the greater part of the war period, reverted to the Postmaster-General's Department on 1st July, 1920, although the actual transfer did not take place until 28th October following. Immediate steps were taken to extend the radio service, and any person in a remote locality, where land-line facilities are unobtainable, may now obtain a license to erect and operate his own station. In any case where such a station has been erected to the satisfaction of the Postmaster-General's Department, and the financial position is sound, the Department will undertake to bring the owner into communication with the land-line system. For this latter purpose collecting stations are now being erected.

The New South Wales radio station is at Pennant Hills, Sydney. The other stations in the Commonwealth are at Adelaide, Mount Gambier, Brisbane, Cooktown, Rockhampton, Thursday Island, Townsville, Perth, Broome, Esperance, Geraldton, Roebourne, Wyndham, Darwin, Hobart, Flinders Island, King Island, and Melbourne.

The removal of the restrictions imposed during the war was marked by a great increase in the radiogram traffic, the total number of messages handled during the year ended 30th June, 1920, being 131,898, and the revenue collected £17,457.

TELEPHONES.

The telephone system was established in Sydney in 1880, and exchanges have since been provided in many other important centres, the number in 1920 being 873. A telephone trunk line between Sydney and Melbourne was brought into use in 1907.

The following table shows the growth of the telephone service since 1913:—

Year.	Exchanges.	Number of Lines Connected.	Public Telephones.	Telephone Instruments connected.
1913	451	43,845	916	53,978
1914	521	49,040	1,069	62,367
1915-16	705	51,905	1,317	66,532
1916-17	765	57,553	1,421	70,058
1917-18	825	62,123	1,521	78,886
1918-19	853	65,734	1,558	84,118
1919-20	873	70,700	1,606	91,117

Tests are being made of the capabilities of wireless telephony, but no commercial service has yet been instituted.

FINANCIAL RESULTS OF POSTAL SERVICES.

Viewing the postal services as important factors in the development of the country, any financial loss incurred in the working of the Post Office has been deemed to be counterbalanced by the national advantages gained.

The results for the whole Commonwealth during the last five years are compared in the following statement :—

Year ended 30th June.	Earnings.	Working Expenses.	Surplus.	Interest on Capital.	Net Profit. (+) Net Loss. (-)
	£	£	£	£	£
1916	5,049,569	4,841,667	207,902	523,892	(-)315,990
1917	5,515,769	5,134,533	381,236	558,382	(-)177,146
1918	5,773,954	4,809,571	964,383	577,001	(+)387,382
1919	6,158,571	5,043,891	1,114,680	590,035	(+)524,645
1920	6,732,096	5,633,752	1,098,344	610,390	(+)487,954

The accounts for the years 1916-20 are exclusive of the figures relating to the Wireless Telegraph Branch, which was controlled by the Department of the Navy from 1st July, 1915, until 1st July, 1920.

Particulars regarding the various branches in the State of New South Wales for the year ended 30th June, 1920, were as follows :—

Branch.	Earnings.	Working Expenses.	Surplus.	Interest on Capital.	Net Profit. (+) Net Loss. (-)
	£	£	£	£	£
Postal	1,291,721	1,273,733	17,988	40,704	(-)22,716
Telegraph (except Wireless) ...	468,584	394,200	74,384	37,730	(+)36,654
Telephone	868,049	635,600	232,449	151,102	(+)81,347
Total, all branches	2,628,354	2,303,533	324,821	229,536	(+)95,285

MINING INDUSTRY.

SUPERVISION AND REGULATION OF MINING, &C.

New South Wales owes much of its progress to its mineral resources. Coal was the first mineral discovered (1847); and, until gold in payable quantities was found in 1851, was the only mineral raised. During the next twenty years these two minerals constituted 95 per cent. of the value of all mineral production, but in 1873 the output of copper, and a few years later the output of tin, attained important dimensions. In 1883 the production of silver began to increase rapidly, although it was not until 1888 that its real value as a national asset was fully manifested.

Mining operations are controlled by the State Department of Mines. The functions of the Department include the administration of legal enactments relating to mining, and of the Prospecting Vote, the examination of coal-fields, the inspection of collieries and mines, geological and mining surveys and assays, and the general supervision of the mining industry.

Authority must be obtained for all operations for the mining of gold or other minerals. A miner's right, for which a fee of 5s. per annum is charged, entitles the holder to occupy Crown land for the purpose of mining for gold or other minerals, to construct works for mining purposes, to conserve water or obtain timber in connection with mining, except within exempted areas, and for residence. A business license, the fee for which is 20s. per annum, entitles the holder to occupy one-quarter of an acre of Crown land in a town or one acre outside town boundaries.

During the year 1920 there were 12,838 miners' rights and 489 business licenses issued, the fees received amounting to £2,310 and £313 respectively. In 1910 17,355 miners' rights were issued, and 1,298 business licenses were granted. The reduced figures are indicative of the general decline in the industry.

The annual rent for mining leases is 1s. per acre. A royalty of 1 per cent. of the gross value of gold and other minerals, except coal and shale, won from the land leased, and a royalty of 6d. per ton on all coal and shale, is payable to the Crown. No royalty is payable, except on coal and shale, unless the gross value exceeds £500 during the year.

Upon payment of a fee, and under certain conditions, holders of miners' rights may obtain authority to enter upon any private land to prospect for minerals and may apply for a lease for the whole or any part of the land.

Leases of Crown or of private land may be granted for the purpose of mining for gold or any mineral by dredging, sluicing, or other method.

The minimum labour conditions are as follow :—

For gold : One man to 5 acres for the first year, and thereafter one man to 2 acres. For minerals other than gold, coal, or shale : One man to 20 acres for the first year, and thereafter one man to 10 acres. For coal or shale : Two men to 640 acres, or fraction thereof.

The Mining Act provides for the suspension of the labour conditions under certain circumstances.

Certificates of competency are issued by the Minister upon the report of the examining boards to managers, under-managers, engine-drivers, and electricians.

In 1920, certificates were issued under the Coal Mines Regulation Act to 11 managers, 11 under-managers, 81 deputies, and 6 mine electricians. Under the Mines Inspection Act, 8 certificates were issued to managers, 9 permits to act as managers, 289 engine-drivers' certificates, and 9 licenses to test and examine boilers.

AREA UNDER MINING OCCUPATION.

The area under mining occupation in New South Wales at 31st December, 1920, was approximately 387,871 acres, made up as follows :—

	Acres.
Crown Lands under mining lease	213,496
" " " lease for mining purposes	5,500
" " " application for mining lease	39,361
" " " " " lease for mining purposes	2,063
Private Lands under mining lease	27,085
" " " lease for mining purposes	454
" " " application for mining lease	18,573
" " " " " lease for mining purposes	248
" " " authority to enter	42,040
" " " agreement	12,767
Dredging Lands under application for lease	2,556
Miner's Right and Business License	10,267
Authority to Prospect	58
Under application for Authority to Prospect	12,164
Other Mining Titles... ..	1,239
Total	<u>387,871</u>

The total number of applications received during 1920 by the Department of Mines for leases and authorities to prospect was 1,345 relating to 112,916 acres. Of these, 858 applications, covering 93,211 acres, related to Crown lands, and 437 applications, covering 17,580 acres, related to private lands. The remaining applications, covering 2,125 acres, related to both Crown and private lands.

The applications approved during 1920 under the Mining Act were as follows :—

Classification.	Applica- tions.	Aggregate Area.	Classification.	Applica- tions.	Aggregate Area.
	No.	Acres.		No.	Acres.
Crown Lands—			Private Lands—		
Mining Leases... ..	376	23,614	Mining Leases... ..	171	6,119
Leases for mining pur- poses... ..	34	387	Leases for mining pur- poses... ..	18	74
Authorities to prospect	36	14,216		189	6,193
			Crown & Private Lands—		
			Dredging Leases	26	1,089
	446	38,217	Total	661	45,499

Two thousand three hundred and forty-six authorities to enter, covering 56,428 acres, were issued during 1920.

The following is a statement of the expenditure by the State from the Consolidated Revenue Fund on account of services in connection with mining during the years ended 30th June, 1916-20.

Head of Service.	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£
Department of Mines	50,011	49,490	50,242	50,163	52,071
State Colliery, Lithgow ... ..	...	942	325	170	236
Geological Survey Laboratory	181	196	124	196	324
Miners' Accident Relief Branch	1,303	1,521	1,389	1,369	1,143
Administration of the Act for Regulation of Coal Mines and Collieries	575	415	321	332	405
To promote prospecting for gold and other minerals*	8,093	7,162	8,328	9,575	8,352
Royal Commission—Coal Mining Industry	...	...	...	...	9,282
To acquire, erect, work, and maintain and to assist in the erection of crushing batteries†	265	231	5	250	...
Bores to prove coal seams under Reserves	684	52	...	...	...
Detonators and explosives	10,306	2,096	554	54	...
Miscellaneous	1,795	320	453	633	1,608
Total	73,213	62,425	61,744	62,745	73,421
Endowment Miners' Accident Relief Act	11,613	11,561	3,275	...	...
State Coal Mines Act ... ..	...	825	1,000	1,000	861
Total	84,826	74,811	66,019	63,745	74,282

* These amounts are to be refunded if, in the opinion of the Prospecting Board, minerals are won in payable quantities, or if the mines otherwise prove profitable to the prospectors.

† To be repaid in accordance with agreements.

PROSPECTING.

Subsidies are granted by the Government to encourage prospecting for minerals. The Prospecting Board, consisting of the Under Secretary for Mines as Chairman, the Government Geologist, the Chief Inspector of Mines, and three Inspectors, the Chief Mining Surveyor, and a Geological Surveyor, deals with all applications for aid, and miners desiring a grant from the Prospecting Vote must satisfy the Board that the locality to be prospected is likely to yield the mineral sought, and that the mode of operation is suitable for its discovery. Miners assisted from the vote are not entitled to claim any reward that may be offered for the discovery of a new gold or mineral field.

Under the regulations governing the distribution of the vote, the amount advanced must be refunded in the event of the discovery of payable mineral by means of the aid granted.

The following statement summarises the amounts allotted to prospectors for the various minerals; the figures are for calendar years from 1887, to 1895 and thereafter for the years ended 30th June:—

Period.	Amounts allotted to Prospectors for—						
	Gold.	Silver and Lead.	Copper.	Tin.	Coal.	Other Minerals.	Total.
	£	£	£	£	£	£	£
1887-1889	26,332	886	138	34	338	283	28,011
1890-1894	111,878	7,254	1,367	1,261	3,752	3,283	128,795
1895-1900	107,581	4,886	7,762	3,389	...	4,021	127,639
1901-1905	80,636	5,108	10,136	7,828	40	1,430	105,178
1906-1910	38,822	7,986	20,765	3,146	310	871	71,900
1911-1915	50,209	7,557	8,939	5,870	...	4,837	77,412
1916	5,548	481	1,148	705	...	1,395	9,277
1917	9,152	890	1,869	944	...	667	13,522
1918	8,172	1,061	2,542	869	...	1,126	13,770
1919	5,489	1,198	2,656	447	...	1,815	11,605
1920	4,615	695	1,842	1,013	90	826	9,081
Total ...	448,434	38,002	59,164	35,506	4,530	20,554	596,190

No large payable field has yet been discovered through the agency of the Prospecting Vote, but several rich mines have been opened with the aid granted, notably the Mount Boppy Gold Mine.

In addition to the employment of labour, the proving of a lode or reef invariably leads to the development of large areas of adjoining land under the Mining Act, from which increased revenue is derived by the State.

EMPLOYMENT IN MINES.

The extent to which mining industries provide employment is indicated in the following statement of the approximate number of men employed as at 31st December, 1916-1920:—

Year.	Metalliferous.						Coal and Shale.	Total number of men employed
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Other.	Total.		
1916	2,317	6,461	1,661	1,938	2,035	14,412	16,892	31,304
1917	1,823	7,619	2,074	1,779	2,184	15,479	17,338	32,817
1918	2,540	7,585	1,529	2,352	2,731	16,737	16,926	33,663
1919	1,656	6,556	1,148	2,171	2,750	14,281	18,178	32,459
1920	1,712	1,931	583	1,822	3,150	9,198	19,965	29,163

These figures do not include persons employed in works manufacturing lime, cement, or coke. Comparing the figures for 1920 with those of the previous year, there was a decrease of 3,296 in the total number employed, though there were increases in coal and shale miners.

MINERAL PRODUCTION.

The statistics of mineral production are incomplete, and in many instances the export trade is taken as the measure of the output. Comparison of the output of the several minerals is difficult also, as regards quantity, by reason of the variety of units of measurement employed in the different branches of the mining industry, and, as regards value, by the difference in the stages of production at which the values are assessed. For instance, the value of the tin output represents the values of ingots and of ore, and with other metals, the export, which is accepted as representing the production, is mainly in ore.

Measured by the aggregate output, coal is the most valuable mineral in New South Wales, followed by silver and gold.

The summary given below shows the output and the value of the production for the year 1920, and for the whole period since the commencement of mining operations to the end of 1920:—

Minerals.	During 1920.		To the end of 1920.	
	Quantity.	Value.	Quantity.	Value.
<i>Metals.</i>				
Gold—Domestic Ores	oz. fine. 48,907	£ 207,746	oz. fine. 14,797,544	£ 62,855,933
Silver—	oz.		oz.	
Silver Ingots and Matte	158,934	36,942	42,480,556	5,629,362
Lead Ore, Concentrates, &c.	8,890	76,634	9,319,718	76,619,639
Lead—Pig, &c.	413	9,905	298,154	5,784,823
Zinc—				
Spelter ... ..	...	...	1,003,756	} 13,415,779
Concentrates	71,043	249,456	4,430,232	
Copper—				
Ingots, Matte, and Regulus	1,290	127,978	229,146	14,879,775
Ore ... ..	...	...	31,975	376,303
Tin—				
Ingots ... ..	...	...	85,232	9,100,914
Ore	2,486	413,794	38,737	3,241,383
Iron—				
Pig-iron—from Domestic Ore..	86,096	645,720	716,025	3,290,882
Iron Oxide	1,574	1,247	42,682	54,539
Ironstone Flux... ..	2,881	3,726	124,202	98,385
Tungsten—				
Wolfram	14	2,212	2,260	267,450
Scheelite	21	3,805	1,690	192,375
Platinum	oz. 796	16,672	oz. 15,689	64,406
Molybdenite	tons. 40	8,442	tons. 799	205,500
Antimony—Metal and Ore	200	2,505	18,907	343,688
Bismuth—Metal and Ore	76	33,886	760	222,928
Chrome	1,460	5,090	34,650	110,703
Magnesite	6,474	9,891	33,063	41,530
Manganese—Ore	2,531	2,008	19,915	28,085
<i>Non-metals.</i>				
Fuels—	tons.		tons.	
Coal	10,715,999	7,723,355	256,680,532	105,867,621
*Coke	567,569	844,191	6,527,257	5,844,746
Shale (Oil)	21,004	46,082	1,861,880	2,548,896
Structural Materials—				
Limestone—Flux	80,145	30,920	1,697,095	885,558
†Marble ... ..	...	2,315	...	40,698
Slates ... ..	...	5,000	...	8,553
Alunite	634	2,536	54,367	193,507
Gem Stones—				
Noble Opal ... ..	...	23,600	...	1,498,184
Diamonds	cts. 3,523	6,282	cts. 198,936	140,269
Silica	tons. 14,884	29,768	tons. 56,896	113,475
Other Minerals and Ores ... ..	...	39,907	...	390,663
Total value ... ..	...	10,611,615	...	314,356,552
Other—				
Iron made from scrap ... ..	...	...	...	1,416,030
*Portland Cement	143,887	719,435	1,735,592	5,376,289
*†Lime	33,505	80,412	552,695	671,512

* Quantity manufactured and value. † Includes value of quantity exported (only) to end of 1901.
‡ Includes quantity exported (only) up to end of 1899.

The value of the mineral production in quinquennial periods since 1856 is shown in the following table; the figures are exclusive of iron made from scrap, Portland cement, and lime, which are included in the production of the manufacturing industry:—

Period.	Value of Production.	Period.	Value of Production.
	£		£
1856-60	6,069,118	1901-05	29,880,914
1861-65	9,980,397	1906-10	42,450,535
1866-70	7,001,454	1911-15	51,930,852
1871-75	10,768,230	1916	10,499,756
1876-80	9,184,015	1917	12,538,140
1881-85	12,381,842	1918	13,941,164
1886-90	18,681,548	1919	9,445,059
1891-95	26,324,780	1920	10,611,615
1896-1900	26,159,491		

VALUE OF MACHINERY.

The following statement shows the estimated value of the plant and machinery used in mining during the years 1916 to 1920:—

Classification.	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£
Coal and Shale ...	3,673,000	3,719,000	3,885,000	4,039,000	5,010,000
Gold ...	453,921	441,624	426,719	369,804	667,196
Silver, Lead, and Zinc	1,971,613	1,238,072	1,296,623	1,677,314	1,240,515
Copper...	702,899	579,332	584,652	649,198	382,737
Tin ...	180,022	273,789	326,536	364,598	425,062
Other Minerals ...	563,203	592,034	1,012,074	1,084,678	1,114,319
Total ...	7,549,658	6,843,851	7,531,604	8,184,592	8,839,829

The value of plant and machinery used in connection with coal and shale mines includes the value of plant used for conveying coal and shale from the mines to wharf or railway station; the amount in 1920 was £1,909,000.

QUARRIES.

The quantities and values of building stone, except stone exported, do not appear in the statements of mineral production, but are given hereunder in the return of quarries for the year 1919-20:—

Description of Quarry.	Quantity of Stone raised.	Value of Stone raised.	Description of Quarry.	Quantity of Stone raised.	Value of Stone raised.
Building Stone—	tons.	£	Macadam, Ballast, &c.—	tons.	£
Sandstone ...	66,515	45,387	(continued).		
Alunite ...	1,461	4,383	Gravel ...	58,345	13,579
Syenite (Trachyte) ...	1,187	1,520	Sand ...	65,636	13,730
Marble ...	190	950	Ironstone ...	78,871	13,664
Limestone ...	2,500	468	Shale and Clay ...	37,733	5,600
Slate ...	...	2,000	Quartzite ...	22,056	5,188
Other ...	2,180	548	Granite ...	4,182	1,305
Macadam, Ballast, &c.—			Limestone, crude ...	171,963	35,173
Sandstone ...	241,742	51,788	Magnesite ...	3,935	2,147
Bluestone, Basalt, &c...	672,876	148,471	Clays—		
Limestone ...	95,662	22,445	Kaolin ...	486	452
			Fireclay ...	2,008	2,224

PRICES OF METALS.

In the case of the minerals which contribute any considerable value to the production, the prices of all are regulated by the world's production in relation to the world's demands, as, with the exception of coal, the local demand is small.

The quotations in the following table for silver, lead, copper, and tin are the average f.o.b. prices, Sydney, based on the London prices. In the case of zinc, the averages are those quoted by the Department of Mines in connection with the Broken Hill field :—

Year.	Silver.	Lead.	Zinc.	Copper.	Tin.
	per oz. s. d.	per ton. £ s. d.	per ton. £ s. d.	per ton. £ s. d.	per ton. £ s. d.
1913	2 3·6	18 15 0	22 13 6	68 13 4	202 5 0
1914	2 1·3	19 1 8	21 0 0	60 16 8	153 0 0
1915	1 11·8	22 19 2	68 19 7	73 0 0	164 17 1
1916	2 7·3	31 1 8	71 18 6	115 15 0	181 15 0
1917	3 4·8	30 10 0	54 0 0	125 3 4	237 16 8
1918	3 11·5	30 11 8	54 3 11	115 16 8	322 6 8
1919	4 9	28 10 2	42 5 2	90 18 2	259 5 3
1920	5 1·5	37 18 7	45 4 5	97 12 2	296 4 4

In regard to coal, average prices are quoted in connection with the values of production on page 266.

GOLD.

Amongst the metals which occur in the State, gold occupies an important place, both on account of the quantity which has been raised and of the influence of its discovery on the settlement of the country.

The following table shows the quantity and value of the gold produced during each decennial period since 1851 :—

Period.	Quantity.	Equivalent in oz. fine.	Value.
	oz. crude.	oz. fine.	£
1851-1860	3,280,963	2,714,531	11,530,583
1861-1870	3,542,912	3,219,628	13,676,102
1871-1880	2,253,259	2,019,116	8,576,655
1881-1890	1,173,885	1,013,846	4,306,541
1891-1900	2,867,337	2,432,387	10,332,120
1901-1910	2,669,670	2,252,851	9,569,492
1911-1916	1,036,761	861,223	3,658,247
1917	85,954	82,171	349,038
1918	91,053	87,045	369,743
1919	67,443	65,839	279,666
1920	52,585	48,907	207,746
Total ...	17,121,822	14,797,544	62,855,933

Prospecting for gold has been neglected in recent years owing to the remunerative employment to be obtained in connection with other branches of the mining industries. New South Wales gold which was received at the Sydney Mint for coinage in 1920 amounted to 16,654 oz. fine, valued at £70,742.

GOLD AND TIN DREDGING.

Dredging is in operation on practically all the rivers of New South Wales which drain auriferous country. In addition, alluvial tin deposits are exploited, and the value of stream-tin won annually exceeds the value of gold recovered by dredging.

In 1920 there were 77 dredges, of a total value of £361,023; 14 bucket dredges and 1 pumping plant were employed in the recovery of gold, and 3 bucket dredges and 59 pumping plants in the winning of stream-tin.

The following table demonstrates the value of the metals recovered by dredging since its inauguration in this State :—

Period.	Area under Lease at end of period.	Gold Dredged.			Stream-tin Dredged.		Total Value.
		Quantity.	Value.	Quantity.	Value.		
	acres.	oz. crude.	oz. fine.	£	tons.	£	£
1900	6,943	8,882	7,924	33,660	...	..	33,660
1901-05	13,571	144,028	129,850	551,568	1,254	109,026	660,594
1906-10	16,442	185,140	168,566	716,025	7,570	732,134	1,448,159
1911-15	8,210	120,082	110,284	468,459	7,551	907,582	1,376,041
1916	7,878	20,165	18,797	79,846	1,272	146,880	226,726
1917	...	27,364	25,349	107,674	1,207	183,156	290,830
1918	...	21,039	19,779	84,016	1,253	282,388	366,404
1919	10,144	19,273	18,047	76,658	1,083	174,013	250,671
1920	...	15,810	14,845	63,056	1,063	176,834	239,890

SILVER, LEAD AND ZINC.

The output of lead and zinc in New South Wales is obtained principally from the silver-lead mines of the Broken Hill district, and for that reason the mining of these metals is discussed conjointly.

Assessment of the total output and value of production of silver-lead ores mined in New South Wales is hampered by the fact that the process of extracting the metallic contents has been conducted for the most part outside the boundaries of the State, a proportion being treated within the Commonwealth, while large quantities of concentrates are exported to Europe for treatment. For this reason the value of the output credited to New South Wales does not represent the value of the finished product, but the estimated net value of the ore, concentrates, bullion, &c., as declared by the several companies to the Customs Department at the date of export from the State.

Calculated on this basis the quantity and value of New South Wales silver and silver-lead ore exported to the end of 1920 are shown in the following table :—

Period.	Silver.		Silver-sulphide, Silver-lead, Ore, &c.			Total Value Exported.
	Quantity.	Value.	Quantity.		Value.	
			Ore Concentrates, &c.	Metal.		
	oz.	£	tons.	tons.	£	£
To 1885	1,730,297	382,884	7,073	191	237,810	620,694
1886-1890	2,481,253	464,081	165,756	94,002	6,478,515	6,942,596
1891-1895	3,009,187	445,873	663,754	231,847	12,615,432	13,061,305
1896-1900	2,352,092	269,663	1,771,983	86,005	9,592,856	9,862,519
1901-1905	4,154,020	445,051	1,877,515	108,353	8,910,586	9,355,637
1906-1910	8,310,962	892,414	1,709,173	42,578	11,561,794	12,454,208
1911-1915	12,460,553	1,302,510	1,694,834	...	14,302,570	15,605,080
1916	2,801,507	349,367	249,849	...	2,935,624	3,284,991
1917	1,782,004	328,241	234,881	...	4,165,324	4,493,565
1918	2,007,037	419,498	295,045	...	4,711,669	5,131,167
1919	1,232,710	292,838	77,989	...	1,030,825	1,323,663
1920	153,934	36,942	8,890	...	76,634	113,576
Total	42,480,556	5,629,362	8,756,742	562,976	78,619,639	82,249,001

Similar information regarding the export of lead (pig, in matte, also lead-carbonate and lead-chloride), the product of New South Wales, is shown below; for 1907 and subsequent years the quantity as recorded represents the contents, based on average assays, of bullion produced within the State :—

Period.	Lead—Pig, in matte, &c.		Period.	Lead—Pig, in matte, &c.	
	Quantity.	Value.		Quantity.	Value.
	tons.	£		tons.	£
1889-1890	648	8,298	1916	25,466	799,632
1891-1895	739	7,413	1917	20,817	616,531
1896-1900	13,293	258,874	1918	21,922	608,342
1901-1905	17,550	255,366	1919	11,497	324,215
1906-1910	71,435	996,646	1920	413	9,905
1911-1915	114,375	1,899,601	Total ...	298,155	5,784,823

The following statement shows the quantity and value of zinc concentrates, the product of domestic ores, exported since 1889. These exports represent practically the total production :—

Period.	Zinc Concentrates.		Period.	Zinc Concentrates.	
	Quantity.	Value.		Quantity.	Value.
	tons.	£		tons.	£
1889-1890	307	3,366	1916	209,741	961,849
1891-1895	663	7,677	1917	113,531	441,486
1896-1900	137,931	146,023	1918	87,019	295,413
1901-1905	133,782	440,402	1919	72,294	247,395
1906-1910	1,460,138*	3,761,223	1920	71,043	249,456
1911-1915	2,093,783	6,861,489	Total ...	4,430,232	13,415,779

* Includes 1,003,756 tons of Spelter.

The production of silver, lead, and zinc is seen in the following summary of the values during the last five years :—

Year.	Silver, Silver-lead, Concentrates, Ores, &c.	Lead (Pig, &c.)	Zinc Concentrates.	Total Production.
	£	£	£	£
1916	3,284,991	799,632	961,849	5,046,472
1917	4,493,565	616,531	441,486	5,551,582
1918	5,131,167	608,342	295,413	6,034,922
1919	1,323,663	324,215	247,395	1,895,273
1920	113,576	9,905	249,456	372,937

In 1918 the value of production was the highest on record owing to the favourable metal market and to the settled industrial conditions which prevailed throughout the year, but the rate of production was not

maintained during 1919 and 1920, on account of industrial troubles in the Broken Hill district, and the value of production dropped to £372,937 in the latter year.

As previously stated, the bulk of the ores produced in the silver-lead mines is exported for treatment outside the State and the figures shown in the preceding tables do not convey an adequate idea of the importance of the mines of New South Wales. The Department of Mines has collected independent records from the various mining and smelting companies and ore-buyers with the object of ascertaining the actual value accruing to the Commonwealth from the silver-lead mines of this State. Thus particulars have been obtained regarding the quantity and value of the silver, lead, and zinc extracted within the Commonwealth, and the gross metallic contents of concentrates exported overseas have been estimated on the basis of average assays as follows :—

Year.	Metal obtained within Commonwealth from ores raised in New South Wales.				Concentrates exported.					Total Value of Production from Silver-lead Ores of New South Wales.
	Silver.	Lead.	Spelter.	Aggregate Value.	Quantity.	Contents by average assay.			Assessed Value.	
						Silver.	Lead.	Zinc.		
	oz. fine.	tons.	tons.	£	tons.	oz. fine.	tons.	tons.	£	£
1913	5,908,638	106,432	4,121	2,709,867	547,888	8,596,251	117,903	184,149	3,759,691	6,469,558
1914	5,481,286	99,925	5,014	2,592,322	481,965	7,879,240	88,173	146,400	3,004,248	5,596,570
1915	5,292,199	101,090	5,308	3,267,736	159,784	1,710,058	9,819	71,049	1,051,849	4,319,585
1916	6,382,518	128,438	5,277	5,238,276	170,687	1,725,374	16,428	69,141	1,189,607	6,377,883
1917	7,562,286	138,006	4,694	5,765,004	94,586	983,698	6,181	43,912	668,934	6,434,028
1918	8,724,018	155,806	5,622	6,744,034	48,494	535,943	3,178	21,926	232,210	6,976,244
1919	5,886,947	80,175	7,119	4,109,466	38,740	417,871	2,425	18,146	253,751	4,363,217
1920	196,111	1,749	10,565	515,728	46,425	479,221	3,025	21,742	274,061	789,789

The following table shows the quantities and values of silver, lead, and spelter obtained within the Commonwealth from ores raised in New South Wales :—

Metal.	1919.		1920.	
	Quantity.	Value.	Quantity.	Value.
Silver... ..	oz. fine. 5,886,947	£ 1,488,003	oz. fine. 196,111	£ 47,243
Lead	tons. 80,175	2,260,648	tons. 1,749	60,979
Spelter	7,119	360,815	10,565	407,506

In connection with the above figures, although the metallic contents are based on average assays, it is impossible to give the proportion of the bulk quantities which was recovered. In the case of the lead and zinc contents, the quantities have been estimated only when payment was allowed for them.

It is estimated that the quantity and value of silver yielded by the mines of New South Wales during 1920, and to the end of 1920, are as shown in the following table :—

Metal.	Year ended 30th December, 1920.		To 31st December, 1920.	
	Quantity.	Value.	Quantity.	Value.
Obtained in the Commonwealth...	oz. fine. 196,111	£ 47,243	oz. fine. 180,794,508	£ 27,623,668
Contained in Concentrates, &c., exported	479,221	132,784	179,819,222	27,388,057
Total...	675,332	180,027	360,613,730	55,011,725

The mines on the Broken Hill field are the chief contributors to the silver and silver-lead and zinc output of Australia. The argentiferous lead ores of the Barrier Ranges and Broken Hill districts were discovered in 1883. The field extends over 2,500 square miles of country, and has developed into one of the principal mining centres of the world. It is situated in western New South Wales, beyond the River Darling, and on the confines of South Australia.

The Broken Hill lode is the largest yet discovered; it varies in width from 10 feet to 200 feet, and may be traced for several miles, the country having been taken up all along the line of lode, and subdivided into numerous leases, held by mining companies and syndicates.

During 1920 the output of ore from the Broken Hill mines amounted to 38,661 tons, viz., 1,802 tons of oxidised and 36,859 tons of sulphide ore.

The total value of the mineral output of the Barrier district during 1920 was estimated at £282,516, as compared with £2,562,748 in 1919. In addition, the treatment of zinc tailings in 1920 yielded an output valued at £44,491, bringing the total production of the Broken Hill field to £327,007 for the year; the amount distributed to shareholders was £352,845.

To the end of the year 1920 the value of production by the mines on the Broken Hill field from the inception of operations was £111,501,706, and the dividends and bonuses paid amounted to £26,509,719.

Next in importance to the Broken Hill field is the Burragorang in the Yerranderie Division. In this field rich galena occurs in bunches, but the deposits are very variable in width and composition. Owing to the excessive cost of transport, only high-grade ore is sent away, and a considerable quantity of second-grade is left in the mines or dumped at the surface for future treatment. During 1920, 6,884 tons of ore were raised and sold; the metallic contents were gold 439 oz., silver 299,123 oz., and lead 740 tons; the net value received was £88,869.

Among the other fields which contributed to the output of silver-lead ores in 1920 are the Sunny Corner Division, which produced 2,600 tons of ore, the Leadville Division, which produced 1,045 tons of ore valued at £2,450, and the Tingha Division, which produced 8,579 oz. of silver valued at £2,393, and 9 tons of lead valued at £270.

The Cobar copper-mines, of which details are given in connection with copper-mining, also yield large quantities of silver and lead.

COPPER.

Ores of copper are worked chiefly in the central part of the State, the Macquarie, Bogan, and Darling Rivers. Deposits occur also in the New England and Southern districts, as well as at Broken Hill, thus showing a wide distribution.

The copper lodes of New South Wales contain ores of a high grade as compared with those of many well-known mines worked in other parts of the world; and, given a fair price and transportation facilities, are capable of yielding satisfactory returns. The net export of copper ingots, matte, regulus, and ore, is taken as the production of the State. The quantities and values are shown below from the year 1858:—

Period.	Ingots, Matte, and Regulus.		Ore.		Total Value.
	Quantity.	Value.	Quantity.	Value.	
	tons.	£	tons.	£	£
1858-1879	14,877	1,015,206	2,102	52,464	1,067,670
1880-1884	23,715	1,553,651	19	675	1,554,326
1885-1889	15,160	771,867	537	6,937	778,804
1890-1894	10,195	434,537	1,738	20,228	454,765
1895-1899	25,408	1,280,841	852	5,253	1,286,094
1900-1904	32,173	1,907,540	8,791	106,500	2,014,040
1905-1909	41,425	2,940,886	3,057	31,367	2,972,253
1910-1914	42,277	2,443,385	9,815	86,169	2,529,554
1915-1919	22,626	2,403,884	5,064	66,710	2,470,594
1920	1,290	127,978	...	...	127,978
Total ...	229,146	14,879,775	31,975	376,303	15,256,078

The great decrease in value of output in 1919 and 1920 was due to causes mainly not connected with the productive capacity of the mines.

The Cobar mines constitute the chief centre of the copper-mining industry. The operations of the Great Cobar Mine, the principal mine in the Cobar Field, came to an end during 1920. The closing of the mine, was due to the fall in the price of copper in 1919, higher wages, increased shipping and railway freights, exchange, and the high cost of treatment of copper matte.

During 1920 the Electrolytic Refining and Smelting Company of Australia, Ltd., Port Kembla, produced 1,290 tons of copper from domestic ores, valued at £127,978.

TIN.

Tin, unlike copper, is restricted in its geographical and petrological range, and is the rarest of the common metals in commerce.

In addition to alluvial deposits, tin ore occurs *in situ* in granite and adjacent contact rocks, usually occupying fissures or penetrating walls; the majority of the tin lodes discovered in the State are on a small scale, but the lodes, developed or undeveloped, are very numerous. The maximum depth attained in the tin lodes of New South Wales is about 360 feet.

Tin ore occurs in the extreme Northern, Southern, and Western divisions, but the proved area of workable quantities is limited practically to the western fall of the New England Tableland, with Emmaville and Tingha as the chief centres, and to Ardlethan in the Southern District. It has been discovered also in small quantities in the Barrier district, at Poolamacca and Euriowie; near Bombala, in the Monaro district; at Gundle, near Kempsey; at Jingellic and Dora Dora, on the Upper Murray; in the valley of the Lachlan; and in fine particles in beach sands along the coast, in association with gold, platinum, and monazite.

Since 1902 the activity which has characterised tin-mining on the various fields throughout the State, owing to the satisfactory prices obtained, has resulted in a steadily increased value of output, so that tin has contributed in a very considerable degree to the total production of the mineral wealth of the State, its aggregate yield, in point of value, standing in the sixth place,

after coal, silver, gold, copper, and zinc. In 1920, the mines produced 2,486 tons of ore valued at £413,794.

The output and the value of production of tin since 1872 have been as follows :—

Period.	Ingots.		Ore.		Total Value.
	Quantity.	Value.	Quantity.	Value.	
	tons.	£	tons.	£	£
1872-1879	18,364	1,386,764	12,995	628,642	2,015,407
1880-1884	22,842	2,056,778	2,700	137,755	2,194,533
1885-1889	12,974	1,330,326	1,635	85,048	1,415,374
1890-1894	7,196	623,096	1,040	49,296	677,392
1895-1899	4,608	336,015	197	6,488	342,503
1900-1904	4,220	536,084	1,222	81,362	617,446
1905-1909	5,567	851,956	3,712	339,679	1,191,635
1910-1914	4,258	785,900	6,952	775,841	1,561,741
1915-1919	5,203	1,188,995	5,798	723,477	1,912,472
1920	...	...	2,486	413,794	413,794
Total ...	85,232	9,100,914	38,737	3,241,383	12,342,297

IRON AND IRON ORES.

Iron ore of good quality occurs in many parts of New South Wales, and it has been estimated that the minimum quantity of ore in known deposits exceeds 53,000,000 tons.

The most extensive deposits are those at Cadia, 39,000,000 tons; Carcoar, 3,000,000 tons; Wingello, 3,000,000 tons; Goulburn, 1,022,000 tons; and Queanbeyan, 1,000,000 tons.

Prior to 1907 iron ore was mined principally for use as flux in smelting other ores, although in 1848, at Mittagong, and in later years at Lithgow, the production of pig iron from locally raised ores had been attempted without permanent success. Since 1907, following the reorganisation and remodelling of the Eskbank Ironworks, Lithgow, the production of iron ore has been on a more extensive scale, although only the Bredalbane, Cadia, Carcoar, and Tallawang deposits have been mined. The whole of the iron ore used in the production of pig iron at the Lithgow works is obtained from these sources.

The production of pig iron since 1907, and the materials used therein, are shown in the following table :—

Year.	Minerals Used.			Pig-iron.	
	Iron Ore.	Coke.	Limestone.	Production.	Value.
	tons.	tons.	tons.	tons.	£
1907	34,500	20,873	13,433	18,631	60,550
1908	51,206	36,134	22,467	30,393	98,777
1909	46,740	34,785	21,649	26,762	100,357
1910	72,825	54,619	31,890	40,487	161,948
1911	58,206	45,178	23,921	36,354	145,416
1912	55,170	51,102	20,399	32,677	130,708
1913	71,577	60,854	26,251	46,563	186,252
1914	135,316	97,224	45,938	75,150	254,257
1915	134,684	96,316	42,379	76,318	267,000
1916	90,182	79,518	37,565	52,556	197,085
1917	91,927	77,871	35,377	45,025	247,637
1918	110,169	124,095	55,160	68,072	350,000
1919	141,926	119,895	60,004	80,941	445,175
1920	158,746	126,516	63,562	86,096	645,720

Further details relating to the operations of ironworks are given in the section of this book dealing with the manufacturing industry.

Ironstone Flux.

Varying quantities of iron ore have been despatched from the different producing centres to the smelting and iron works for use as flux, the estimated quantity raised during the years 1899 to 1920 being 124,202 tons, valued at £98,385. During the years 1913-15 no ironstone flux was raised for fluxing purposes. The quantity produced during 1920 was 2,881 tons, valued at £3,726.

Iron Oxide.

Parcels of iron oxide are sent from the Port Macquarie, Mittagong, and Goulburn districts to various gas-works for use in purifying gas, the output of iron oxide during 1920 being 1,574 tons, valued at £1,247.

The total recorded output to the end of 1920 was 42,682 tons, valued at £54,539.

OTHER METALS.

Platinum.—Platinum occurs in several districts of New South Wales, but platinum mining, in comparison with other branches of mining, and for less valuable ores, is unimportant. The quantity produced to the end of 1920 amounted to 15,689 oz., valued at £64,406, of which 796 oz., valued at £16,672, were obtained during 1920.

Chromite.—Chromite, or chromic iron ore, is the only commercially important ore of chromium which is an accessory constituent of a variety of minerals; it has been found usually associated with serpentine in the northern portion of New South Wales. The quantity produced to the end of 1920 was 34,650 tons, valued at £110,703; the yield recorded in 1920 was 1,460 tons, valued at £5,090.

Cobalt and Nickel.—Cobalt and nickel are usually associated in the same minerals, and traces of both metals have been found in several districts in New South Wales, but workable quantities have been located in very few places. The value of the total production of cobalt to the end of 1920 was £8,065, representing 885 tons of ore. No production of nickel is recorded.

Tungsten ores.—These ores are generally associated in New South Wales with tinstone (cassiterite), bismuth, and molybdenite. The quantity of scheelite produced during 1920 amounted to 21 tons, valued at £3,805, and of wolfram, 14 tons, valued at £2,212. The output of scheelite from 1903 to the end of 1920 amounted to 1,690 tons, valued at £192,375, and of wolfram to 2,260 tons valued at £267,450.

Antimony.—The principal source of supplies is at Hillgrove. For the whole State in 1920 there were 200 tons raised, the value being £2,505. The total output to the end of the year 1920 was 18,907 tons, valued at £343,688.

Manganese.—Manganese ores have been discovered in various places but generally in localities lacking transport facilities. During the year 1920 the quantity obtained was 2,531 tons, valued at £2,008.

Bismuth.—Bismuth has been found associated with molybdenite, tin, and gold, in quartz veins, chiefly in the neighbourhood of Glen Innes, and in other districts bismuth is associated with molybdenite and wolfram ores. The total quantity produced in 1920 was 76 tons, valued at £33,886, the quantity produced to the end of 1920 being 760 tons of ore, valued at £222,928.

Molybdenum.—The quantity of molybdenite, the principal ore of molybdenum, produced in New South Wales during 1920 was 40 tons, valued at £8,442. From 1902 the quantity was 799 tons, valued at £205,500.

Mercury.—Cinnabar, the most important ore of mercury, occurs in numerous localities but it has not been discovered in a sufficiently concentrated form to enable it to be profitably wrought. No production of quicksilver was recorded in the year 1920, but the total production to the end of 1920 is stated to be 2,970 lb., valued at £541.

COAL.

The coal-fields of New South Wales are the most important in Australia, both as regards extent and the quantity and quality of coal produced.

The main coal basin extends along the coast from Port Stephens on the north, to Ulladulla on the south, and thus has a seaboard of 200 miles, which enhances the value of the deposits by conducing to easy shipment and the development of oversea trade. From Ulladulla the basin trends inland to the west, and north-west as far as Rylstone, whence the boundary line extends northward beyond Gunnedah, and then runs in a south-easterly direction to Port Stephens. The widest part of this area is between Rylstone and Newcastle—100 miles; the basin is deepest in the neighbourhood of Sydney, where the uppermost seam is nearly 3,000 feet below the surface.

From Sydney the measures rise gradually in all directions, and emerge to the surface at Newcastle on the north, at Bulli in the Illawarra district to the south, and at Lithgow, in the Blue Mountain region, to the west.

The upper or Newcastle coal measures show the greatest surface development. Their seams outcrop at Newcastle, Bulli, and Lithgow, and extend continuously under Sydney, the deepest portion of the basin.

In the northern coal-field twelve seams have been discovered in these measures; five being worked; in the southern, five distinct seams are known, but two only have been worked; of the seven seams traced in the western field three only have proved of commercial value. After many unsuccessful boring operations, the uppermost seam of the Newcastle measures was located under Sydney Harbour in 1891, and is now worked at a depth of nearly 3,000 feet.

The coal obtained at Newcastle is specially suitable for gas making and for household use; the coal from Bulli and Lithgow is essentially steam coal—the southern produces a strong coke, specially suitable for smelting purposes by reason of its capacity for sustaining the weight of the ore burden in a blast furnace, and it contains less ash than the western. The coal obtained at the Sydney Harbour Colliery is also a good steam coal, and may be loaded direct into oversea steamers from a wharf near the pit's mouth.

In the western and southern fields the upper coal measures contain deposits of kerosene shale, a variety of torbanite, cannel coal, or boghead mineral. It is used extensively for the manufacture of kerosene oil, and for the production of gas. Deposits of kerosene shale, though much less extensive, occur in the upper and Greta measures of the northern coal-field.

The middle coal measures outcrop near East Maitland, but do not appear in the western field; their occurrence in the southern field has not been definitely proved.

The lower or Greta measures outcrop over an irregular area in the neighbourhood of Maitland, and have been traced with intervening breaks as far north as Wingen; they occur as an isolated belt to the north of Inverell, and extend through Ashford, almost to the Queensland border. These measures have been located in the Clyde Valley, in the extreme southern portion of the Illawarra field, but do not occur in the western. The coal of the Greta measures is contained in two seams, and is the purest and generally the most useful obtained in the State, being of a good quality, hard, and economical as regards working. The Greta seams are worked extensively between West Maitland and Cessnock, in the most important coal-mining district in Australia. There were 128 coal-mines and 3 shale-mines working under the provisions of the Coal and Shale Mines Regulation Act during the year 1920. The employment of boys under 14 years of age or of women and girls in or about a mine is prohibited, and restrictions are placed upon the

employment of youths. In 1920 the total number of boys between 14 and 16 years of age employed in coal and shale mines was 773, of whom 502 worked below ground, and 271 on the surface.

WAGES OF COAL-MINERS.

The rate paid to miners varies according to the conditions of the seams or places where the coal is mined. The average rates at 31st December, 1920, were as follows:—

	Northern District.	Southern District.	Western District.
Miners ¹	4/7½ to 6/11½ per ton	3/9½ per ton	3/6½ to 4/2½ per ton.
Deputies	2/1/7 to 22/1 per day	£6 10/- per week	2/1/7 per day.
Overmen (underground) .. .. .	.. .. .	£6 15/- to £8 1/- p. wk.	.. .. .
Deputy Overmen .. .. .	.. .. .	£6 12/6 per week	.. .. .
Shot-firers	20/7 to 21/1 per day	20/7 per day	21/7 per day.
Waste-examiners	20/7 ,, 21/1 ,, ,,	.. .. .	.. .. .
Engineers and mechanics	2/2½ ,, 2/6½ per hour	17/4¼ to 22/2 per day	2/0¼ to 2/6 per hour.
Engine-drivers—			
Loco. engines	19/- to 20/- per day	20/- per day .. ..	.. .. .
Winding	20/- ,, 21/- ,, ,,	21/- ,, ,,	21/- per day.
Haulage .. .. .	.. .. .	18/9 ,, ,, .. ..	.. .. .
Other engines	17/- to 20/- per day	.. .. .	18/7 and 18/9 per day.
Stokers and firemen	16/6 ,, 17/7 ,, ,,	16/6 to 17/7 per day	18/7 and 18/9 ,,
Motor attendants or drivers	7/5 ,, 17/1 ,, ,,	.. .. .	.. .. .
Shiftmen	17/- ,, 21/1 ,, ,,	19/8 per day	16/6 to 18/2 per day.
Wheelers	15/7 ,, 17/9 ,, ,,	17/7 ,, ,,	18/2 per day.
Flatters	6/2 ,, 15/5 per day	17/7 ,, ,, .. ..	.. .. .
Water-bailers	16/6 per day	17/7 ,, ,,	9/9 to 14/3½ per day.
Set riders	17/6 ,, ,, .. ..	.. .. .	.. .. .
Rolleyway men	10/11 to 18/9 per day	.. .. .	.. .. .
Roadlayers	16/11 ,, 18/9 ,, ,,	.. .. .	.. .. .
Waggon packers	16/6 per day	.. .. .	.. .. .
Banksmen	18/2 ,, ,,	17/9¼ per day	18/7 per day.
Shunters	18/6 ,, ,, .. ..	.. .. .	.. .. .
Screenmen	16/6 ,, ,,	16/6 per day .. ..	.. .. .
Onsetters	16/6 to 18/2 per day	18/1 ,, ,,	18/2 per day.
Platelayers .. .. .	.. .. .	16/6 ,, ,, .. ..	.. .. .
Harness-makers	2/2½ per hour	17/1 ,, ,, .. ..	.. .. .
Stabblers	2/0½ ,, ,,	16/6 ,, ,, .. ..	.. .. .
Trappers .. .. .	.. .. .	6/8½ ,, ,, .. ..	.. .. .
Labourers	2/0½ to 2/2½ per hour	16/6 ,, ,,	2/1½ to 2/6 per hour.
Boys and Youths	6/2 ,, 15/5 per day	6/7½ ,, ,, (average)..	9/- ,, 14/3½ per day

The following table shows the quantity and value of coal raised in New South Wales from the earliest record to the close of 1920, the total production being 256,680,532 tons, valued at £105,867,621.

The figures are exclusive of coal used in the manufacture of coke, particulars as to which are quoted elsewhere in this Chapter:—

Period.	Quantity.	Value at Pit's Mouth.	Average per ton.
	tons.	£	s. d.
Prior to 1890	46,803,983	22,787,156	9 9
1890-4	17,830,177	6,811,568	7 8
1895-9	21,334,976	6,048,281	5 8
1900-4	29,792,589	10,369,050	7 0
1905-9	39,083,328	13,234,796	6 9
1910-4	47,555,714	17,344,973	7 4
1915	9,449,008	3,424,630	7 3
1916	8,127,161	3,336,419	8 2
1917	8,292,867	4,422,740	10 8
1918	9,063,176	4,941,807	10 11
1919	8,631,554	5,422,846	12 7
1920	10,715,999	7,723,355	14 5
Total	256,680,532	105,867,621	8 3

The bulk of production is obtained from the northern coal-fields. The output of each district during 1920 was:—Northern, 7,320,510 tons, valued at £5,580,455; Southern, 1,902,889 tons, £1,272,168; Western, 1,492,600 tons, £870,732.

The following statement shows the quantity of New South Wales coal consumed in Australia and New Zealand, including bunker coal taken by interstate vessels, and the oversea exports, during the last ten years:—

Year.	Domestic Consumption	Sent to other Australian States and New Zealand. *	Total.	Exported to Oversea Countries excluding New Zealand. †	Total Production.
	tons.	tons.	tons.	tons.	tons.
1911	3,667,524	2,525,776	6,193,300	2,498,304	8,691,604
1912	3,832,697	3,096,179	6,928,876	2,956,939	9,885,815
1913	4,182,441	3,465,787	7,648,228	2,765,937	10,414,165
1914	4,522,589	3,221,783	7,744,372	2,646,250	10,390,622
1915	4,780,614	2,601,070	7,381,684	2,067,324	9,449,008
1916	4,693,063	2,203,659	6,896,722	1,230,439	8,127,161
1917	5,029,070	2,225,228	7,254,298	1,038,569	8,292,867
1918	5,641,500	2,697,033	8,338,533	724,643	9,063,176
1919	5,128,536	1,891,317	7,019,853	1,611,701	8,631,554
1920	5,729,208	2,270,556	7,999,764	2,716,235	10,715,999

* The figures from the year 1917 are for the Australian States only.

† Including New Zealand from the year 1917.

The output of coal in 1920, 10,715,999 tons, exceeded the previous record of 1913 by 301,834 tons.

The variation in the proportion of the total production used for domestic consumption is shown in the following percentages:—

Year.	Proportion of Output.		
	Used for Domestic Consumption.	Sent to other Australian States and New Zealand.	Exported to other Countries.
	Per cent.	Per cent.	Per cent.
1910	42·6	30·3	27·1
1911	42·2	29·1	28·7
1912	38·8	31·3	29·9
1913	40·2	33·3	26·5
1914	43·5	24·9	31·6
1915	50·6	27·5	21·9
1916	57·7	27·1	15·2
1917	60·7	*26·8	†12·5
1918	62·2	*29·8	†8·0
1919	59·4	*21·9	†18·7
1920	53·5	*21·2	†25·3

* Australian States only. † Including New Zealand.

Calculated on the total value of the production during the decade, the average quantity of 697 tons extracted yearly by each person employed underground represents a value of £325. In 1920 the average value of production was £522 for each person employed below ground :—

Year.	Persons employed.		Quantity of Coal raised.		Value of Coal raised.		
	Above and below ground.	Below ground.	Total.	Per person employed below ground.	Total value.	Average value per ton.	Average value per person employed below ground.
	No.	No.	tons.	tons.	£	s. d.	£
1911	17,375	12,679	8,691,604	686	3,167,165	7 3	250
1912	17,795	13,089	9,885,815	755	3,660,015	7 5	280
1913	18,843	14,164	10,414,165	735	3,770,375	7 3	266
1914	19,758	15,007	10,390,622	692	3,737,761	7 2	250
1915	17,959	13,476	9,449,008	701	3,424,630	7 3	254
1916	16,764	12,443	8,127,161	653	3,336,419	8 2	268
1917	17,197	12,701	8,292,867	653	4,422,740	10 8	348
1918	16,774	12,396	9,063,176	731	4,941,807	10 11	399
1919	18,041	13,576	8,631,554	636	5,422,846	12 7	399
1920	19,800	14,806	10,715,899	724	7,723,355	14 5	522

Coal-cutting by Machinery.

Of the machines in use in 1920, 98 were classed as percussive, and 179 as chainbreast; 177 were driven by electricity, and 100 by compressed air.

The quantity of coal obtained during 1920 by machines driven by electricity was 2,078,071 tons, and that by machines driven by compressed air 662,105 tons, the total 2,740,176 tons representing 26 per cent. of the total output.

State Coal-mines.

The State Coal-mines Act, 1912, empowers the Government to purchase or resume coal-bearing lands or coal-mines and to open and work coal-mines upon Crown land or private land containing coal reserved to the Crown. The coal obtained from a State mine is to be used only by the State Departments.

A State coal mine was opened at Lithgow, in the Western district, in September, 1916; the area of the land containing coal reserved for the Crown amounts to about 40,200 acres, and the available supply of coal is estimated at 240,000,000 tons. The mine, which was closed down in July, 1917, was taken over by the Railway Commissioners in the early part of 1921. Work in connection with the development of the mine and the construction of the railway is now in progress.

Prices of Coal.

The average price of coal per ton in the various districts for the last ten years is shown below; in the average for New South Wales allowance has been made for the quantity raised in each district.

District.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Northern ...	8 0	8 1	7 10	7 8	7 7	9 1	11 5	11 8	13 6	15 3
Southern ...	6 2	6 1	6 1	6 4	6 11	7 2	10 0	9 10	11 10	13 4
Western ...	5 1	5 0	5 2	5 6	5 6	5 7	8 0	8 8	9 4	11 8
New South Wales	7 3	7 5	7 3	7 2	7 3	8 2	10 8	10 11	12 7	14 5

COKE.

Coke-making is carried on in each of the three coal-mining districts of the State, but the bulk of the output comes from the southern district, where it is manufactured from coal drawn from the mines in the locality of Wollongong.

All the coke produced is suitable for use in blast furnaces, but the products of the northern and southern districts are harder, better able to carry a load in the furnace, and contain less ash than the coke of the western district. The plants in the southern district, being closer to Sydney, have advantage in railway transit of a lower transport cost than the plants in the northern and western districts.

The quantities of coke manufactured in New South Wales during the last five years were as follows :—

Year.	Quantity.				Total Value at Ovens.	Average Value per ton.
	Northern District.	Southern District.	Western District.	Total.		
	tons.	tons.	tons.	tons.	£	s. d.
1916	101,662	288,911	47,014	437,587	387,571	17 9
1917	111,803	297,904	45,880	455,587	541,093	23 9
1918	184,209	376,289	47,994	608,492	647,798	21 4
1919	168,885	236,546	19,342	424,773	550,127	25 11
1920	257,693	280,568	29,308	567,569	844,191	29 9

The various districts contributed as follows to the total value of coke manufactured during the year 1920 :—Northern, £430,521; Southern, £369,978; Western, £43,692.

The average values per ton at the ovens were:—Northern, 33s. 5d.; Southern, 26s. 4d.; Western, 29s. 10d.

The following statement shows the number of coke ovens and the persons engaged in the manufacture of coke in each district during 1920 :—

District.	Coke Ovens.				Persons engaged in manufacture of coke.
	Working.	Not Working.	In course of Building.	Total.	
Northern	228	126	129	483	249
Southern	449	154	40	643	276
Western	90	53	...	143	42
Total	767	333	169	1,269	567

OIL SHALE.

The production of oil shale, from the opening of the mines in 1865 to the end of 1919, is shown in the following table :—

Period.	Quantity.	Total Value at Mines.	Average Price per ton at Mines.	Year.	Quantity.	Total Value at Mines.	Average Price per ton at Mines.
	tons.	£	£ s. d.		tons.	£	£ s. d.
1865-84	370,217	828,194	2 4 9	1915	15,474	12,890	0 16 8
1885-89	186,465	406,255	2 3 7	1916	17,425	17,772	1 0 5
1890-94	247,387	451,344	1 16 6	1917	31,661	36,565	1 3 1
1895-99	191,763	222,690	1 3 3	1918	32,395	39,676	1 4 6
1900-04	213,163	177,245	0 16 8	1919	25,453	37,968	1 9 10
1905-09	213,024	131,456	0 12 4	1920	21,004	46,082	2 3 10
1910-14	296,449	140,758	0 9 6				
				Total ...	1,861,880	2,548,895	1 7 4

In 1920 the output was obtained from the mines in the western district.

The Shale Oils Bounties Act, passed by the Commonwealth Government during 1910, to make provision for the payment of bounties on the manufacture of kerosene and paraffin wax from Australian shale, expired on 30th June, 1913, and no further bounty was payable until 1917, when a bounty on crude shale oil produced in Australia from mined kerosene shale was provided for a period of four years dating from 1st September, 1917. The maximum amount payable in any one year is £67,500, the rate per gallon to each producer being as follows:—3,500,000 gallons and under, 2½d.; 3,500,000 to 5,000,000, 2d.; 5,000,000 to 8,000,000, 1¾d.; each additional gallon, 1½d. In the year 1918-19 the bounty paid amounted to £26,407 on 2,816,718 gallons of shale oil, and in 1919-20 to £16,292 on 1,737,845 gallons.

Large quantities of oil manufactured at Hartley Vale have been supplied to the Australian warships.

DIAMONDS.

Diamonds and other gem-stones in New South Wales were noted as early as 1851 by both Hargraves and Stutchbury, and have since been found to be widely distributed, but no extensive industry has yet been developed, mining operations being restricted to very few localities. The finest of the New South Wales diamonds are harder and whiter than the South Africa diamonds, and are classified as on a par with the best Brazilian gems.

The following table shows the output as compiled from the available information, but it is probable that the actual output of diamonds in New South Wales is much greater. The majority of the diamonds have been obtained from the mines in the Bingara and Copeton districts; in recent years the whole output has been from the latter district:—

Period.	Carats.	Value.	Period.	Carats.	Value.
		£			£
1867-1885	2,856	2,952	1911-1915	16,603	13,353
1886-1890	8,120	6,390	1916	1,901	1,375
1891-1895	19,743	18,245	1917	2,991	2,006
1896-1900	69,384	27,948	1918	1,784	1,204
1901-1905	54,206	46,434	1919	1,774	1,706
1906-1910	16,651	12,374	1920	3,523	6,282

The closing of the market consequent on the War had a serious effect on the industry.

OPAL.

Common opals occur in many parts of New South Wales, and particularly in the locality of Orange. The precious or noble opal has been found in two geological formations in New South Wales, viz., in vesicular basalt and in sedimentary rocks of the Upper Cretaceous age. Only from the latter formation have gems in quantity and value been obtained hitherto, the finest opal known being located in the Upper Cretaceous formation at White Cliffs, near Wilcannia. Black opal, remarkable for colour, fire, and brilliancy, is obtained at Lightning Ridge, near the Queensland border.

The following table shows the estimated value of precious opal won in New South Wales to the end of 1920 :—

Period.	Value.	Period.	Value.
	£		£
1890	15,600	1916	21,273
1891-1895	25,999	1917	12,522
1896-1900	415,000	1918	20,600
1901-1905	476,000	1919	27,552
1906-1910	305,300	1920	23,600
1911-1915	154,738	Total	1,498,184

ALUNITE.

Alunite, or alumstone, occurs at Bullahdelah, about 35 miles from Port Stephens, in a narrow mountain range which for more than a mile of its length is composed almost entirely of alunite, of greater or less purity.

Four varieties of alunite are recognised at the mines, but working is confined mainly to the light-pink ore, the yield averaging about 80 per cent. of alum.

During 1910 and 1911, prospecting by means of diamond-drilling was carried on at Bullahdelah, with a view to locating further bodies of alunite of payable grade, so as to maintain the export trade; as a result there was a large increase in the quantity exported. In 1920 the production was 634 tons, valued at £2,536 and since the year 1890 the quantity and value of alunite, the produce of New South Wales, exported have been 54,367 tons, value £193,507. Particulars are not available as to the amount of alum of local production used within the State.

OTHER MINERALS.

Marble.—Beds of marble of great variety of colouring, and with highly ornamental markings, are located in many districts of New South Wales. Much of the marble is eminently suitable for decorative work, and in recent years has won the favour of builders. During 1920 marble valued at £2,315 was obtained.

Limestone.—The quantity of limestone raised for flux in 1920 was 80,145 tons, valued at £30,920.

Fireclays.—Fireclays of good quality are found in the Wianamatta shales and in the Permo-carboniferous measures, and excellent clays for brick-making purposes may be obtained in all parts of the State.

Kaolin.—Kaolin or China clay derived from the decomposition of the felspars in granite, is found in many granitic districts.

Magnesite.—Magnesite is found at Fifield and a large quantity is procurable easily. The output during 1920 was 6,474 tons, valued at £9,891.

Diatomaceous earth occurs in large deposits in several localities.

Other Mineral Deposits.—Other mineral deposits known to exist but not worked extensively include asbestos, barytes, fluorspar, fuller's earth, ochre,

graphite, slate and mica. The production of the minerals as recorded in 1920 was as follows :—

Mineral.	Quantity.	Value.	Mineral.	Quantity.	Value.
	tons.	£		tons.	£
Arsenic	70	2,840	Kaolin	2,788	3,201
Asbestos	664	7,404	Limestone for Flux ...	80,145	30,920
Barytes	222	767	Magnesite	6,474	9,891
Chrome	1,420	5,000	Manganese	2,531	2,008
Clays ... ..	...	6,007	Marble	632	2,315
Diatomaceous Earth ...	384	923	Phosphate Rock ...	154	732
Dolomite	14,808	7,404	Pigments	950	1,230
Fluorspar... ..	1,194	3,159	Silica	14,884	29,768
Fuller's Earth	14	49	Slates ... ..	...	5,000
Granite ... ..	...	2,658	Steatite	27	48
Graphite	40	40	Talc	184	383

Health of Miners in Metalliferous Mines.

Under instructions from the Minister for Labour and Industry, the Board of Trade made inquiry during 1918 into the prevalence of phthisis among miners, and upon the Board's recommendation a Technical Commission was appointed to inquire into the dust conditions in the metalliferous mines of the State, and into the health of employees in such mines. The interim report of the Commission was published in July, 1920, and their recommendations and conclusions with reference to Broken Hill mines were briefly as follow :—

No person infected with tubercular disease or pneumoconiosis should be allowed to work in the mines, either on the surface or below ground, and any person infected with pneumoconiosis should be placed in an occupation in the open air, either pastoral or agricultural, without any obligation on his part to find a fresh avenue of employment. Further, compensation should be given to any person affected with progressive tubercular disease. Mine workers, too, should be medically examined from time to time, and those affected with dust withdrawn from the mine, and kept under observation so that they might receive compensation should they become infected with tuberculosis. Finally the Commission was of the opinion that if all those affected with tuberculosis and fibrosis, were withdrawn from the mines, and a system of medical inspection instituted, mining at Broken Hill might be carried on with perfect safety so far as material injury to the lungs of the miners was concerned.

The medical examination of the miners also showed that large numbers were suffering from lead poisoning, but as the mines were not in operation during the inquiry of the Commission it was not possible to state what

numbers were absorbing lead by exposure to dust. The Commission recommended that a thorough investigation of the ventilation and dust conditions of the mines should be undertaken when the mines resumed work.

The recommendation of the Commission that compensation should be made to workmen suffering disablement through occupational diseases has been given effect to in the Workmen's Compensation (Broken Hill) Act, 1920, which is discussed in the section of this work dealing with Employment and Industrial Arbitration.

The Commission's full report is now in course of preparation.

MINING ACCIDENTS.

The number of fatalities during the last five years in the more important branches of mining, and the rates per 1,000 employees are shown below, also the number of persons seriously injured :—

Year.	Metalliferous Mines.						Coal and Shale Mines.	Total.
	Gold.	Silver, Lead, and Zinc.	Copper.	Tin.	Other.	Total Metalliferous		

Number of Fatalities.

1916	1	14	5	1	...	21	13	34
1917	...	7	4	2	...	13	24	37
1918	1	9	1	...	1	12	11	23
1919	...	6	...	...	...	6	17	23
1920	...	...	...	2	2	4	20	24

Per 1,000 Employees.

1916	·43	2·17	3·01	·52	...	1·46	·77	1·09
1917	...	·92	1·93	1·12	...	·84	1·38	1·13
1918	·39	1·19	·65	...	·37	·76	·65	·68
1919	...	·92	...	...	...	·42	·94	·71
1920	...	...	...	1·10	·64	·44	1·00	·82

Number of Persons Injured, but not fatally.

1916	1	24	1	2	3	31	55	86
1917	...	31	3	1	2	37	55	92
1918	...	41	9	...	2	52	132	184
1919	2	14	...	1	1	18	100	118
1920	1	5	...	2	4	12	113	125

Of the 4 persons fatally injured during 1920 while employed in metalliferous mining none was employed underground, while of the 12 injured 4 only were so employed. The proportion of accidents below the surface was greater in the case of coal-mines; 19 of the 20 fatalities occurred underground, while of the 113 persons injured only 18 were employed on the surface. No accidents occurred in coal-mines from the explosion of firedamp and coal dust. The number of persons injured, but not fatally, per 1,000 employed in mining generally, was 4·29 in 1920.

The experience of coal-mining in this State with respect to accidents bears very favourable comparison with that of other countries.

A recent estimate shows that 48·5 per cent. of the total output of coal in New South Wales is obtained from collieries where miners use safety-lamps; and as the workings get deeper this proportion is likely to increase since with greater depth there is more likelihood of fire-damp.

Considerable improvements have been made in portable electric safety-lamps during late years, and their use for underground purposes has been much increased.

Ambulance classes are trained and corps exist in New South Wales for the purpose of promoting among miners a knowledge of first-aid principles.

Five classes were formed during 1920, the total number registered since 1897 being 159.

Interesting information regarding the sickness experience of Friendly Societies in mining districts is given in the section of this book dealing with Social Condition.

LAW COURTS.

In New South Wales legal processes may be grouped within the original jurisdiction of the Lower or Magistrates' Courts, or of the Higher Courts presided over by appointed Judges. There is also an appellate jurisdiction.

LOWER COURTS.

The Lower or Magistrates' Courts include Petty Sessions, Small Debts, Licensing, Children's, Coroner's, and Fair Rents Courts.

All persons arrested and charged with offences at the various Police stations—also all summoned persons—must be brought before the Magistrates' Courts to answer charges, indictable or summary, or complaints of any nature; and are either dealt with summarily, or committed to take their trial at the Court of Quarter Sessions, or at the Supreme Court in its criminal jurisdiction. Persons may be committed also to take their trial at such higher Courts by a Coroner or by a Judge.

The First Offenders' (Women) Act, 1918, provides that when any woman of or above the age of sixteen years, who has not been previously convicted of any offence, is charged before any Court with a minor offence, the hearing shall be in private, unless the defendant elects to be tried in open court. Persons, other than those directly concerned, are not allowed to remain in the Court, and a report of the proceedings must not be published.

Certain indictable offences (larceny, stealing from the person, embezzlement, &c.) are punishable summarily by Magistrates—by consent of the accused person—if the subject matter of the charge, or value of the property involved, does not amount to £20. Persons convicted by the Magistrates under such circumstances are liable to imprisonment for six months, or to a fine of £20. The period of imprisonment that may be awarded by Magistrates for purely summary offences is fixed in each case by Statute; in some cases sentences up to two years may be imposed. Summary offences are punishable by fine, or by imprisonment; if the fine and costs are not paid the convicted person may be imprisoned, the periods of imprisonment ranging from a maximum of seven days, where the total amount payable does not exceed 10s., to a maximum of twelve months, where the amount exceeds £100.

If a person is sentenced to be imprisoned, while undergoing imprisonment for another offence, the Magistrate may order that the sentence for the subsequent offence shall commence at the termination of the period the person is then serving. Justices have no power to impose more than one sentence of imprisonment, to commence at the expiration of the first sentence.

By the Small Debts Recovery Act, 1912, the jurisdiction of Magistrates' Courts is extended to include action for the recovery of a debt or liquidated demand not exceeding £30, or where the Court is constituted by a Stipendiary or Police Magistrate sitting in some place appointed in that behalf by the Governor, to an amount not exceeding £50, whether on balance of account or after admitted set-off or otherwise.

Courts of Petty Sessions.

Courts of Petty Sessions are held by Stipendiary Magistrates in the Sydney, Parramatta, Newcastle, Broken Hill, Bathurst, and Wollongong districts, and in other districts by Police Magistrates, or Justices of the Peace, the latter being honorary officers..

In the following table, which shows the number of offences charged at all Courts of Petty Sessions and Children's Courts during the last five years, all offences charged against any individual are included. It is not possible to determine the number of distinct persons charged owing to the difficulties attending their identification.

Courts.	1915.	1916.	1917.	1918.	1919.
Courts of Petty Sessions ...	83,228	77,873	63,872	65,589	67,092
Children's Courts ...	3,348	4,163	4,343	5,479	4,535
All Magistrates' Courts ...	86,576	82,036	68,215	71,068	71,627

The following table summarises the operations of these Courts during 1919 :—

Procedure.	Charged before Magistrates.	Treated Summarily.			Committed to Higher Courts.
		Convicted.	Withdrawn or Discharged.	Total.	
By Arrest { Males ... Females ...	31,843	25,930	4,494	30,424	1,419
	3,562	3,020	433	3,453	109
By Summons { Males ... Females ...	33,417	27,327	5,965	33,292	125
	2,805	1,765	1,013	2,778	27
Total { Males ... Females ...	65,260	53,257	10,459	63,716	1,544
	6,367	4,785	1,446	6,231	136

The cases (1,680) committed to higher Courts represent 2·3 per cent. of the total charges; the remainder, representing 97·7 per cent., were summarily treated, convictions resulting from 83·0 per cent. of the charges. The charges against females numbered 6,367, being only 8·9 per cent. of the total.

The following table shows the proportion of summary convictions by Magistrates, of acquittals and discharges, and the committals to higher Courts at intervals since 1890 :—

Year.	Summary Convictions.	Acquittals and Discharges.	Committals to Higher Courts.
	per cent.	per cent.	per cent.
1890	80·4	16·0	3·6
1900	83·1	14·9	2·0
1910	86·1	12·3	1·6
1915	84·6	13·6	1·8
1916	83·6	14·3	2·1
1917	82·9	15·1	2·0
1918	81·6	16·6	1·8
1919	81·0	16·6	2·4

Only a small proportion of the offences for which summary convictions were effected during 1919 were really criminal offences, that is offences against person or property. Following is a classification of summary convictions,

showing also their ratio to the general population, during each of the last five years:—

Year.	Against the Person.	Against Property.	Against Good Order.	Under Defence Act.	Other Offences.	Total Summary Convictions.
SUMMARY CONVICTIONS.						
1915	1,849	4,439	41,548	2,957	22,455	73,248
1916	1,785	4,480	37,407	2,383	22,560	68,615
1917	1,460	4,033	30,211	2,668	18,184	56,556
1918	1,542	4,805	27,109	3,064	21,489	58,009
1919	1,906	5,320	25,621	1,456	23,739	58,042
PER 1,000 OF MEAN POPULATION.						
1915	·99	2·38	22·24	1·58	12·02	39·21
1916	·96	2·40	20·04	1·28	12·09	36·77
1917	·78	2·15	16·12	1·42	9·70	30·17
1918	·81	2·52	14·20	1·60	11·25	30·38
1919	·96	2·71	13·05	·74	12·09	29·55

In many instances the offences shown under the heading of "Other" offences are committed in ignorance of the law, and are met with small or nominal penalties. For instance, during 1919 there were 4,425 cases under Local Government Acts; traffic regulations accounted for 3,798 cases, and 465 cases were for breaches of the Commonwealth Electoral Law.

Also included under the heading are a number of cases of drunkenness, in which the defendants took a pledge to abstain from intoxicating liquors, and numerous cases under the universal training section of the Defence Act in which offenders were transferred to the military authorities.

Children's Courts.

Children's Courts under the Neglected Children and Juvenile Offenders Act, 1905, were established throughout the State with the object of removing children as far as possible from the atmosphere of a public court. Magistrates exercise powers in respect of children and of offences committed by and against children. They possess also the authority of a Court of Petty Sessions or Justice under the Children's Protection Act, the Infant Protection Act, and the Deserted Wives and Children Act.

Offenders against the universal training section of the Defence Act are prosecuted in the Children's Courts as far as practicable; magistrates are empowered to fine or commit them to the custody of the military authorities.

The Neglected Children and Juvenile Offenders Act is designed to remove children from association with reputed thieves, and otherwise provides for the protection and reformation of neglected or uncontrollable children, also for the supervision of the children engaged in street-trading.

Information as to the number of licenses for street-trading, under the Neglected Children Act, and as to permits under the Children's Protection Act to take part in public exhibitions, at theatres, &c., will be found in the section of this work entitled "Social Condition."

During the year 1919 the charges investigated in Children's Courts numbered 4,535. In addition to these cases, there were 3,721 applications for orders relating to the disposal of neglected and uncontrollable children, and to the maintenance of children, and 2,498 cases of non-compliance with orders.

Small Debts Courts.

The total number of cases dealt with by the Small Debts Courts during 1919 was 38,043 ; in only 294 cases was the amount claimed in excess of £30. The transactions during the last two years are shown in the following table :—

Transactions.	1918.			1919.		
	Up to £30	£30 to £50	Total.	Up to £30	£30 to £50	Total.
Cases brought before the Registrar—						
Judgments given for Plaintiff...	9,125	132	9,257	9,191	121	9,312
Not proceeded with	12,726	43	12,769	11,051	71	11,122
Verdicts given by Court—						
For Plaintiff	4,231	46	4,277	4,047	27	4,074
For Defendant	270	4	274	290	5	295
Withdrawn or struck out ...	5,185	76	5,261	6,700	31	6,731
Nonsuits	292	5	297	306	7	313
Cases pending... ..	5,569	27	5,596	6,164	32	6,196
Total Cases	37,398	333	37,731	37,749	294	38,043
Amount of Judgments for Plaintiff £	64,843	4,754	69,597	65,781	4,479	70,260
Amount of Verdicts for Plaintiff £	22,758	1,671	24,429	21,591	1,002	22,593

In garnishee cases the Court may order that all debts due by a garnishee to the defendant may be attached to meet a judgment debt, and by a subsequent order, may direct the garnishee to pay so much of the amount owing as will satisfy the judgment debt. In respect of wages or salary, garnishee orders may be made only for so much as exceeds £2 per week. The garnishee cases in 1919 numbered 1,580.

Oral examinations of judgment debtors as to debts due to them, ordered on the application of a judgment creditor, numbered 385 in 1919. Interpleader cases, as to claims made to goods held under a writ of execution, by a person not party to the suit, numbered 32.

Coroners' Courts.

Under the Coroners Act, 1912, every stipendiary or police magistrate has the powers and duties of a coroner in all parts of the State, except the Metropolitan Police District, which is under the jurisdiction of the City Coroner.

Inquiries are held in all cases of violent or unnatural death ; and, at the discretion of the Coroner, in cases of destruction or damage to property by fire ; and on the evidence the Coroner is empowered to commit for trial persons judged guilty of manslaughter, murder, or arson.

The transactions of Coroners' Courts during 1919 resulted in 51 persons, 36 males and 15 females, being committed for trial to higher Courts; the offences charged being murder, 17 males and 13 females; manslaughter, 13 males and 1 female; arson, 6 males and 1 female.

Under the Coroner's Court Act, 1904, a Coroner may hold an inquest, sitting alone; but upon request of a relative, of the secretary of any society of which the deceased was a member, or on the order of the Minister of Justice, a jury of six is called. The number of deaths of which the causes were investigated by Coroners or Magistrates, during 1919, was 1,335—males 1,028, and females 307; the verdicts were that 1,067 deaths were caused by violence. The deaths of 565 males and 139 females were the results of accidents, and 157 males and 49 females were found to have committed suicide.

During 1919 inquiries were held into the origin of 115 fires; accident was ascribed as the cause in 9 cases, arson in 16, and carelessness in 1; in 63 instances there was insufficient evidence.

Fair Rents Court.

The first sitting of the Fair Rents Court established under the Fair Rents Act, 1915, was held in Sydney on 13th March, 1916. The function of the Court, which consists of a Stipendiary or Police Magistrate, is to determine the fair rental of dwellings valued at less than £156 per annum. The total applications made to the Court to 31st March, 1921, numbered 2,736, of which 958 were withdrawn or struck out; in 321 cases the rent was fixed as at the date of application, in 668 cases it was increased, and in 789 decreased. The applications to the Court during the year ended 31st March, 1921, numbered 934, of which 439 were withdrawn or struck out; in 52 cases the rent was fixed as at the date of application, in 256 increased, and in 187 decreased.

A full discussion of the constitution, functions, and operations of the Court will be found in the part of this work dealing with "Food and Prices."

Licensing Courts.

In the Metropolitan district the Court for granting licenses to sell intoxicants consists of three Stipendiary Magistrates, and in country districts of the local Police Magistrate and two specially-appointed Justices of the Peace; where there is no Police Magistrate resident within 10 miles of the Court-house a Licensing Magistrate may be appointed.

During 1919, 5,017 licenses were granted in connection with the sale of intoxicants, the fees collected amounting to £99,561. The particulars are as follow:—

Class of License.	Number.	Amount Collected.
		£
Publicans	2,557	86,072
Additional Bar	143	2,794
Club	78	980
Packet	15	150
Booth or Stand	1,542	3,084
Colonial Wine, Cider, and Perry	467	1,401
Brewers	16	5,080
Spirit Merchants	199	
Total	5,017	99,561

Information relating to other licenses issued by Magistrates will be found in the part of this work dealing with Social Condition.

Profiteering Prevention Court.

The Profiteering Prevention Court was established under the Profiteering Prevention Act of 1920. The President and Judges of the Court are appointed from among the Judges of the Supreme Court, District Court, or Court of Industrial Arbitration. Under certain circumstances assessors possessing special expert or business knowledge may be appointed to assist the President and Judges of the Court. This Court is discussed further in the chapter of this volume treating "Food and Prices."

DISTRICT COURTS.

District Courts are held for the trial of civil causes where the property involved or the amount claimed does not exceed £400, and in cases where a title to land not exceeding £200 in value is in question. These Courts are presided over by Judges, who also perform the duties of Chairmen of Quarter Sessions for the trial of prisoners, except those charged with capital crimes. District Courts are held during ten months of the year in the Metropolis, and three or four times a year in important country towns. The Judge is not usually assisted by a jury; but in cases where the amount in dispute exceeds £20, either of the parties, by giving notice to the Registrar of the Court, may have a jury consisting of four men, and under the Matrimonial Causes Act, 1899, twelve men. On questions of law, and in respect of admission or rejection of evidence, appeal lies to the Supreme Court. At the end of 1919 there were 60 District Courts in the State.

The several District Court Judges are also Chairmen of Courts of Quarter Sessions and Judges of the Court of Review within their respective districts, as well as Judges of the Court of Marine Inquiry.

Particulars of suits brought in District Courts during the last five years are given in the following table:—

Year.	Total Suits.	Causes Tried.		Causes Discontinued or Settled without hearing.	Judgment for Plaintiff by Default, Confession, or Agreement.	Causes referred to Arbitration.	Causes Pending and in Arrear.	Total Amount of Claims.	Court Costs of Suits.
		Verdict for Plaintiff.	Verdict for Defendant (including Non-suit, etc.).						
1915	6,180	427	224	1,698	2,174	2	1,655	£ 293,697	£ 16,846
1916	6,126	440	195	1,655	2,266	7	1,563	290,642	21,072
1917	5,568	429	205	1,539	1,882	2	1,511	274,646	14,570
1918	5,572	388	214	1,605	1,837	5	1,523	259,902	18,253
1919	6,221	465	207	1,835	1,949	14	1,751	333,539	17,207

Of the causes heard during 1919, only 90 were tried by jury. During the same period there were 10 appeals from judgments given in District Courts; there were 9 motions for new trials, of which three were granted. The amount of judgment for plaintiffs during the year was £103,260.

COURTS OF MARINE INQUIRY.

A Court of Marine Inquiry is constituted of one or more District Court Judges, assisted by assessors appointed under the Navigation Act, who have power only to advise, and not to adjudicate, upon any matter before the Court.

Such a Court hears and determines inquiries as to wrecks, shipping casualties, charges of incompetency or misconduct of officers, and appeals and references under the Navigation Act. Inquiries held during 1919 numbered 9, of which 4 were as to collision, 1 stranding, 1 foundering, 1 supposed loss of vessel, 1 beaching, and 1 loss of vessel. The Courts found in 2 cases that blame was not attachable to any particular person; in 2 cases the master was exonerated; in 3 cases masters were found at fault, but no certificates were suspended; in 1 case the mate was found at fault; and in 1 case the Court was unable to say what was the cause of the casualty.

INDUSTRIAL ARBITRATION.

The Court of Industrial Arbitration is a superior court, and a court of record, having jurisdiction and powers conferred on it by the Industrial Arbitration Act, 1912. There are four judges of the Industrial Court.

The Court or an Industrial Board exercising the jurisdiction under the Act is governed in its procedure and in its decisions by equity and good conscience, and is not bound to observe the rules of law governing the admissibility of evidence.

Particulars of the transactions of the Court will be found in the chapter relating to "Employment and Production."

THE SUPREME COURT.

The Supreme Court of New South Wales, which was constituted under the Charter of Justice of 13th October, 1823, is under the presidency of the Chief Justice, who is assisted by not more than seven Puisne Judges.

The Court and its Judges have, in effect, the same jurisdiction as the Courts and Judges at Westminster had on 25th July, 1828, together with any additional jurisdiction conferred since that date by State, Federal, and Imperial legislation. The jurisdiction conferred upon the Court may be exercised by two or more Judges in all cases unless otherwise provided, and in certain specified cases may be exercised by one Judge.

The Chief Justice and three Puisne Judges are engaged ordinarily in matters in the Common Law and Criminal jurisdictions, the other Judges attending to matters in the Equity, Bankruptcy, Probate, and Matrimonial Causes jurisdictions.

A Puisne Judge must be a barrister of at least five years' standing, and his commission is dependent upon his good behaviour, revocable only upon address of both Houses of the Legislature.

Any Judge of the District Court, or any barrister or solicitor of at least seven years' standing, may be appointed as Acting Judge for a period not exceeding six months.

The procedure and practice of the Court are defined by statute, or regulated by rules which may be made by any three or more Judges.

Common Law Jurisdiction.

Actions are tried usually before a judge and jury; but no jury is required where both parties consent to the cause being tried by a Judge alone, or where in accordance with the provisions of certain statutes the right to have a jury has been taken away. Ordinarily a jury consists of four persons, but

either party may require a jury of twelve. The jury find only as to the facts of the case, being bound by the ruling of the Judge on points of law. From the Court thus constituted appeal lies to the Full Court, sitting *in Banco*, which is composed generally of at least three of the Judges. The Chief Justice, or in his absence the senior Puisne Judge, presides over the Full Court, which gives its decision by majority. New trials may be granted where the Judge has erroneously admitted or rejected material evidence; where he has directed the jury wrongly on a point of law; where the verdict of the jury is clearly against evidence; or where, from some other cause, there has been a miscarriage of justice.

An appeal to the High Court may be made in cases where the amount involved exceeds £300, or, in any case, with the permission of the High Court.

Provision is made for appeal by a suitor to the Privy Council, subject to leave from the Supreme Court. The dispute must involve a minimum amount of £500. In other cases, application for leave to appeal must be made directly to the Privy Council.

The following table gives the number of causes set down and writs issued in the Supreme and Circuit Courts (Common Law Jurisdiction) during the last five years. The number of writs issued includes cases which were settled subsequently by the parties.

Particulars.	1915.	1916.	1917.	1918.	1919.
Causes Tried—					
Verdict for Plaintiff	146	120	102	114	127
" Defendant	43	32	36	28	36
Jury Disagreed ... ..	...	1	...	...	...
Nonsuits	4	8	10	5	6
Total	193	161	148	147	169
Not proceeded with	96	104	77	95	91
Referred to Arbitration ... ..	...	2	3	2	1
Total Causes set down...	289	267	228	244	261
Writs Issued	2,884	2677	2,304	2,486	2,987
Fees paid into Consolidated Revenue Fund	£ 9,510	£ 8,675	£ 7,925	£ 8,276	£ 10,514
Cost of Litigation—					
Brought in at	44,549	39,673	36,256	33,514	32,637
Taxed off	11,986	11,317	9,620	8,766	7,405
Amount Allowed... ..	32,563	28,356	26,636	24,748	25,232
Court Costs of Taxation...	649	596	538	449	510

The small number of causes set down for hearing in comparison with the number of writs issued indicates the extent to which judgment is obtained before trial or cases are settled out of Court.

The Commercial Causes Act, 1903, provided an expeditious method for the trial of commercial causes, which include matters relating to the ordinary transactions of merchants and traders, the construction of mercantile documents, affreightment, insurance, banking, and mercantile usages. The parties to a Supreme Court common law action may secure the Judge's order to have it brought upon the list of Commercial Causes, and from this order there can be no appeal. To secure speedy settlement in accordance with the aim of the Act the Judge is empowered to dispense with juries, pleadings, and technical rules of evidence, and with proofs of writing and documents, and to order inspections and admissions; he may also settle the issues for trial, and state a case on points of law for the Full Court.

Equity Jurisdiction.

The Equity Act, 1901, consolidated enactments relating to the practice, procedure, and powers of the Supreme Court in matters calling for equitable relief, including the appointment of guardians of infants and the administration of their estates. Equitable relief may be given on an originating summons in respect of the construction of wills, foreclosure of mortgages, disputes between vendor and purchaser, and matters of account and administration. When the Judge in Equity has the assistance of two other Judges, the decision of the majority has the effect of a Full Court decision. The Court, in making binding declarations of right, may call for the assistance of actuaries, engineers, merchants, or any other persons; has power to grant injunctions or specific performance, or to award damages in addition to or in place thereof; and exercises all the powers of the Common Law Jurisdiction of the Supreme Court in deciding legal rights which arise incidentally; also the Court may delegate investigations to the Master in Equity, who is also the Master in Lunacy. There is an appeal to the High Court or Privy Council as in the case of Common Law matters. On 31st December, 1919, the Master in Lunacy held Trust Funds amounting to £349,048. The following is a statement of the transactions in Equity jurisdiction during the last five years:—

Year.	Statements of Claims.	Statements of Defence.	Petitions.	Simmons.	Motions.	Decrees, Orders, and Certificates.
1915	175	108	66	93	149	800
1916	180	107	84	132	152	980
1917	189	85	95	165	209	1,048
1918	191	108	62	149	125	1,172
1919	227	164	67	118	225	1,076

The amount of Trust Funds invested under Equity Jurisdiction in 1919 was £594,105, the investments being made at interest rates ranging from 3 to 6 per cent.

Probate Jurisdiction.

The jurisdiction of the Supreme Court in respect of the estates of deceased persons is vested in and exercised by the Probate Judge, formal duties in the granting of probates and letters of administration being delegated to the Registrar of Probates, subject to right of appeal to the Judge. In estates of less value than £300 the intervention of a solicitor is unnecessary; in 1919 probate or letters of administration were granted for 613 such estates, valued at £118,619.

The number of probates and letters of administration granted by the Supreme Court in its testamentary jurisdiction for the last five years is shown in the following table; the figures include estates administered by the Public Trustee:—

Year.	Probates Granted.		Letters of Administration.		Total.	
	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.	Number of Estates.	Value of Estates.
		£		£		£
1915	3,028	10,703,553	1,762	1,282,750	4,790	11,986,303
1916	3,535	11,891,119	2,314	1,771,554	5,849	13,662,673
1917	6,036	12,583,840	2,083	1,477,852	8,119	14,061,692
1918	4,128	12,335,103	3,140	1,666,256	7,268	14,001,359
1919	4,428	16,819,772	3,265	1,241,091	7,693	18,060,863

These figures represent the gross values of estates, inclusive of those not subject to duty.

Bankruptcy Jurisdiction.

Any person unable to meet his debts may surrender his estate for the benefit of his creditors, or the latter may apply for a compulsory sequestration under certain specified conditions, the case coming under the Bankruptcy Jurisdiction of the Supreme Court.

Certain of the powers vested in the Judge in Bankruptcy are delegated to the Registrar in Bankruptcy, and in country districts to Police Magistrates and Registrars of District Courts; but appeal from a decision of the Registrar, or of a District Registrar, lies to the Judge in Bankruptcy, who deals also with questions relating to priority of claims.

An official assignee is deputed by the Judge to manage the estates of insolvents. Operations in the Bankruptcy Court are discussed in detail in the chapter of this volume relating to Private Finance.

The sequestrations during the year 1919 numbered 282; according to Bankrupts' Statements of Affairs, the liabilities of the estates sequestrated amounted to £323,222, and the assets to £189,920, thus leaving a deficiency of £133,302.

The Court Fees paid to the Treasury were £3,645.

Divorce and Matrimonial Causes Jurisdiction.

The Supreme Court of New South Wales has jurisdiction in divorce, dating from the Matrimonial Causes Act, 1873, under which the principal grounds for divorce were adultery on the part of the wife, and adultery and cruelty on the part of the husband. The present law is contained in the Matrimonial Causes Act, 1899, under which jurisdiction is vested in the Supreme Court in respect of all causes, suits, and matters matrimonial, excepting in respect of marriage licenses. Dissolution of marriage may be granted on petition as under—

Husband v. Wife.—Adultery, desertion, or habitual drunkenness and neglect of domestic duties for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards at date when petition is presented and under sentence for at least seven years; conviction for attempt to murder or to inflict grievous bodily harm; repeated assaults and cruel beatings during one year preceding the date of the filing of the petition.

Wife v. Husband.—Adultery, desertion, or habitual drunkenness, coupled with neglect to support or cruelty, for three years; refusal to obey an order for restitution of conjugal rights; imprisonment for three years and upwards at date when petition is presented and under sentence for at least seven years; imprisonment under frequent sentences aggregating three years, within five years preceding the presentation of the petition; conviction for attempt to murder or to inflict grievous bodily harm; repeated assaults and cruel beatings within one year of petition.

The petitioner must have been domiciled in the State at the time of instituting the suit, and in most cases must have been so domiciled for three years. No relief is, however, granted to a petitioner who has resorted to New South Wales for the purpose of instituting proceedings.

Judicial separation may be sought on grounds of cruelty or desertion without cause extending over two years, and nullity may be declared in cases of marriages which are void.

Suits may be instituted for the purpose of obtaining restitution of conjugal rights, and failure to comply with a decree made in such a suit constitutes desertion, upon which a suit for divorce may be brought. Marriages may be

declared null and void on the grounds that the respondent is incapable of consummating it, that the parties to the marriage are within the prohibited degrees of consanguinity, or that the parties are unable to contract a valid marriage. Such inability may arise from one of the parties being already married, having acted under duress, or being under marriage age.

The first Divorce Act in New South Wales was passed in 1873.

The following statement shows the divorces, judicial separations, and decrees of nullity of marriage granted in New South Wales in the last five years :—

Year.	Divorces.		Judicial Separation granted.	Nullity of Marriage.	
	Decrees <i>Nisi</i> .	Decrees Absolute.		Decrees <i>Nisi</i> .	Decrees Absolute.
1915	416	358	7	...	3
1916	386	359	11	5	1
1917	434	380	13	5	3
1918	382	376	11	4	4
1919	616	420	7	5	7

The following statement shows the sexes of petitioners for divorce in the cases of decrees made absolute during the past ten years :—

Year.	Petitions for Divorce.		Year.	Petitions for Divorce.	
	Husband.	Wife.		Husband.	Wife.
1910	81	176	1915	138	220
1911	64	142	1916	140	219
1912	116	227	1917	145	235
1913	129	184	1918	163	213
1914	127	171	1919	188	232

The majority of petitions are lodged by the wife, the proportion being approximately 61 made by the wife to 39 lodged by the husband.

In regard to judicial separations during the same period, 12 were granted on petition of the husband, and 85 on petition of the wife.

The grounds of suits in which decrees were made absolute during each year since 1915 were as follow :—

Ground of Suit.	1915.	1916.	1917.	1918.	1919.
Adultery	110	104	104	104	119
„ coupled with Bigamy, Cruelty, and Desertion	6	4	4	5	7
Cruelty and Repeated Assaults	2	...	1	2	1
„ „ Habitual Drunkenness	3	7	10	4	2
Desertion	192	199	208	188	248
Habitual Drunkenness and Neglect to Support	9	12	8	3	1
Habitual Drunkenness and Neglect of Domestic Duties	1	5	2	5	3
Imprisonment of Husband for Three Years ... ..	...	1	2	1	...
Non-compliance with Order for Restitution of Conjugal Rights	35	27	41	64	39
Total	358	359	380	376	420

As to the grounds in support of applications for divorce, the majority of petitions were made on issues of desertion, a lesser proportion including habitual drunkenness as a causative factor in the conditions upon which the application was based. The following statement shows the numbers of petitions based on desertion, drunkenness, and other grounds, during the six years, 1914-1919:—

Year.	Causes based on—		Other.	All Causes.	Year.	Causes based on—		Other.	All Causes.
	Desertion.	Drunkenness.				Desertion.	Drunkenness.		
1914	170	19	109	298	1917	249	20	111	380
1915	227	13	118	358	1918	252	12	112	376
1916	226	24	109	359	1919	287	6	127	420

It will thus be seen that 69 per cent. of divorces granted are allowed on these two counts. In cases of judicial separations, cruelty and repeated assaults are prominent factors.

CRIMINAL JURISDICTION.

A Judge of the Supreme Court presides over the Central Criminal Court of Gaol Delivery held quarterly at Sydney, when all accused persons are tried by a jury of twelve, chosen by lot from the panel provided by the Sheriff. In capital cases the right to challenge, both by the Crown and by the accused, is limited to twenty jurors, except for cause shown; and in cases other than those in which the sentence of death may be imposed, whether felonies or misdemeanours, the number challenged may not exceed eight. At the close of the case for the prosecution, an accused person may give evidence on his own behalf without rendering himself liable to examination thereupon either by counsel for the Crown or by the Court, or make a statement in his defence. The Accused Persons Evidence Act, 1898, provides that it shall not be lawful to comment at the trial of any person upon the fact that he has refrained from giving evidence on oath on his own behalf. The verdict of the jury must be unanimous, and they may be detained until they give a verdict or are discharged by the Court. If no verdict is returned, the accused may be tried again before another jury.

Quarter Sessions.

The Courts of Quarter Sessions are held by Chairmen, who perform also the duties of Judges of the District Courts. There are six Chairmen of Quarter Sessions; two of these preside over the Courts in the Metropolitan district, and one each in the following districts:—Southern and Hunter, south-western, northern, and western. All offences, except those involving the capital penalty, are within the jurisdiction of the Court. On the trial of prisoners at Quarter Sessions, at the request of the prisoner's counsel, the Chairman must reserve questions of law for the consideration of the Supreme Court.

Charges before Higher Courts.

During the year 1919 there were 1,113 persons, viz., 999 men and 114 women, charged before the higher Courts of the State. The following table

shows the results in the cases of these accused persons for 1918 and 1919 in comparison :—

Sex.	1918.			1919.		
	Charged.	Convicted.	Withdrawn, Discharged, &c.	Charged.	Convicted.	Withdrawn, Discharged, &c.
Males	629	563	66	999	692	307
Females	67	59	8	114	70	44
Total	696	622	74	1,113	762	351

Classifying accused persons according to the nature of the offences, it is found that, in cases both of males and females, offences against property are the most numerous. A statement is given below of the principal offences of the persons convicted in higher Courts :—

Offences.	1915.	1916.	1917.	1918.	1919.		
					Males.	Females.	Total.
Against the Person	160	129	163	117	130	20	150
Against Property	564	584	426	449	497	39	536
Forgery and Offences against the Currency... ..	59	51	33	29	32	2	34
Against Good Order	11	4	3	1	6	2	8
Other Offences	49	47	36	26	27	7	34
Total	843	815	661	622	692	70	762

Poor Persons' Legal Expenses.

Under the Poor Prisoners' Defence Act, 1907, any person committed for trial for an indictable offence may apply for legal aid for his defence before the jury is sworn. If the judge or committing magistrate considers that the person is without adequate means, and that such legal aid should be supplied, the Attorney-General may arrange for the defence of the accused and for payment of expenses of all material witnesses.

The Poor Persons' Legal Remedies Act, 1918, authorises Judges to make rules regulating the practice and procedure, and the costs and fees payable in respect of proceedings to which poor persons are parties. Such proceedings may not be instituted without permission, and Judges to whom applications for permission are made are authorised to act as conciliators. The rules made under this Act do not apply to criminal proceedings.

HIGH COURT OF AUSTRALIA.

Under the Commonwealth Constitution Act, the judicial power of the Commonwealth, both in original and appellate jurisdiction is vested in the High Court of Australia. Its original jurisdiction extends to matters in which the Commonwealth is a party, or which lie between States or residents of States. Its appellate jurisdiction extends to the hearing and determination of appeals from all judgments, decrees, orders and sentences of any justice exercising the original jurisdiction of the High Court or any other Federal Court, or from judgments, &c., of the Supreme Court or any other Court of any State from which an appeal lay previously to the King in

Council. The judgment of the High Court, in all such cases, is final, subject to the right of the Privy Council to grant leave to appeal to it; its sittings are held in the capitals of the States, as may be necessary. Hitherto the majority of actions brought before the High Court have related to its appellate jurisdiction.

APPELLATE JURISDICTION.

Courts having Appellate Jurisdiction are the following:—Courts of Quarter Sessions, the Supreme Court, the Full Court, the High Court of Australia, and, finally, the Privy Council. A Court of Criminal Appeal was established in 1912.

Courts of Quarter Sessions.

The right of appeal from Courts of Petty Sessions to Courts of Quarter Sessions lies against all convictions or orders by Magistrates, excepting adjudication to imprisonment for failure to comply with an order for the payment of money, for the finding of sureties for entering into a recognisance or for giving security, and orders for the payment of wages and convictions for breaches of discipline under the Seamen's Act, 1898. The Appeal Court rehears the cases, deciding questions of fact as well as of law.

The results of appeals from Courts of Petty Sessions during the last five years are shown below:—

Year.	Not Concluded.	Conviction or Order.			Total.
		Confirmed.	Varied.	Quashed.	
1915	93	240	55	89	477
1916	64	298	44	91	497
1917	93	305	34	106	538
1918	99	365	55	106	625
1919	105	312	39	139	595

Appeals to Supreme Court.

In connection with appeals from Magistrates and Wardens' Courts, applications for prohibition or mandamus are made either to a Judge in Chambers, or to the Full Court; appeals from decisions of District Court Judges sitting in the Mining Appeal Court are made to the Supreme Court, and appeals by way of special case from Warden's Courts are determined by a Judge in Chambers.

During 1919, applications for writs of prohibition and mandamus numbered 21, of which 9 were to Judges in Chambers, and 12 to the Full Court. Writs granted were 13, viz., 3 of mandamus and 10 of prohibition.

The special cases numbered 9; decisions were sustained in 4 and reversed in 2 from the Magistrates' Courts, and 3 cases were not proceeded with. There were no appeals in land cases.

Appeals to Full Court.

In Common Law 28 cases were taken during 1919, all of which were civil cases, consisting of new trial motions; 4 were granted and 18 refused, and 6 were not proceeded with. There were 3 appeals in Equity, all of which were sustained. One appeal in Divorce was disallowed, and 1 was not proceeded with. There was 1 appeal in Bankruptcy which was disallowed, and there were no appeals in Probate. Appeals from District Courts numbered 15, of which 2 were allowed, 7 refused, and 6 were not proceeded with.

Court of Criminal Appeal.

The Court of Criminal Appeal was established by the Criminal Appeal Act of 1912, which prescribes that the Supreme Court shall be the Court of Criminal Appeal, constituted by three or more Judges of the Supreme Court as the Chief Justice may direct. Any person convicted on indictment may appeal to the Court against his conviction (1) on any ground which involves a question of law alone, or (2) with the leave of the Court or upon the certificate of the judge of the court of trial, on any ground which involves a question of fact alone, or of mixed law and fact, or any other ground which appears to the Court to be sufficient. A convicted person may also, with the leave of the Court, appeal against the sentence passed on conviction; in such appeal the Court may quash the sentence and substitute another either more or less severe.

In addition to determining appeals in ordinary cases the Court has power, in special cases, to record a verdict and pass a sentence, in substitution for the verdict and sentence of the court of trial; it may also grant a new trial, either on its own motion or on application of the appellant.

The result of appeals during the last five years are shown hereunder:—

Year.	Applications to Judge.		Applications to Court.				Sentences Varied (included in Convictions Affirmed).
	Granted.	Refused.	Convictions.		New Trials Granted.	Total Cases.	
			Affirmed.	Quashed.			
1915	1	11	50	1	6	57	...
1916	3	12	55	6	12	73	2
1917	1	8	62	4	3	69	2
1918	1	1	19	3	4	26	2
1919	...	...	19	3	...	22	2

Appeals to High Court of Australia.

During 1919 appeals made from decisions of Judges of the Supreme Court of New South Wales were decided as follows:—In Equity, 1 allowed and 1 dismissed; in Bankruptcy, 1 allowed; and in Common Law 1 allowed and 1 settled.

In addition, appeals from the Full Court of the Supreme Court of New South Wales numbered 12, of which 3 were allowed, 8 dismissed, and 1 settled. Of the 3 appeals from assessments under the Federal Land Tax Assessment 1 was referred to the Full Court, 1 dismissed, and 1 set down for hearing.

Fourteen applications for leave to appeal from judgments of the Supreme Court of New South Wales were refused.

Appeals to Privy Council.

During 1919 two applications for leave to appeal to Privy Council were made and granted in Common Law; of the appeals heard 1 was upheld, 1 dismissed, and 1 not concluded. In Equity there were 3 applications for leave to appeal, 2 of which were granted; 2 appeals were heard but not concluded. In Admiralty, 1 appeal was heard but not concluded.

PUBLIC TRUST OFFICE.

On 1st January, 1914, the functions of the Curator of Intestate Estates were taken over by the Public Trustee, who may act as executor or trustee either by will or by appointment, also as agent or attorney.

The Public Trustee is not allowed to make profits, and the commission and fees chargeable against estates are arranged from time to time to produce an annual amount sufficient to defray working expenses. Special provision has been made for the deposit of wills with the Public Trustee, and transfers of property to him as Public Trustee are exempt from stamp duty.

In the following table is shown the business transacted at the Public Trust Office during the last five years:—

Particulars.	1916.	1917.	1918.	1919.	1920.
New Estates Administered—					
As Administrator ...	2,110	3,187	4,353	1,599	1,256
As Executor or Trustee	80	101	135	78	82
As Attorney or Agent ...	21	27	37	12	3
	£	£	£	£	£
Amount Received ...	323,966	438,995	711,000	740,612	736,538
Amount Paid ...	337,524	413,641	601,878	644,566	710,884
Commission and Fees ...	10,126	13,789	16,378	18,036	20,145
Unclaimed Money—					
Paid into Treasury ...	16,343	7,056	4,814	7,375	7,070
Subsequently Claimed...	448	562	274	241	594

SOLICITORS AND BARRISTERS.

A solicitor has the right of audience in all Courts of New South Wales. The Supreme Court may suspend or remove from the roll any solicitor who has been guilty of misconduct or malpractice.

At the end of 1920 there were 174 barristers practising in New South Wales, and the number of solicitors was 1,089; of the latter, 666 were in the Metropolis. One woman was admitted to the Bar in May, 1921.

PATENTS, COPYRIGHTS, TRADE MARKS, AND DESIGNS.

The administration of the statutes relating to Patents, Copyrights, Trade Marks, and Designs, devolves upon the Federal authorities, and a patent granted under the Commonwealth law is thus afforded protection in all the States, and in the Territory of Papua, for fourteen years. The copyright in a book, the performing right in a dramatic or musical work, and the lecturing right in a lecture, continue for the author's life and fifty years after his death. The British Copyright Act, subject to certain modifications, is in force in the Commonwealth under the Copyright Act, 1912.

The registration of a trade-mark protects it for fourteen years, but may be renewed from time to time. An industrial design may be protected for five years, and the period extended to fifteen years, provided it is used in Australia within two years of registration.

Under the various Federal acts, arrangements may be made for the protection in other countries of patents, copyrights, trade-marks, and designs. In all cases the rights of holders under the legislation of a State were conserved.

The Patents Trade Marks and Designs Act, 1914-15, empowers the Minister to suspend the registration of any patent or trade-mark, the proprietor whereof is a subject of a State at war with the King; a large number of such registrations have been suspended in favour of the Minister for Trade and Customs, and other persons approved by the Attorney-General of the Commonwealth.

POLICE AND PRISON SERVICES.

POLICE FORCE.

IN 1919 there were 671 police stations, and a force numbering 2,598 was maintained under the immediate control of an Inspector-General. The following statement shows the distribution of the establishment at 31st December, 1919:—

Classification.	Inspector Gen. and Superin- tendents.	In- spectors.	Ser- geants.	Con- stables.	De- tectives.	Track- ers.	Total.
Police—General	10	59	557	1,849	...	39	2,514
Detective	1	2	15	9	3	...	30
Water ... ..	...	...	10	22	...	...	32
Traffic	1	1	5	15	...	...	22
Total	12	62	587	1,895	3	39	2,598

Three women special constables are included in the above, but four women attached to the police stations as searchers are excluded.

The Police Regulation (Superannuation) Act, provides that the age of retirement from the police force shall be 60 years, except in the case of the Inspector-General of Police. Under certain circumstances, however, any member of the force may be retained until he reaches the age of 65 years.

The following statement shows that the increases in the strength of the police establishment, exclusive of trackers, have not been proportionate to the extension of population; the ratio of one policeman to 640 inhabitants in 1906 has changed gradually, so that in 1919 the ratio was one policeman to 782 inhabitants:—

Year.	Police.*	Inhabitants to each Policeman.	Year.	Police.*	Inhabitants to each Policeman.
1896	1,874	682	1914	2,627	709
1901	2,172	635	1915	2,613	716
1906	2,342	640	1916	2,586	718
1911	2,487	683	1917	2,557	739
1912	2,554	696	1918	2,481	777
1913	2,582	710	1919	2,559	782

*Exclusive of Trackers.

Rates of Pay and Pensions.

The salaries paid to the police are as follow:—Superintendents, £493 to £593 per annum; inspectors, £408 to £445 per annum; sergeants, 18s. 1d. to 20s. 1d. per day; constables, 14s. 7d. to 17s. 7d. per day.

In addition Officers not provided with quarters receive lodging allowances as follow:—Superintendents, £110 per annum; inspectors, £80 per annum.

Other ranks—married men, 2s. 6d. per day; single men, 1s. 6d. per day. A clothing allowance of £20 per annum is made to plain-clothes police in lieu of uniform.

A deduction of 4 per cent. is made on account of contributions to a Superannuation Fund. Pension and gratuity rights are as follow:—To police appointed before 1st February, 1907, with less than 15 years' service, a gratuity not exceeding one month's pay is payable for each year of service, and a further gratuity of a month's pay for each year of service after the tenth year; to officers with 15 years' and less than 20 years' service, a pension equal to half-pay, less 3 per cent., is payable; from 20 years' and less than 25 years' service, a pension equal to two-thirds, less 3 per cent.; from 25 years' and less than 30 years' service, a pension equal to three-quarters, less 3 per cent.; and from 30 years and upwards, a pension equal to full pay, less 3 per cent. To officers appointed after 31st January, 1907, with less than 20 years' service, a gratuity not exceeding one month's pay for each year of service is payable; to officers with 20 years' service and upwards, a retiring allowance not exceeding one-fortieth of salary for each complete year of service, less 3 per cent., provided that such allowance shall not exceed three-quarters of salary, less 3 per cent.

REGULATION OF TRAFFIC.

In the Metropolitan district the Traffic Police inspect public vehicles, test taximeters, regulate and control the use of motor vehicles upon public streets, besides exercising a general control over all street traffic. The number of persons taken to hospitals by the police in the Metropolitan District as the result of accidents, or illness in the streets, was 1,075.

As regards the services of the police in cases of accident, it is of interest to note that of the total police force of 2,559 men, 610 held First Aid Certificates, and 294 held Life-saving Certificates.

Traffic Licenses.

The following table shows licenses granted for vehicles and drivers under the Metropolitan Traffic Act and the Motor Traffic Act during the years 1918 and 1919:—

License.	1918.	1919.	License.	1918.	1919.
Metropolitan Traffic Act—			Metrop. Traffic Act— <i>ctd.</i>		
Horse Cab	709	666	Motor-van Driver	88	192
Motor Cab	331	389	Horse-bus Driver	48	26
Horse Van	1,470	1,536	Motor-bus Driver	131	270
Motor Van	61	131			
Horse Omnibus	30	22	Motor Traffic Act—		
Motor Omnibus	68	148	Motor Vehicle	21,387	25,197
Horse-cab Driver	791	821	Motor Vehicle Driver	32,678	41,349
Motor-cab Driver	460	556	Motor Cycle	8,755	10,236
Horse-van Driver	1,695	1,790	Motor Cycle Rider	12,280	15,063

The revenue obtained under the Metropolitan Traffic Act was £3,850 in 1918 and £4,320 in 1919; under the Motor Traffic Act £34,075 in 1918, and £41,176 in 1919; and under the Motor Vehicles (Taxation) Act £84,510 in 1918, and £101,414 in 1919.

PRISONS.

Grading of Establishments.

The prison establishments are graded with a view to the concentration of prison population in institutions large enough to ensure efficiency of supervision with economy of administration, and the maintenance of a strict and disciplinary organisation conducive to the highest ideals of reform.

The State Reformatory for Women at Long Bay is occupied by prisoners of all classes, and the State Penitentiary for Men at Long Bay is used as a place of detention for incapables from the city, and as a centre from which long-sentence prisoners are distributed to the principal country establishments; while at the police gaols and lock-ups are detained only prisoners with sentences of less than fourteen days. The Prisoners' Afforestation Camp, Tuncurry, receives selected prisoners (first offenders) after portion of their sentence has been served; and at the Emu Plains Prison Farm, young industrious prisoners, with suitable qualifications are treated on somewhat similar lines.

Classification of Prisoners.

In all the large establishments an inter-classification system is operative, which assures the segregation of the inmates in various classes as to age and conduct.

For several years the principle of restricted association has been in operation, and has yielded results which demonstrate its success. Under present conditions association while at work, at exercise, and at religious instruction, is subject to the closest supervision. Cells are lighted, and literature is provided from the prison libraries.

PRISON POPULATION.

At the end of 1919 there were 25 gaols in New South Wales; of these, 5 were principal, 7 minor, and 13 police gaols. The police gaols at Armidale and Newcastle have since been closed.

Altogether since 1901, when there were 59 gaols, 40 have been closed, and 4 opened.

The number of prisoners in gaol, exclusive of Inebriates, at the close of each year, during the last five years, will be found below:—

Year.	Under Sentence.		Awaiting Trial.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
1915	1,397	185	83	6	1,485	191	1,676
1916	1,251	209	64	10	1,315	210	1,525
1917	1,154	138	81	4	1,235	142	1,377
1918	854	105	59	7	913	112	1,025
1919	835	60	85	6	920	66	986

The following comparison shows that though the general population has more than trebled since 1875, the gaol population has decreased by 32 per cent.

The gaol entries shown in the table, some of whom were received and counted several times, represent convicted persons, persons awaiting trial, debtors, naval and military offenders, and persons on remand.

Year.	General Population at 31st December.	Gaol Entries during Year.	Gaol Population at 31st December.	
			Number.	Per 1,000 of General Population.
1875.	594,297	11,832	1,453	2.44
1885	949,570	20,740	2,562	2.70
1895	1,262,270	18,552	2,460	1.95
1905	1,469,153	13,380	1,678	1.14
1910	1,638,220	9,849	1,323*	.81
1915	1,870,415	10,928	1,676*	.90
1916	1,857,920	9,999	1,525*	.82
1917	1,889,129	8,169	1,377*	.73
1918	1,928,174	7,804	1,025*	.53
1919	2,000,173	7,373	986*	.49

* Exclusive of inebriates detained.

Prisoners Released on License.

Persons eligible for remission of sentence for good conduct and industry may be released on license to be of good behaviour.

Licenses operate for the unexpired portion of the sentence and sureties are required. The licensee is required to report periodically, and a breach of the conditions of release may be punished by the cancellation of the license, and recommittal to gaol for the balance of the sentence. During 1919, licenses were granted under Prisons Regulation No. 75, to 350 men and 11 women, and under the Crimes Act to 99 men and 10 women.

Imprisonment in Lieu of Fine.

Imprisonment for non-payment of an amount adjudged to be paid on order of a Justice may be curtailed by payment of a portion of the fine, for which a proportionate part of the sentence may be remitted, and provision is made for the payment of fines in instalments. The following table shows the extent to which diminution in the term of confinement was commuted by money payment during the past five years:—

	1915.	1916.	1917.	1918.	1919.
Persons committed to gaol in default of payment of fines	5,050	4,403	3,732	3,637	3,076
Prisoners subsequently released after paying portion of fines	1,193	1,082	876	709	801
Days prisoners would have served if portion of fines had not been paid ...	40,505	47,824	27,322	21,910	21,791
Days remitted by part-payment of fines ...	25,950	23,054	17,864	14,590	12,543
Amount received at gaol as part-payment of fines £	2,913	2,721	2,253	2,039	2,484

Capital Punishment.

The following table shows the total number of death sentences pronounced and sentences of death recorded; also executions during the years 1914-19 :—

Year.	Death Sentences Pronounced and Sentences of Death Recorded.	Executions.	Year.	Death Sentences Pronounced and Sentences of Death Recorded.	Executions.
1914	13	...	1917	8	2
1915	9	...	1918	4	...
1916	5	2	1919	3	...

Industrial Activity in Prison Establishments.

Ability to perform useful and remunerative labour is recognised as of equal importance with good conduct in demonstrating fitness for freedom; and, to encourage some degree of skill, employment at industries calculated to inspire interest, and subsequently to prove remunerative, is provided under the supervision of competent instructors.

In 1919 the value of prisoners' labour amounted to £41,256, viz. :—manufactures for gaols, £12,127; and for other Government departments, £12,991; in buildings, £6,072; domestic employment, £10,036; and other employment, £30.

SICKNESS AND MORTALITY IN GAOLS.

Visiting surgeons are attached to the various important establishments of which the sanitation and hygiene are on modern lines. Among the persons received into the institutions are included many whose physical condition is deplorable, persons in the last stages of disease, and aged and infirm persons, for whom a hospital or asylum is the befitting destination. Prisoners suffering from tuberculosis receive special treatment.

The medical statistics of prisons show that, with an average daily number of 1,058 inmates during 1919, the total number of cases of sickness treated in hospital was 431; 13 prisoners died, and 34 were released on medical grounds. The death rate per 1,000 of the average number of inmates was 12.2.

LOCK HOSPITALS.

Under the Prisoners Detention Act, 1908, prisoners found to be suffering from certain contagious diseases may be detained in Lock Hospitals attached to the gaols. In cases of imprisonment without option of fine, a stipendiary magistrate may cause the prisoner to be detained until certified by the medical officer as free from disease even after the definite sentence is served; but in the case of imprisonment in lieu of payment of a fine, the Act did not provide for detention beyond the specified term of imprisonment. In 1918, however, an Act was passed to remedy this defect, and all such prisoners may now be treated in the Lock Hospitals until free from contagion.

During 1919 orders for detention in the Lock Hospitals were obtained in the cases of 66 men and 22 women, and, in addition, treatment was given to 26 men and 3 women, for whom orders were not obtained; 13 men were discharged uncured.

SPECIAL TREATMENT.

Upon the recommendation of the Judge before whom they have been tried, prisoners convicted of a misdemeanour under sentence of imprisonment without hard labour may be placed in a special class and treated similarly to those confined under civil process. Such prisoners are segregated and are allowed privileges regarding food, clothing, &c.

First Offenders.

When any person, not previously convicted of an indictable offence is convicted for a minor offence and sentenced, the Court may suspend the sentence upon a recognisance, without sureties, for good behaviour during the period covered by the sentence, the probationary term being, however, not less than one year. An examination is made for purposes of identification, and the offender is required to report himself periodically. If his conduct be not satisfactory he becomes liable to imprisonment for the unexpired portion of the sentence; but good behaviour during the whole probationary period will cancel the conviction.

During 1919 there were 433 persons, viz.:—282 at Magistrates', and 151 at higher courts, released as first offenders; of these, 348 were men and 85 women. These figures do not include children released on probation from the Children's Court under the Neglected Children and Juvenile Offenders Act, 1905.

The records of 582 persons convicted at the higher courts during 1919 show that 279 had not been convicted previously.

At Goulburn Gaol special reformatory treatment is provided for first offenders—useful employment, educational facilities, physical drill, and strict classification in order to prevent the association of prisoners of vicious tendencies. That this plan is an important factor in the deterrent influence of the prison system, is evinced by the small proportion of re-convictions of prisoners passing through the treatment.

Youthful Offenders.

In New South Wales a strict line of demarcation is drawn between offenders over and under the age of 25 years. Offenders under age 25 are classified in age-groups; also according to length of sentence over or under 12 months, and divisional treatment is accorded. Special disciplinary, scholastic, religious, physical training, and industrial courses are provided, for the last of which facilities in the form of workshops are available. Great discrimination and special care are necessary to prevent such youthful offenders from becoming confirmed criminals.

Maintenance Confinees.

The Deserted Wives and Children Amending Act, 1913, empowers the Comptroller-General of Prisons to direct a prisoner committed to prison under the Deserted Wives and Children Act, 1901, or the Infant Protection Act, 1904, to perform any specified class of work. An estimate is made of the value of the work performed, and after a deduction for the prisoner's keep, the remainder is applied towards satisfaction of the order for maintenance under the Deserted Wives and Children Act 1901, or for maintenance or expenses under the Infant Protection Act, 1904.

During 1919 the number of maintenance confinees received into gaol was 222, as compared with 240 in the previous year.

WOMEN IN PRISONS.

In August, 1909, the State Reformatory for Women was opened at Long Bay, and to this central institution are sent all prisoners from the metropolitan district, and all long-sentence prisoners from extra-metropolitan

districts. At Long Bay an exhaustive system of classification is in force, accommodation being provided by means of 290 separate rooms.

During 1919 1,135 women were received in Long Bay, the number remaining at end of the year being 60.

The industrial activity of the institution resulted in an output of manufactures, which, with the work of gardening and domestic services, was valued at £1,828. During 1919 the daily average at the Long Bay State Reformatory for Women was 90.

In 1919, at all gaols of New South Wales, 971 female prisoners were received under sentence, the daily average number, including untried prisoners, being 98.

Approximately 69 per cent. of the women received at all gaols were committed on sentences of one month and less, and consequently presented little opportunity for the application of reformatory measures.

HABITUAL CRIMINALS AND PREVENTIVE DETENTION.

The Habitual Criminals Act, 1905, empowers a judge to declare as an habitual criminal any person convicted for the third or, in some cases, the fourth time, on account of certain criminal offences, as specified in the Act. A definite sentence is served on account of the offence charged, and subsequently the offender is detained for an indefinite term, until he is deemed fit for freedom.

This system of treatment acts as a deterrent to the existence of professional criminals, and moreover confers an incalculable benefit on society by removing the force of example of criminality. The benefits accruing from the system of indeterminate sentences, as initiated in New South Wales, have led to its adoption in other communities.

Seven men were declared to be habitual criminals during 1919—making a total of 82 men and 1 woman so declared since the inception of the Act. Of this number, 40 men and 1 woman were released on probation, 6 being recommitted to gaol, 5 died, 5 were released on medical grounds, 3 were removed to the Hospital for Criminal Insane, and in 7 cases the declaration of an habitual criminal was remitted. At the end of 1919 there were under detention 11 men who had not yet completed the definite period, and 17 men who had passed into the indeterminate stage.

On the completion of the definite term under the ordinary prison regulations, the habitual criminal passes to the indeterminate stage, which is divided into three grades—intermediate, higher, and special; a minimum period of 4 years and 8 months must be spent in the lower grades before the prisoner can gain admission to the special grade, wherein cases may be brought under consideration with a view to release. At the end of 1919 9 prisoners were in the intermediate grade, and 8 were in the higher grade.

An important proviso of the Habitual Criminals Act prescribes that while under detention as an habitual criminal every prisoner must work at some useful trade, and receive at least one-half of the proceeds of his work. As the majority of these persons have not been trained in any branch of skilled labour, facilities are afforded them, while serving the definite term, to acquire training in some remunerative employment.

DRUNKENNESS.

During 1919 the total convictions for drunkenness numbered 11,820. The following table shows the total convictions—that is cases in which convictions were recorded, not distinct persons convicted—during each of the

last ten years, and their ratio to the mean population. In September, 1916, a new method of dealing with persons charged with drunkenness was adopted in the Metropolitan police district. Such persons may now be released upon depositing an amount equal to the usual penalty imposed, and in the event of non-appearance at the Court the deposits are forfeited and no further action is taken. In 1918 there were 5,758 cases (5,168 men and 590 women), and in 1919, 6,437 cases (5,923 men and 514 women) in which bail was estreated. These have been excluded from the table.

Year.	Total Convictions.			Convictions per 1,000 of—		
	Males.	Females.	Total.	Male Population.	Female Population.	Total
1910	24,450	2,930	27,380	29·10	3·78	16·94
1911	26,295	3,004	29,299	30·28	3·77	17·60
1912	29,264	3,456	32,720	32·05	4·19	18·82
1913	29,153	3,314	32,467	30·65	3·86	17·94
1914	30,135	3,073	33,208	31·04	3·48	17·92
1915	23,224	2,639	25,863	24·16	2·91	13·84
1916	20,579	2,438	23,017	21·89	2·63	12·33
1917	15,421	2,038	17,459	16·63	2·15	9·31
1918	13,016	1,712	14,728	13·77	1·78	7·71
1919	11,820	1,289	13,109	12·01	1·32	6·68

It will be seen that there has been a decided decrease in the convictions of women; this has been most marked in the years immediately succeeding the enactment of the Liquor Amendment Act of 1905, and the establishment of State institutions for treatment of inebriates in 1907. There is no doubt that the proportions have been appreciably lowered by the detention of women who, though few in number, swelled the record of cases by repeated convictions on the charge of drunkenness.

With regard to the men, the rate in 1919, viz., 12·01 per 1,000, was the lowest during the period.

The Treatment of Inebriates.

The Inebriates Act was designed to provide treatment for two classes of inebriates—those who have been convicted of an offence, and those who have not in this way come under the cognisance of the law.

For the care and treatment of the latter class, the Act authorises the establishment of State institutions under the control of the Inspector-General of Insane. Judges, police magistrates, and the Master-in-Lunacy may order that an inebriate be bound over to abstain, or that he be placed in a State or licensed institution, or under the care of an attendant controlled by the Master-in-Lunacy, or of a guardian, for a period not exceeding twelve months. Provision is made also to enable an inebriate to enter voluntarily into recognisances to abstain.

An inebriate convicted of an offence of which drunkenness is a factor, or, in certain cases, a contributing cause, may be required to enter into recognisances for a period not less than twelve months, during which he must report periodically to the police; or he may be placed in a State institution under the direction of the Comptroller-General of Prisons.

Special provision has been made at the State Penitentiary for men, and at the State Reformatory for women, detained under the Inebriates Act, who have been convicted previously for other offences; since March, 1915, those of the non-criminal class have been treated at a separate establishment, the Shaftesbury Inebriate Institution.

In 1917 arrangements were made for the admission of voluntary paying patients to the Shaftesbury Institution; these patients may, under certain conditions, leave the institution daily to follow their usual occupation. During 1919, 22 men and 8 women were admitted as voluntary patients, and 4 men and 2 women were remaining on 31st December.

State Inebriate Institutions.

The power of detaining inebriates in State Institutions was first exercised in 1907, and the majority of admissions have been of chronic offenders over 40 years of age, who for many years prior to admission had served frequent sentences under the repeated short sentence system, and who in consequence had drifted into a condition from which reformation seemed almost hopeless. In view of this fact the results attained by the operation of the Acts may be considered encouraging.

During the period dating from the first reception in August, 1907, to 31st December, 1919, the total number of original receptions amounted to 883—377 men and 506 women; 1,155 licenses for release were issued—438 to men, and 717 to women; 157 issued to men, and 295 to women, have been cancelled, and the licensees recommitted to institutions.

At the beginning of the year 1919 there were, exclusive of voluntary patients, 88 persons in custody at the inebriate institutions; 98 were received during the year, 5 were discharged, 130 were released on license, 1 absconded while on parole, 1 was discharged to gaol, 1 appealed, but the conviction was upheld, and 2 died, leaving 46 at the end of the year.

Of the 130 persons released on license during 1919 from the institutions, 53 obtained employment, 57 were admitted to homes, 1 to hospital, 18 were released to care of friends, and 1 was sent to another State.

The total expenditure on inebriate institutions during the year amounted to £3,055.

FUGITIVE OFFENDERS AND EXTRADITION.

The Imperial statutes in force in New South Wales for the surrender of fugitive criminals are the Fugitive Offenders Act, 1881, and the Extradition Act.

Under the Fugitive Offenders Act, 1881, provision is made for the surrender from the United Kingdom to a British possession or *vice versa*, or from one British possession to another, of fugitives charged with the perpetration of crimes which, in the part of His Majesty's dominions where they are committed, are punishable by a minimum penalty of imprisonment with hard labour for twelve months. Persons apprehended under this Act are brought before a Magistrates' Court, and their cases are included in the figures relating to the business transacted at such courts.

During 1919, 30 persons—28 males and 2 females—were arrested in other countries as fugitive offenders, and returned to New South Wales. Of these 8 were discharged, 4 were summarily convicted, and 5 were committed to higher courts; in 5 cases maintenance orders were made, and the remaining cases were otherwise treated.

The number of persons arrested in New South Wales during 1919 as fugitives from other parts of the British Empire was 30, all of whom were males. Of the total, 29 were remanded to other States of the Commonwealth, and 1 to New Zealand.

The Extradition Act provides for the surrender to foreign States of persons accused or convicted of committing crimes within the jurisdiction of such States, and for the trial of criminals surrendered to British dominions. Treaties for the extradition of fugitives subsist between the United Kingdom and the majority of foreign countries. In proceedings taken in New South Wales under the Extradition Act the fugitive may be brought before a Stipendiary or Police or Special Magistrate, who hears evidence on oath, and, if satisfied, makes out a warrant for the extradition. At the hearing, the Consul for the country of which the person charged is a subject, the Crown Solicitor, and the Inspector-General of Police are represented. If a warrant be granted, the prisoner is detained for fifteen days prior to extradition, during which interval he may apply to the Supreme Court for a writ of *habeas corpus*. There were no extraditions to foreign countries during 1919.

COST OF ADMINISTRATION OF JUSTICE.

The following table shows the amount expended in the administration of justice, and in the protection of property and punishment of criminals, in New South Wales during the last five years; also the amount of fines and fees paid into the Consolidated Revenue, and net returns from prisoners' labour:—

Expenditure and Revenue.	1915-16.	1916-17.	1917-18.	1918-19.	1919 20.
Expenditure—	£	£	£	£	£
Law Administration—					
Judicial Salaries and Pensions...	50,004	53,262	52,935	52,368	53,870
†Department of Attorney-General and of Justice	220,741	225,445	221,609	225,121	232,176
	270,745	278,707	274,544	277,489	286,046
Police—					
Administration	558,881	600,369	645,622	645,828	898,239
Rewards	709	2,232	900	1,127	1,995
•Other	43,500	47,000	63,000	72,000	77,000
	603,090	649,601	709,522	718,955	977,234
Prisons	92,529	91,913	90,570	87,875	92,781
Total Expenditure	966,364	1,020,221	1,074,636	1,084,319	1,356,061
Revenue—					
Fees	63,331	60,397	66,508	69,174	81,318
Fines and Forfeitures	32,420	31,234	31,055	35,280	38,785
Value of Prisoners' Labour	772	754	705	499	410
Total Revenue	96,523	92,385	98,268	104,953	120,513
Net Cost	869,841	927,836	976,368	979,366	1,235,548
Per Head of Mean Population—	s. d.	s. d.	s. d.	s. d.	s. d.
Police	6 6	7 0	7 6	7 5	9 9
Law Administration	1 10	2 0	1 10	1 9	1 8
Prisons	1 0	1 0	1 0	0 11	0 11

* Payments made to the Police Pension Fund under the Police Regulation (Superannuation) Act (No. 23 of 1906). † Excluding Public Service Board, Prisons, and Registrar-General's Department, and certain other items of expenditure.

COMMERCE.

POWER to make laws with respect to trade and commerce with other countries and between the States was vested in the Commonwealth Parliament, and control of the Customs and Excise Department was transferred to the Commonwealth in the year 1901. Following on alterations in the financial arrangements between the Commonwealth and the States, the Federal Government ceased to collect particulars of the interstate trade from 13th September, 1910; consequently the figures shown in this chapter relate only to oversea trade—that is, to the trade of New South Wales with countries beyond Australia.

The Customs Act of 1901 provided the necessary machinery to administer matters relating to Customs, and prescribed the manner in which duties were to be computed and paid. The Customs (Inter-State Accounts) Act, 1910, repealed the sections of the Customs Act, 1901, which necessitated the keeping of accounts of dutiable goods passing between the States. The Act assigned to the Customs Department control over all goods for export, and, subject to restrictions under any enactment, extended the provisions of earlier Acts in regard to prohibited goods, payments of duty, weight and measurement, &c. It provided also for supervision of preparation or manufacture for export of articles used for or with food or drink for human consumption, and established conditions as to the purity and soundness of goods designed for export.

The various Customs Tariff Acts provide general and special tariffs, uniform for all the States. Preferential rates of duty apply to certain goods imported from, and being produced within, the Union of South Africa; and the Customs Tariff, 1908, provides preference rates of Customs duties for certain goods the produce or manufacture of the United Kingdom.

Since 25th March, 1920, duties have been levied in accordance with a proposed tariff, which is now under consideration by Parliament. The new rates are generally higher than the old, but in instances where such is not the case, the old rate is collected and the difference is deposited in a suspense account.

There are three tariff rates, British Preferential, Intermediate, and General. The first is for Great Britain, but, by reciprocal agreement, the Minister for Customs may extend to other dominions on individual items the British preferential rate or the intermediate rate; to countries other than the Dominions, he can extend the intermediate rate only.

In the 1911 Tariff, Great Britain received preference on 251 items, and in the 1914 tariff, on 426 items, ranging from 5 to 10 per cent—in most cases the 5 per cent. rate prevailed, while under the proposed tariff, Great Britain receives preference on 583 items, ranging from 5 to 20 per cent.

The value of goods imported, as shown in the tables throughout this section, represents the amount on which duty is payable, or would be payable if the duty were *ad valorem*. The value of goods subject to duty is taken to be the fair market value in the principal markets of the country whence exported, plus 10 per cent. to cover the cost of packing, insurance, freight, and all other charges. The value of goods exported is the value in the principal markets of the State.

IMPORTS AND EXPORTS.

The total values of oversea imports and exports and the values per head of population for each year since 1910, are quoted below:—

Year ended 30th. June.	Imports.	Exports.	Per head of Population.		
			Imports.	Exports.	Total Oversea Trade.
	£	£	£ s. d.	£ s. d.	£ s. d.
1910*	23,238,993	32,035,451	14 7 7	19 16 5	34 4 0
1911*	27,343,423	32,161,401	16 8 7	19 6 5	35 15 0
1912*	32,303,630	32,958,529	18 11 7	18 19 1	37 10 8
1913*	32,350,663	32,839,789	17 17 7	18 3 0	36 0 7
1914†	16,677,336	15,738,313	9 0 9	8 10 8	17 11 5
1915	27,323,243	28,107,025	14 13 6	15 1 11	29 15 5
1916	33,379,698	40,975,416	17 17 3	21 18 6	39 15 9
1917	32,742,297	50,290,824	17 11 5	26 19 9	44 11 2
1918	29,519,986	39,619,093	15 12 2	20 18 11	36 11 1
1919	46,013,102	51,027,359	23 16 6	26 8 4	50 4 10
1920	44,690,599	55,017,065	22 7 1	27 10 5	49 17 6

* Year ended 31st December.

† Half-year ended 30th June.

The value of the exports from year to year in normal times forms a sure index of the progress of this country, the result of a rise or fall in the value of the staple commodities, or of a depression in production, being readily traceable in the corresponding rise or fall in the export values.

Difficulty in connection with freights on account of war conditions was a disturbing factor in trade during the years 1914 to 1919.

The following table shows the chief countries from which New South Wales imported goods, also those to which goods were exported:—

Country.	Imports.		Exports.	
	1913.	1919-20.	1913.	1919-20.
	£	£	£	£
United Kingdom	18,107,138	17,511,059	11,904,424	26,009,277
Canada	675,502	1,414,956	145,875	195,091
Fiji	403,623	265,675	379,476	579,549
Hong Kong	165,664	455,576	553,740	1,700,633
India	1,175,707	1,915,638	220,260	408,039
New Zealand	1,632,184	1,561,771	1,321,989	4,505,155
South African Customs Union ...	53,350	285,229	339,207	535,987
Straits Settlements	153,791	803,053	467,796	1,499,865
Bismarck Archipelago ... ..	...	653,771	...	494,709
Other British Possessions	544,220	1,454,863	333,291	1,046,744
Total, British Countries	£ 22,911,179	26,321,591	15,666,058	36,975,049
Belgium	1,078,518	92,027	2,769,661	1,661,660
Bismarck Archipelago	1,659	...	65,091	...
China	41,655	130,694	114,121	282,453
France	310,050	140,234	4,649,474	894,422
Germany	1,880,042	2,985	3,659,676	16,520
Italy	198,876	162,766	510,433	1,127,846
Japan (including Formosa)	464,057	2,493,300	1,113,915	4,091,424
Netherlands East Indies	292,044	2,068,497	396,688	872,606
New Caledonia	33,184	182,820	144,107	410,656
Philippine Islands	51,281	82,858	192,675	625,354
United States of America	4,251,541	11,912,391	1,831,470	7,640,051
South Sea Islands	143,992	70,675	396,685	152,098
Other Foreign Countries	692,585	1,029,761	1,329,735	266,926
Total, Foreign Countries	£ 9,439,484	18,369,008	17,173,731	18,042,016
Total, all Countries	£ 32,350,663	44,690,599	32,839,789	55,017,065

The table shows very clearly the extent to which the trade with various countries has been affected by the War. Trade with Germany has practically ceased, while there has been an enormous development of trade with the United States and Japan, and the trade with Netherlands East Indies has assumed important dimensions.

DISTRIBUTION OF TRADE.

Of oversea imports in 1920, according to country of origin, 52 per cent. were of British manufacture or production. Approximately 39 per cent. of the total imports were shipped from the United Kingdom, 20 per cent. from British possessions, or a total of 59 per cent. from British countries, the difference in favour of British shipments as against those of foreign countries being attributable to the advantages of Great Britain as a transshipping country. The imports shipped from foreign countries direct represented 41 per cent. of the total. Of the exports from New South Wales, 67 per cent. were shipped to British countries, while of the total trade, 63 per cent. was British.

The trade of the State is greater with the United Kingdom than with any other country. The real trade with the United Kingdom is not shown, however, because, in addition to foreign goods sent to Australia *via* London, a proportion of the goods sent from New South Wales to Victoria and South Australia is shipped eventually to the United Kingdom; but some of the goods shipped to the United Kingdom are destined for transshipment to foreign ports. The extent of the export trade with the United Kingdom may be gauged by the relation between the value of goods originating in, and the value of goods shipped from the United Kingdom.

The volume of oversea imports divided under the heads of British Empire, *i.e.*, United Kingdom and other British countries, and Foreign countries is shown in the following table for the pre-war year, 1913, and for each year of the five years ended 30th June, 1920.

Year ended 30th June.	Direct Imports from—				Total Imports.
	British Empire.			Foreign Countries.	
	United Kingdom.	Other British Countries.	Total.		
	£	£	£	£	£
1913*	18,107,133	4,804,041	22,911,179	9,439,484	32,350,663
1916	15,608,510	6,434,638	22,043,148	11,336,550	33,379,698
1917	15,722,209	6,285,552	22,007,761	10,734,536	32,742,297
1918	10,514,972	6,394,583	16,909,555	12,610,431	29,519,986
1919	15,223,547	10,519,693	25,743,240	20,269,862	46,013,102
1920	17,511,059	8,810,532	26,321,591	18,360,008	44,690,599

* Year ended 31st December.

War conditions caused a diminution in the imports from the United Kingdom after 1913, and an increase in the trade from other British possessions and from foreign countries, notably the United States of America and Japan.

Stated as proportions per cent. of the total imports, the following results are obtained.

Year ended 30th June.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1913*	56.0	14.8	70.8	29.2
1916	46.7	19.3	66.0	34.0
1917	48.0	19.2	67.2	32.8
1918	35.6	21.7	57.3	42.7
1919	33.1	22.9	56.0	44.0
1920	39.2	19.7	58.9	41.1

* Year ended 31st December.

The two tables just given relate to "direct" imports, but in the following table the imports have been assigned to the country of origin:—

Country of Origin.	1913.		1919-20.	
	Value.	Percent- age.	Value.	Percent- age.
	£		£	
United Kingdom	15,367,428	47.5	15,591,284	34.9
Canada	359,022	1.1	1,013,325	2.7
India	1,221,849	3.7	2,146,632	4.8
New Zealand	1,457,335	4.5	1,170,511	2.6
Other British Countries	1,247,102	3.9	3,345,280	7.5
Total, Empire	19,652,736	60.7	23,455,032	52.5
Germany	2,834,038	8.8	12,343	0.0
Japan	467,666	1.4	2,505,280	5.6
United States of America	5,329,850	16.5	12,238,705	27.4
Other Foreign Countries	4,066,373	12.6	6,479,239	14.5
Total, Foreign Countries	12,697,927	39.3	21,235,567	47.5
Total	32,350,663	100.0	44,690,599	100.0

If this table be compared with the preceding table, the extent to which foreign goods are transhipped in the United Kingdom will be apparent. For example, in 1919-20 the direct imports from the United Kingdom were 39 per cent. of the whole, but the proportion which was produced therein was 35 per cent.

The value of the oversea exports from New South Wales in 1913, and in the five years ended 30th June, 1920, was as shown in the following table:

Year ended 30th June.	British Empire.			Foreign Countries.	Total Exports.
	United Kingdom.	Other British Countries.	Total.		
	£	£	£	£	£
1913 *	11,904,424	3,761,634	15,666,058	17,173,731	32,839,789
1916	15,320,054	5,076,785	20,396,839	20,578,577	40,975,416
1917	23,906,117	12,098,164	36,004,281	14,286,543	50,290,824
1918	17,267,342	10,661,804	27,929,146	11,689,947	39,619,093
1919	23,584,416	13,927,893	37,512,309	13,515,050	51,027,359
1920	26,009,277	10,965,772	36,975,049	18,042,016	55,017,065

* Year ended 31st December.

It will be seen from this table that, compared with 1913, exports to the United Kingdom and to other British countries have more than doubled, while the exports to foreign countries have remained almost stationary.

The proportions per cent. of the total exports in the same years as in the preceding table were as follow :—

Year ended 30th June.	British Empire.			Foreign Countries.
	United Kingdom.	Other British Countries.	Total.	
	per cent.	per cent.	per cent.	per cent.
1913*	36·2	11·5	47·7	52·3
1916	37·4	12·4	49·8	50·2
1917	47·5	24·1	71·6	28·4
1918	43·6	26·9	70·5	29·5
1919	46·2	27·3	73·5	26·5
1920	47·3	19·9	67·2	32·8

* Year ended 31st December.

During the period of the war there were great variations in the proportion of trade with British and with foreign countries. In the year ended 30th June, 1920, the exports of New South Wales to other countries of the British Empire represented 67 per cent. of the total, of which 47 per cent. were exports to the United Kingdom. The proportion to foreign countries was 33 per cent.

ARTICLES OF IMPORT.

In order to show concisely the class of goods imported into New South Wales, oversea imports during the pre-war year, 1913, and the years ended 30th June, 1919 and 1920, have been summarised, as shown in the table below. The figures represent oversea imports only, as interstate transfers are not available.

Classification of Imports.	1913.	1918-19.	1919-20.
	£	£	£
Foodstuffs of Animal origin	367,881	333,022	709,072
Foodstuffs of Vegetable Origin, and Salt ...	1,450,580	852,726	2,461,153
Beverages (non-alcoholic) and substances used in making.	790,139	1,222,750	2,202,685
Spirits and Alcoholic Liquors, including Spirits for Industrial Purposes, and Pharmaceutical Preparations subject to duty as spirits ...	927,644	666,288	564,161
Tobacco and Preparations thereof	609,570	1,310,846	1,980,036
Live Animals	86,131	27,172	98,776
Animal Substances (mainly unmanufactured) not Foodstuffs... ..	185,376	610,116	793,765
Vegetable Substances and non-manufactured Fibres	539,288	2,119,496	2,402,919
Apparel	2,325,935	2,504,035	2,191,124
Textiles	4,745,852	10,751,050	8,138,322
Manufactured Fibres	881,466	1,643,621	615,372
Oils, Fats, and Waxes	800,873	1,809,338	1,800,646
Paints and Varnishes	243,613	301,363	194,157
Stones and Minerals used Industrially... ..	102,292	71,939	118,575
Specie	160,955	24,760	6,631
Metals, unmanufactured, and Ores (including Bullion)	1,094,321	2,615,773	127,237
Metals, partly manufactured	578,897	282,723	393,254
Machines and Machinery... ..	2,218,755	1,961,108	2,296,411

ARTICLES OF IMPORT—continued.

Classification of Imports:	1918.	1918-19.	1919-20.]
	£	£	£
Other Manufactures of Metals	4,907,880	6,100,523	7,043,795
Indiarubber and Indiarubber Manufactures ...	278,263	657,650	681,630
Leather and Manufactures of Leather and Substitutes therefor	252,344	289,920	296,972
Wood and Wicker, raw and manufactured ...	1,598,287	1,318,637	1,738,253
Earthenware, Cements, China, Glass and Stone- ware	647,706	743,833	574,071
Paper	891,984	2,014,250	1,314,315
Stationery	458,079	567,265	577,940
Jewellery, Timepieces, and Fancy Goods ...	705,937	841,731	1,120,925
Optical, Surgical, and Scientific Instruments ...	495,204	520,442	685,711
Drugs, Chemicals, and Fertilisers	863,936	1,970,374	1,443,242
Miscellaneous	3,141,425	1,880,351	2,119,449
Total Imports	32,350,663	46,013,102	44,690,569

The great bulk of the imports consists of manufactured articles. Unmanufactured or mainly unmanufactured goods were valued at £6,015,042, or only 13·5 per cent. of the total value, and manufactured goods at £38,675,557, or 86·5 per cent.

In the following table eleven classes of imports shown in the previous table have been arranged in order of importance, and the chief items in each class are shown.

Article.	Value of Import.	Article.	Value of Import.
Apparel, Textiles and Manufactured Fibres—	£	Beverages—Non Alcoholic—	£
Cotton—Dyed or printed	1,662,267	Tea	1,832,123
" White bleached	831,195	Cocoa-beans	225,002
" Grey unbleached	370,037	Tobacco—	
Piece goods—Silk	1,415,413	Unmanufactured	1,817,168
" Woollens	1,337,503	Paper and Stationery—	
Socks	600,379	Printing Paper	615,264
Bags and Sacks	514,643	Books	327,269
Canvas and Duck	433,616	Writing and Typewriting Paper ..	216,681
Sewing Silks	413,721	Wrapping	138,402
Trimnings and Ornaments	279,839	Oils, Fats, Waxes—	
Lace for Attire	264,881	Petroleum	743,270
Machines and Machinery, other Manu- factures of Metals—		Kerosene	256,694
Chassis for Motor Cars	1,101,350	Lubricating Mineral	167,905
Metal Manufactures, other	781,526	Paraffin	105,924
Machines and Machinery, n.e.i. ..	646,109	Wood and Wicker—	
Sheet Iron—		Undressed Timber	993,312
Corrugated, galvanised	508,802	New Zealand White Pine	401,200
Galvanised	383,323	Drugs, Chemicals, and Fertilisers—	
Plain, not galvanised	364,374	Proprietary Medicines	204,780
Tinned Plates and Sheet	487,128	Drugs and Medicinal Preparations ..	121,686
Pipes and Tubes	384,392	Toilet Preparations	108,649
Tools of Trade	361,259	Jewellery—	
Dynamo Electric Machines	320,381	Cameos	454,790
Cutlery	228,662	Fancy Goods	323,974
Foodstuffs of Vegetable Origin—		Watches, Chronometers, and Clocks ..	168,466
Sugar	995,413	Other Classes—	
Rice	331,585	Skins and Hides	579,983
Maize	126,338	Fish in Tins	507,978
Vegetable Substances and Fibres—		Rubber Tyres	448,334
Copa	1,117,950	Cable and Wire, covered	275,236
Linseed	447,163	Iron and Steel—Bar, Rod, Angle ..	258,592
Kapok	150,097	Films for Kinemetographs	229,123
Resins	156,567		

ARTICLES OF EXPORT.

Exports from New South Wales consist chiefly of goods produced or manufactured in the State. Re-exports include produce of other Australian States and produce of other countries:

A classification of the total exports to oversea countries during the pre-war year, 1913, and the years ended 30th June, 1919 and 1920, is shown below:—

Classification of Exports.	1913.	1918-19.	1919-20.
	£	£	£
Foodstuffs of Animal origin	3,677,455	5,026,919	4,930,061
Foodstuffs of Vegetable origin, and Salt ...	3,547,145	6,522,295	3,655,562
Beverages (non-alcoholic) and substances used in making	38,054	127,702	341,773
Spirits and Alcoholic Liquors, including Spirits for Industrial Purposes and Pharmaceutical Preparations subject to duty as spirits ...	64,264	249,099	400,534
Tobacco and Preparations thereof	56,504	153,694	230,982
Live Animals	78,832	107,063	105,974
Animal Substances (mainly unmanufactured), not Foodstuffs	14,051,907	21,373,550	26,795,247
Vegetable Substances and non-manufactured Fibres	64,565	610,323	741,117
Apparel	81,363	559,555	741,950
Textiles	82,649	337,495	572,757
Manufactured Fibres	34,510	80,774	136,397
Oils, Fats, and Waxes	1,167,088	1,295,154	2,063,374
Paints and Varnishes	10,612	119,167	233,413
Stones and Minerals used Industrially	1,132,287	441,077	899,656
Specie	905,217	2,244,096	1,683,742
Metals, unmanufactured, and Ores	6,089,162	7,290,437	6,213,813
Metals, partly manufactured	25,743	366,089	317,610
Machines and Machinery	111,592	257,906	264,320
Other manufactures of Metals	209,129	666,085	752,013
Indiarubber and Indiarubber Manufactures ...	33,304	86,666	116,548
Leather and Manufactures of Leather, and Substitutes therefor	387,118	1,194,941	1,361,474
Wood and Wicker, raw and manufactured ...	305,212	185,245	291,439
Earthenware, Cement, China, Glass, and Stone-ware	19,850	69,488	127,798
Paper	14,984	38,245	66,227
Stationery	63,629	61,872	90,942
Jewellery, Timepieces, and Fancy Goods ...	54,883	66,642	97,332
Optical, Surgical, and Scientific Instruments ...	61,534	83,008	135,842
Drugs, Chemicals, and Fertilisers	176,845	784,375	675,217
Miscellaneous	294,352	623,397	1,033,951
Total Exports	£ 32,839,789	51,027,359	55,017,065

The principal articles of export during the year ended 30th June, 1920, consisted of staple animal substances, metals, animal and vegetable food, oils, and specie and bullion.

EXPORTS OF AUSTRALIAN AND OTHER PRODUCE.

During the year ended 30th June, 1920, the exports of Australian produce represented 92.6 per cent., and other produce 7.4 per cent. of the total exports. The following statement shows, for each of the years, 1910 and 1911, the value

of oversea exports under the three heads of "New South Wales produce," "Produce of other Australian States," and of "Other countries." Since 1911 the distinction between New South Wales produce and produce of other Australian States has not been made by the Customs Department. The two have been included together as Australian produce; consequently the table shows, after 1911, only the exports of Australian produce.

Year ended 30th June.	New South Wales Produce.	Produce of Other Australian States.	Produce of Other Countries.	Total.	Percentage of total.	
					Australian.	Other.
	£	£	£	£		
1910*	27,677,088	2,660,263	1,698,100	32,035,451	94·7	5·3
1911*	27,491,326	2,447,089	2,222,986	32,161,401	93·1	6·9
1912*	30,661,028		2,297,501	32,958,529	93·0	7·0
1913*	31,135,169		1,704,620	32,839,789	94·8	5·2
1916	38,656,163		2,319,253	40,975,416	94·3	5·7
1917	47,871,705		2,419,119	50,290,824	95·2	4·8
1918	37,243,979		2,375,114	39,619,093	94·0	6·0
1919	43,621,036		2,403,323	51,027,359	95·3	4·7
1920	50,924,449		4,092,616	55,017,065	92·6	7·4

* Year ended 31st December.

EXPORTS OF RAW MATERIALS.

The following table shows the value of the principal raw products of Australian origin exported:—

Article.	Value of Exports.	Percentage of Total Exports.	Article.	Value of Exports.	Percentage of Total Exports.
Pastoral Produce—	£		Mining	£	
Wool	19,121,726	37·5	Lead Pig	2,392,313	4·7
Skins and Hides	7,170,660	14·1	Copper Ingots	2,277,268	4·5
Meats	3,450,210	6·8	Coal	832,061	1·6
Leather	1,288,382	2·5	Tin Ingots	756,557	1·5
Tallow	1,284,181	2·5	Ores	256,091	·5
Lard	215,552	·4	Iron and Steel Ingots	164,419	·3
Agricultural Produce—			Forestry		
Wheat	742,460	1·5	Timber, Undressed...	168,828	·3
Flour	1,577,767				

A very considerable proportion of these articles goes to the United Kingdom. On reference to the tables on page 303, it will be seen that 47·3 per cent. in value of the general exports is consigned to the United Kingdom, and 19·9 per cent. to other British countries; 32·8 per cent. is shipped to foreign countries.

RE-EXPORT TRADE.

There is a large re-export of wool, chiefly the produce of Queensland, and a fairly large trade in provisions and manufactured articles of British and foreign production with New Zealand, New Caledonia, Fiji, and other islands of the Pacific.

The returns do not disclose the value of the produce of the other Australian States, but the value of the other produce re-exported during the year ended 30th June, 1920, was £4,092,616. The principal items were—copra, £546,914;

vessels, £461,000; cotton piece-goods, £360,825; tea, £292,491; spirits, £158,524; tobacco, £120,376; trochus shell, £110,887; rice, £103,527; sugar, £79,155; metal manufactures n.e.i., £68,531; apparel and attire, £63,571; india-rubber manufactures, £56,165; silver specie, £53,354; silk piece goods, £51,878; machinery n.e.i., £51,639; tinned fish, £49,249; iron plate and sheet galvanised, £48,363.

SHIPS' STORES.

In addition to the values of oversea exports shown already, considerable quantities of goods are sent away from New South Wales each year in the form of ships' stores. The value of ships' stores exported during 1919-20 was £1,602,234, of which £1,436,357 was Australian produce, and £165,877 other produce.

Following are details of the most important items of Australian produce exported as Ships' Stores during the year 1919-20:—

				Quantity.	Value.					Quantity.	Value.
					£						£
Bunker coal	..	..	tons	454,995	903,558	Flour	..	..	centals	28,342	22,864
Meats—						Fish, fresh	..	..	lb.	589,312	21,228
Frozen	..	..	lb.	3,529,913	104,717	Milk, preserved	..	..	lb.	499,288	19,191
Fresh or smoked	..	..	lb.	1,841,972	53,688	Potatoes	..	..	cwt.	21,531	18,880
Bacon and ham	..	..	lb.	330,720	21,374	Jams and jellies	..	..	lb.	591,510	14,151
Tinned	..	..	lb.	145,229	9,277	Alc	..	..	gals.	48,377	12,618
Other	..	..	..	..	10,430	Cheese	..	..	lb.	170,642	9,407
Butter	..	..	lb.	501,042	43,780	Sugar	..	..	lb.	6,702	8,244

SEA CARRIAGE OF GOODS.

The Sea Carriage of Goods Act, 1904, nullifies any clause in a Bill of Lading or similar document, covenanting or agreeing—(a) that the owner, charterer, master, or agent of any ship, or the ship itself, is relieved from liability for loss or damage to goods arising from the harmful or improper condition of the ship's hold, or any other part of the ship in which the goods are carried, or arising from negligence, fault, or failure in the proper loading, stowage, custody, care, or delivery of goods which are to be carried in or by the ship; (b) to lessen any obligations of owner or charterer to exercise due diligence, and to properly man, equip, and supply the ship, to make and keep it seaworthy, and to make and keep the hold, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage, and preservation; (c) or to lessen the obligations of master, officers, agents, and servants of any ship carefully to handle and stow goods, and to care for, preserve, and properly deliver them.

Regulations under the Commerce (Trade Descriptions) Act, 1905, prohibit the import and export of specified goods unless a trade description is applied to such goods; thus, a high standard quality of goods is assured.

Goods are inspected and examined, and in certain cases a declaration by the exporter must accompany the notice of intention to export. Approved goods for export are marked with an official stamp, butter and cheese are graded, and carcase meat, rabbits, and hares are classified and marked. Special instructions are issued to meat inspectors regarding supervision and inspection for export, and standard requirements are set for abattoirs and premises where meat is preserved for export.

CUSTOMS AND EXCISE REVENUE.

The following statement shows the gross amounts collected in New South Wales under each division of the tariff during the year ended 30th June, 1920, also the drawbacks, refunds, and the net collections:—

Tariff Division.	Gross Collections paid into Revenue.	Drawbacks Paid.	Refunds.	Net Collections.
Customs—	£	£	£	£
1. Stimulants, Ale, Beer, &c. v.	933,201	180	260	932,761
2. Narcotics	1,162,517	.. . . .	170,776	991,741
3. Sugar	1,082	3,542	110	(-) 2,570
4. Agricultural Products and Groceries	357,474	12,055	2,962	342,457
5. Apparel and Textiles	1,553,659	40,102	29,755	1,483,802
6. Metals and Machinery	1,045,387	12,352	30,230	1,002,755
7. Oils, Paints, and Varnishes	150,117	8,608	2,739	138,770
8. Earthenware, &c.	138,470	1,779	3,533	133,158
9. Drugs and Chemicals	149,416	4,814	4,171	140,431
10. Wood, Wicker, &c.	143,641	1,906	7,761	134,984
11. Jewellery and Fancy Goods	252,124	4,288	2,760	245,076
12. Leather and Rubber	296,235	11,833	4,498	279,904
13. Paper and Stationery	232,288	2,461	4,428	225,399
14. Vehicles	254,800	770	9,513	244,517
15. Musical Instruments	76,729	301	1,613	74,815
16. Miscellaneous	228,000	5,943	6,343	215,714
Customs Miscellaneous	21,289	.. . . .	90	21,199
Total, Customs Duties	£ 6,996,429	110,934	280,582	6,604,913
Excise—				
Beer	1,396,740	14,976	13	1,381,760
Spirits	711,710	610	273	710,827
Tobacco	476,186	.. . . .	5	476,181
Cigars	15,101	.. . . .	.. . . .	15,101
Cigarettes	1,427,150	.. . . .	.. . . .	1,427,150
Licenses—Tobacco	2,678	.. . . .	.. . . .	2,678
„ Other	1,720	.. . . .	.. . . .	1,720
Total, Excise Duties	£ 4,031,294	15,586	291	4,015,417
Total, Customs and Excise Duties	£ 11,027,723	126,520	280,873	10,620,330

The following table shows the net collections of Customs and Excise revenue during five years:—

	Year ended 30th June.				
	1916.	1917.	1918.	1919.	1920.
Customs Duties	£ 6,225,832	£ 5,705,757	£ 4,682,456	£ 5,398,654	£ 6,604,913
Excise Duties	1,762,115	1,716,645	1,933,115	2,836,683	4,011,019
Licenses	1,785	1,871	1,694	4,364	4,398
	7,989,732	7,424,273	6,617,265	8,239,701	10,620,330

The increase in customs duty in 1920 is explained by the fact that the new tariff came into operation in March, and not only were higher duties levied during the next three months, but large stocks were taken out of bond in anticipation of the increased duties.

Sydney is a distributing centre for the whole of Australia; consequently the figures for New South Wales include customs receipts for goods which were, in the course of trade, transferred to and consumed in other States. On the other hand, they do not include receipts for goods which were transferred from other States and consumed in New South Wales.

The following table shows the oversea trade at each port and customs station in New South Wales, with customs and excise revenue collected for the year ended 30th June, 1920 :—

Port or Station.	Oversea Trade.			Customs and Excise Revenue Collected.
	Imports.	Exports.	Total.	
	£	£	£	£
Sydney	43,682,873	53,423,511	97,112,677	10,776,757
Newcastle	1,007,726	1,550,197	2,557,923	244,359
Clarence River ... ..	...	3,353	3,353	...
Port Kembla ... ..	...	34,004	34,004	...
Allandale ... ..	...	...	...	1,652
Corowa (Wahgunyah) ... ..	...	...	...	4,955
New South Wales	£44,690,599	55,017,065	99,707,957	11,027,723

COMMERCIAL COMMISSIONERS.

New South Wales is represented in Eastern Asia by a Commercial Commissioner, with headquarters at Kobe, Japan. The Commissioner is engaged in fostering the trade of the State in the important markets of eastern countries, and makes periodical tours of Japan, China, India, Philippine Islands, Netherlands India, and other portions of the East, closely watching for new opportunities for trade as well as taking steps to ensure the maintenance of the existing trade.

Reports are furnished by the Commissioner, giving in much detail the market prices, &c., for each commodity exported from New South Wales, also valuable advice to shippers and to the commercial community.

In addition to the assistance given to commerce the Commissioner does useful work in diverting the stream of tourists in the East towards Australia.

Recently a Trade Commissioner for the East was appointed by the Federal Government, with headquarters at Shanghai; he will be assisted by two officers, one of whom will be stationed at Shanghai and the other at Hong Kong. It is anticipated that this will result in the opening of a very large export trade with China.

In connection with the British Board of Trade, a Trade Commissioner was appointed in 1908 for Australia, with an office at Sydney. He furnishes commercial information, and advises the British Board of Trade generally with regard to openings for Imperial trade.

CHAMBERS OF COMMERCE.

Chambers of Commerce have been formed in New South Wales at twenty-six important trading centres; namely, Sydney, Newcastle, Albury, Auburn and district, Ballina, Bellinger River, Casino, Coff's Harbour, Cootamundra, Cowra, Dungog, Forbes and district, Goulburn, Grafton, Grenfell, and district, Hornsby and district, Illawarra, Inverell, Katoomba and Leura, Kempsey, Lismore, Liverpool, Maitland and district, Orange, Parramatta, Young and district. The membership of the Sydney Chamber of Commerce as at June, 1920, was 1,600, including 150 firms and public companies.

SHIPPING.

The shipping of New South Wales is regulated generally by the Navigation Department, but within Port Jackson control of shipping, and matters incidental thereto, are vested in the Sydney Harbour Trust. From 1st July, 1921, certain sections of the Commonwealth Navigation Act will operate.

The Commonwealth Navigation Act, 1912-1920, received the Royal Assent by an Order in Council on 14th February, 1921.

The Act in its consolidated form contains 425 sections, but it has been recognised that it would entail considerable administrative difficulty, and disorganisation of the shipping trade generally, if the many new requirements of the Act were brought into operation simultaneously. It has, therefore, been decided that operations of the Act shall come into force sectionally. Seventy-eight sections and four schedules were proclaimed to become operative on 1st July, 1921. These sections relate to the coasting trade; and no ship whether Australian, British, or Foreign will be permitted to trade on the coast, unless licensed to do so.

Before license can be granted a certain standard of accommodation for officers and crew must be provided, governing space allotted to each member of the crew, ventilation, messrooms, approved pattern of bunks, hospital accommodation for certain classes of ships, supply of hot and cold water for showers, wash-basins, etc., suitable sanitary accommodation, facilities for washing clothes, and adequate shelter for helmsmen.

The provisions of the Act are greatly in advance of anything that has hitherto been enacted by any country for the well-being of its mercantile marine, and considerable expense has been incurred to have ships brought up to requirements; in several instances, many structural alterations had to be effected.

The Navigation Act does not prohibit the employment of coloured labour on ships engaged in the coasting-trade, and it is open to any vessel, whether British or foreign (unless in receipt of a subsidy from a foreign government), and whether manned by white or coloured crew, to obtain a license on compliance with the provisions of the Act.

Licenses to engage in the coasting-trade will be issued for voyages commencing on the 1st July, 1921, and are to be renewed annually; and in the case of ships registered outside Australia the Act provides that before granting any license security is to be given for compliance with the conditions of the license.

The Commonwealth Law Officers are of opinion that in the absence of judicial decision on the subject, there is no legal objection to the provisions of the Act being applied to intra-State ships.

That part of the Act relating to Wireless Telegraphy on ships will become operative on 1st October, 1921. All vessels which carry more than twelve passengers or are of 1,600 tons gross registered tonnage or upwards, must carry an approved wireless installation and certificated operators and watchers according to the class of ship and nature of the trade engaged in.

The remainder of the Act, which deals with certificates of competency for officers, survey of ships, pilots and pilotage, Courts of Marine Inquiry, legal proceedings, and other miscellaneous matters, will be brought into operation on dates to be proclaimed, and will gradually absorb the functions hitherto carried out by the various State Departments of Navigation.

VESSELS ENTERED AND CLEARED.

In the shipping records account is not taken of ships of war, cable-laying vessels, and yachts, nor of vessels trading between ports in New South Wales, and consequently they are excluded from consideration in this chapter. Where tonnage is quoted the figures relate always to the net tonnage. Vessels are entered at the first port of call in New South Wales, and cleared at the port from which final departure is taken from the State.

The aggregate number and tonnage of interstate and oversea vessels arriving in and departing from all ports of New South Wales at intervals since 1900, with the average tonnage per vessel, are as follows:—

Year ended 30th June.	Entries.		Clearances.		Average Tonnage per Vessel.
	Vessels.	Tonnage.	Vessels.	Tonnage.	
1900*	2,784	4,014,755	2,714	3,855,748	1,432
1905*	2,725	4,697,511	2,694	4,684,108	1,731
1910*	2,937	6,290,119	3,035	6,471,855	2,137
1913	3,393	8,117,501	3,375	8,071,101	2,392
1915	3,000	7,051,503	3,059	7,219,914	2,355
1916	3,045	6,552,235	3,062	6,574,582	2,149
1917	2,602	5,803,451	2,613	5,802,683	2,226
1918	2,226	4,407,399	2,235	4,417,390	1,978
1919	2,335	4,452,004	2,275	4,301,617	1,899
1920	2,248	5,356,136	2,288	5,380,653	2,367

* Year ended 31st December.

In 1913, the year before the war, the tonnage of vessels entered was 8,117,501, and of vessels cleared, 8,071,101. These figures have not since been approached, and from 1915 to 1919 there was a steady decline in the total tonnage, as well as in the average size of vessels entered and cleared, but in 1919-20 an improvement to the extent of over a million tons is noticeable. Vessels with cargo represented 80·07 per cent. of the total tonnage entered in 1920, and 94·79 per cent. of the tonnage cleared. Sailing ships represented 2·0 per cent. only of the total tonnage entered in 1920, and 2·0 per cent. of the tonnage cleared. In 1900 sailing vessels represented 20·1 per cent. of the tonnage entered and 18·5 per cent. of the tonnage cleared.

Summarising oversea and interstate trade, the following figures are obtained for entries into and clearances from the different States and the

Northern Territory of Australia during 1920, and show the relative pre-eminence of New South Wales :—

State.	Oversea and Interstate.			
	Entries.		Clearances.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,248	5,356,136	2,283	5,380,653
Victoria	1,792	3,987,262	1,809	4,021,188
Queensland	605	1,364,550	608	1,371,753
South Australia	806	2,638,727	806	2,625,818
Western Australia	730	2,660,040	729	2,659,372
Tasmania	841	632,053	836	628,090
Northern Territory ...	41	83,086	43	83,264

NATIONALITIES OF VESSELS.

The trade of the State of New South Wales, to a very great extent, is carried under the British flag, the deep-sea trade with the mother country and British Possessions being controlled by shipowners of the United Kingdom, and the interstate trade chiefly by local shipowners. The table below distinguishes British and foreign shipping at intervals since 1900.

Year ended 30th June.	Tonnage Entered and Cleared.				Percentage.		
	Australian.	Other British.	Foreign.	Total.	Australian.	Other British.	Foreign.
1900*	3,590,284	3,111,822	1,168,397	7,870,503	45·6	39·5	14·9
1905*	3,559,239	4,474,704	1,347,676	9,381,619	37·9	47·7	14·4
1910*	4,463,079	6,259,961	2,038,934	12,761,974	35·0	49·0	16·0
1915	5,827,097	6,885,233	1,559,087	14,271,417	40·8	48·3	10·9
1916	5,503,406	6,079,371	1,544,040	13,126,817	41·9	46·3	11·8
1917	4,833,745	5,438,046	1,334,343	11,606,134	41·6	46·9	11·5
1918	4,265,496	3,348,204	1,211,089	8,824,789	48·4	37·9	13·7
1919	3,703,322	3,732,713	1,317,586	8,753,621	42·3	42·6	15·1
1920	3,329,412	5,755,223	1,652,154	10,736,789	31·0	53·6	15·4

* Year ended 31st December.

In 1900, of vessels trading with this State, those owned in Australia represented 45·6 per cent. of the total, and in 1920, 31 per cent. of the total.

The war caused a material alteration in foreign tonnage, as may be gathered from the statement below, which shows the number and tonnage of shipping of the principal nationalities that entered and cleared the ports of New South Wales in the last two financial years, as compared with 1913:—

Nationality of Shipping.	Entries and Clearances.						Tonnage— Percentage of each Nationality.		
	1913.*		1918-19.		1919-20.		1913.*	1918-19.	1919-20.
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.			
British—									
Australian	3,231	5,711,398	2,771	3,703,322	2,189	3,329,412	35·3	42·3	31·0
New Zealand	771	1,359,138	286	307,374	312	348,091	8·4	3·5	3·2
United Kingdom ..	1,589	6,081,117	857	3,408,383	1,234	5,359,128	37·5	38·9	49·9
Other British	22	20,459	18	16,956	40	48,004	·2	·2	·5
Total	5,613	13,182,112	3,932	7,436,035	3,775	9,084,635	81·4	84·9	84·6
Foreign —									
France	150	313,252	94	75,040	102	148,856	1·9	·9	1·4
Germany	487	1,533,728	..	..	..	..	9·5	..	..
Norway	183	353,843	54	113,000	18	33,664	2·2	1·3	·3
Sweden	23	57,643	32	66,199	10	26,659	·4	·8	·2
Netherlands	52	128,870	50	139,422	58	170,574	·8	1·6	1·7
Italy	29	47,770	4	12,978	13	51,180	·3	·1	·5
Japan	103	332,471	219	552,312	326	795,702	2·0	6·3	7·4
United States of America ..	76	148,853	200	303,438	224	381,542	·9	3·5	3·6
Other Nationalities	52	90,060	25	55,197	10	34,977	·6	·6	·3
Total	1,155	3,006,490	678	1,317,586	761	1,652,154	18·6	15·1	15·4
Grand Total ..	6,768	16,188,602	4,610	8,753,621	4,536	10,736,789	100·0	100·0	100·0

* Year ended 31st December.

The most notable alterations in the foreign trade are the cessation of German shipping, which represented 9·5 per cent. in 1913, and the increases in the tonnage belonging to the United States of America and Japan; the percentage of foreign tonnage declined from 18·6 in 1913 to 15·4 in 1920.

DIRECTION OF SHIPPING TRADE.

Of the tonnage engaged in the outward trade of New South Wales, approximately half goes to other Australian States. The following table shows, for specified years, the tonnage entered from and cleared for the countries within the British Empire, and the principal foreign countries.

Although a vessel may have called at many ports on both the inward and outward voyages, the intermediate ports are not considered in the shipping records.

Country	Entered from and cleared for various Countries.					
	1900.*		1910.*		1919-1920.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
British Empire—						
Australian States	3,082	3,861,154	3,413	6,275,901	2,426	4,812,718
United Kingdom	341	954,232	484	2,029,216	420	2,328,923
New Zealand	540	598,710	573	1,125,492	553	1,018,413
India and Ceylon	57	138,993	59	178,571	35	118,051
Union of South Africa—						
Cape Colony	152	240,755	16	30,127	} 34	79,155
Natal	40	60,701	19	46,434		
Fiji	65	64,125	66	101,754	48	115,623
Other British Possessions	188	287,723	218	453,878	305	655,559
Total, British Countries	4,465	6,206,393	4,848	10,241,373	3,821	9,128,442
Foreign Countries—						
France	44	100,793	51	148,137	17	61,481
Germany	70	234,817	155	510,510	...	...
United States of America	157	303,187	183	403,343	190	447,021
Japan	34	83,179	93	239,713	172	413,330
New Caledonia	118	143,867	59	107,341	99	81,057
Java	45	89,129	46	104,488	52	156,312
Other Foreign Countries	565	709,138	537	1,007,069	185	449,146
Total, Foreign Countries	1,033	1,664,110	1,124	2,520,601	715	1,608,347
Total	5,498	7,870,503	5,972	12,761,974	4,536	10,736,789

*Year ended 31st December.

Of the total tonnage in 1920, vessels from and to other Australian States represented 45 per cent. The United Kingdom furnished the next largest tonnage, with 22 per cent., followed by New Zealand with 9 per cent. The United States had 4 per cent., Japan 4 per cent., India and Ceylon 1 per cent. In 1913 Germany headed the foreign tonnage. Several circumstances have contributed to the fall in the South American trade, of which the restriction of the export of coal is the most notable.

The advantage offered by the New South Wales trade to shipowners is illustrated by the large amount of tonnage entries in ballast, and the small number of clearances without cargo. Many vessels arriving in ballast come from ports of neighbouring States, where they have delivered a general cargo, and, having been unable to obtain a full return freight, have cleared for Newcastle, in this State, to load coal. In 1920 the tonnage entered in ballast amounted to 1,067,286 tons and the clearances to 280,219 tons.

SHIPPING ENTERED AT EACH PORT.

The following statement shows the number and tonnage of vessels, oversea and interstate, which entered the various ports of the State during the last five years :—

Year ended 30th June.	Port Jackson (Sydney).		Port Hunter (Newcastle).		Port Kembla.		Twofold Bay (Eden).		Other Ports.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1916	2,051	4,990,476	820	1,390,980	60	90,923	67	59,151	47	20,705
1917	1,735	4,502,758	692	1,170,868	38	59,875	49	54,607	38	15,843
1918	1,511	3,297,621	620	1,031,506	38	55,236	12	12,057	45	10,979
1919	1,573	3,223,631	676	1,172,724	41	43,709	4	2,552	41	9,388
1920	1,487	3,812,772	696	1,460,916	36	71,162	6	3,245	23	8,041

In the foregoing statement Intra-State shipping is excluded, but the following table shows particulars of all shipping—State, Inter-State, and Coastwise—at each port of New South Wales.

Port.	1918-19.		1919-20.	
	Vessels Entered.	Tonnage.	Vessels Entered.	Tonnage.
Bateman's Bay	97	10,736	82	15,302
Bellinger River	162	20,235	128	16,348
Byron Bay	124	77,545	122	70,039
Camden Haven	73	10,470	82	11,167
Cape Hawke	122	13,792	144	15,135
Clarence River	169	61,463	183	59,590
Coff's Harbour	343	108,438	362	110,930
Crookhaven	58	7,728	54	6,106
Eden (Twofold Bay)... ..	86	31,891	93	34,480
Kiama	317	53,840	345	58,315
Lake Macquarie	70	3,199	2	82
Macleay River	184	38,007	178	36,133
Manning River	90	12,528	75	7,695
Moruya	54	5,868	56	9,170
Nambucca River	117	18,944	82	11,832
Narooma	63	6,030	62	6,101
Port Hunter (Newcastle)	4,609	2,970,687	4,877	3,679,691
Port Jackson (Sydney)	7,499	5,152,666	7,545	5,803,384
Port Kembla (Wollongong)	320	57,166	397	82,869
Port Macquarie	104	21,080	129	25,235
Port Stephens	475	46,878	512	43,333
Richmond River	221	72,369	205	72,320
Tweed River	92	12,564	51	7,246
Woolgoolga	97	25,787	90	23,013

Sydney is one of the chief ports of the world, as appears from a comparison of its oversea and interstate shipping entries (entirely exclusive of coastal trade) with the returns of other ports.

Including oversea, interstate, and coastwise shipping, 7,545 vessels, having a net tonnage of 5,803,384, entered Sydney Harbour in 1920.

Appended are the latest tonnage figures, including coastwise, for the principal ports of Australasia and the United Kingdom; the figures include tonnage which arrived at the respective ports, although not recorded as entered by the Customs Department:—

Port.	Tonnage. Arrivals incl. Coastwise.	Port.	Tonnage. † Arrivals incl. Coastwise.
<i>Australia—</i>		<i>England—</i>	
Sydney	5,803,384	London	7,827,778
Melbourne	6,953,907	Liverpool (including Birkenhead)	9,251,437
Newcastle	3,679,691	Cardiff	4,776,618
Port Adelaide*	2,438,727	Newcastle and Shields	4,073,696
Brisbane	1,433,302	Newport	2,396,436
Fremantle	2,252,774	Hull	2,182,952
Townsville	679,896	Falmouth	335,581
Albany	427,032	<i>Scotland—</i>	
Hobart	337,446	Glasgow	2,936,412
<i>New Zealand—</i>		Leith	641,648
Wellington	2,211,333	<i>Ireland—</i>	
Auckland	1,768,058	Dublin	2,488,284
Lyttelton	1,398,368	Belfast	2,238,435

* Exclusive of Coastwise Shipping—not available.

† Exclusive of tonnage used for war service.

RIVER TRAFFIC.

The extent of the waterways of New South Wales was shown in the 1914 issue of this Year Book. Relatively to other countries New South Wales has few inland waterways, but is dependent upon railways and ocean shipping as the principal agencies of transportation. On the coastal rivers there is some traffic apart from the vessels trading between the river ports and Sydney, but its extent is not recorded.

On the inland rivers there is considerable traffic after a season of good rainfalls. The Murray River is navigable for 150 miles above Albury, or 1,590 miles from its mouth. Its tributaries, the Kyalite or Edwards River, and the Wakool River, are navigable for 400 miles, as far as Deniliquin; the Murrumbidgee and the Lachlan Rivers combined provide 900 miles of navigable waterway; and the Darling is navigable in time of freshets as far as Walgett, 1,758 miles from its confluence with the Murray. Altogether, the Murray River system provides 4,200 miles of waterway more or less navigable. The volume of traffic on these rivers is not recorded.

WRECKS AND DISASTERS.

Wrecks and shipping casualties occurring to British merchant shipping on the coast of New South Wales are investigated by Courts of Marine Inquiry, of which some account is given in the chapter of this Year Book relating to Law Courts. The following statement shows such wrecks and casualties reported since 1916 :—

Year ended 30th June.	British Vessels.				Total Tonnage.	Crews and Passengers.	Lives Lost.
	Steam.	Motor.	Sailing.	Total.			
1916	5	6	4	15	3,466	81	4
1917	11	...	2	13	6,554	314	6
1918	4	...	...	4	7,522	298	4
1919	5	...	1	6	1,214	64	30
1920	4	1	...	5	775	109	7

The majority of the vessels reported are small coasters under 200 tons. The figures given above do not include vessels which left the ports of the State and have been recorded as missing.

Two life-boat stations are maintained, one at Sydney and the other at Newcastle, and the whaleboats at the pilot stations are fitted for rescue service. Subsidised steam tugs are available also for the purpose of assisting vessels in distress, and life-saving appliances are kept at certain places along the coast. A considerable number of vessels trading in Australian waters are fitted with wireless telegraphy apparatus.

The Royal Shipwreck Relief and Humane Society of New South Wales is maintained by public subscriptions, unsubsidised by the State, to afford relief in cases of distress to dependents of seamen belonging to New South Wales who have lost their lives or sustained injury in the discharge of their duties, to relieve crews of vessels and necessitous passengers wrecked in New South Wales waters, and to encourage acts of bravery by granting awards for meritorious deeds in saving human life. The relief granted on account of maritime disasters during the year ended 30th June, 1920, amounted to £600.

PILOT AND ROCKET STATIONS.

Pilotage on the coast of New South Wales is a State service. The services of pilots must be engaged for all vessels not specifically exempted, and certificates of exemption from pilotage for the various ports of the State are granted, after examination, only to British subjects, and may be used only in respect of British ships registered in Australia or in New Zealand, and engaged in trade in Australasia and the South Sea Islands, or in whaling.

COASTAL AND HARBOUR LIGHTS.

On account of the unbroken regularity of the coast and the almost complete absence of islands, navigation along the coast of New South Wales is exceedingly safe. The coast line is 700 miles long, and there are no less than twenty-eight lighthouses—an average of one for every 25 miles of coast.

In addition, lighted beacons and leading lights are placed for the safety of harbour navigation in the ports of Sydney, Newcastle, Narooma, Port Kembla, Ulladulla, and Moruya, and on all Northern rivers.

In Port Jackson, the question of efficient lighting has received considerable attention; leading lights have been erected and lights on buoys mark the channels. Electric fog-bells are used in times of fog. In Port Hunter, leading lights have been placed, and there are fog-bells.

Location of Lighthouse.	South Latitude.	Description of Light.	Colour of Light.	Distance visible (See note).
	° /			Nautical miles.
Green Cape	37 16	Revolving	White	19
Twofold Bay (Eden) (Lookout Point).	37 4	Fixed	Red	7
Montague Island—Summit	36 15	Fixed and Flashing... ..	White	20
Bateman's Bay	35 44	Fixed	White and Red ... ..	...
Ulladulla (Warden Head)	35 22	Group Flashing	White	12
Jervis Bay (Point Perpendicular)	35 5	" "	"	24
Crookhaven River	34 54	Fixed	Red	8
Kiama	34 40	Group Flashing	White	15
Wollongong	34 25	" "	"	10
Bellambi	34 22	Occulting	White and Red	8
Cook's River (Botany Bay)	33 57	Fixed	White ... ..	...
Port Jackson, Sydney—				
Macquarie (Outer South Head)	33 51	Flashing	"	25
Hornby (Inner South Head)... ..	33 50	Fixed	"	14
Broken Bay (Barrenjoey)	33 35	"	Red	10
Norah Head	33 17	Flashing	White	18
Port Hunter, Newcastle—				
Nobbys Head (Summit)	32 55	Group Flashing	"	17
Port Stephens—				
Stephens Point	32 45	Revolving	{ White and Red }	W. 14 R. 8
Nelson Head (Summit) ... ..	...	Fixed	{ White and Red }	W. 10 R. 6
Sugarloaf Point (Seal Rocks)	32 26	Flashing	White	22
" (same Tower) ... ..	...	Fixed	Green	3
Forster, Cape Hawke (anchorage)	32 11	"	"	6
Crowdy Head (Summit)... ..	31 51	"	{ White and Red }	W. 12 R. 6
Tacking Point	31 29	"	White	12
Smoky Cape	30 56	Group Flashing	"	28
Monument Rock, Trial Bay	30 53	Fixed	{ White and Red }	W. 6 R. 3
Coff's Harbour Jetty	30 18	"	Red	5
South Solitary Island (Summit)	30 12	Flashing	White	20
Clarence River	29 26	Fixed	"	12
Richmond River (2)	28 52	{ "	"	12
" ... ..	...	" ... ..	" ... ..	7
Cape Byron	28 38	Flashing	"	26
" (same Tower) ... ..	...	Fixed	Red	8
Tweed River (Fingal Head)	28 11	"	White	12

Distance visible.—The distance is calculated visible to an observer whose eye is elevated 15 feet from the sea-level.

DOCKS AND SLIPS.

As the shipping traffic, employing vessels of considerable size, is concentrated at Sydney and Newcastle, accommodation, provided by the Government and by private enterprise, for building, fitting, and repairing ships in the State, is available at these ports. At Sydney there are four graving docks, five floating docks, and six patent slips and at Newcastle there are three patent slips. Other docking and building yards are established along the coast to meet the necessities of the smaller vessels engaged in coastal trade.

At Cockatoo Island, which is under the control of the Department of the Navy, there are two graving docks "Fitzroy" and "Sutherland," the largest of which ("Sutherland") is 633 feet long, and can accommodate a vessel 84 feet in breadth, and a draught of 30 feet.

At Woolwich, the Morts' Dock and Engineering Company, Ltd., has a graving dock 850 feet long which, at high tide, can take a ship drawing 28 feet. The same Company has three floating docks, the largest of which is 317 feet long, capable of lifting a vessel of 1,100 tons and drawing 13 feet. The Company also has three patent slips, the largest of which is 270 feet long and able to take a vessel 36 feet wide, 1,500 tons in weight, and drawing 11 feet forward and 16 feet aft.

At Newcastle there are three privately-owned patent slips, the largest of which is 200 feet long, and can take a vessel 40 feet wide and 800 tons weight, drawing 8 feet forward and 12 feet aft.

At the Shoalhaven River and at five of the Northern rivers, there are graving docks under the control of the Public Works Department, the largest of which is 214½ feet long, 45 feet wide, and can accommodate a ship with a draught of 10 feet.

SHIP-BUILDING.

The numbers and tonnage of steam and sailing vessels built in New South Wales are shown in the following statement for the period 1876-1920 :—

Years.	Sailing.		Steam.		Motor.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1876-1885	328	16,722	297	24,778	...	...	625	41,500
1886-1895	144	5,742	129	7,211	...	...	273	12,953
1896-1905	160	7,160	137	8,529	...	...	297	15,689
1906-1915	23	931	126	7,799	24	361	170	9,094
1916	2	184	8	355	6	146	16	685
1917	4	365	5	8,032	8	104	17	8,501
1917-18	2	300	6	4,132	5	380	13	4,812
1918-19	1	256	9	4,085	4	226	14	4,567
1919-20	2	218	22	31,105	14	487	38	31,840

The fourteen vessels built during the year ended 30th June, 1919, were of wood, and of the thirty-eight constructed during the following year, twenty were of wood. Of the vessels constructed during the last two years, four were for the Commonwealth Government. They were the "Delungra," "Dilga," "Dinoga," and "Dundula," each being a steel vessel of 3,308 tons.

COMMONWEALTH GOVERNMENT LINE OF STEAMERS.

For the purpose of providing transportation for Australian produce, which had accumulated as a result of bountiful harvests, and which could not be exported owing to the disorganisation of shipping, due to the War, the Commonwealth Government inaugurated a line of steamers in 1916 by the purchase, at a cost of about £2,000,000, of fifteen cargo steamers, with a lifting capacity of about 106,000 tons.

On the cessation of hostilities, a regular fortnightly cargo service was established between British ports and Australia, also a monthly service to Java.

The present fleet consists of 41 vessels, with a gross tonnage of 164,834, and other vessels are being constructed to augment the fleet, which it is intended shall carry passengers, in addition to freight.

COMMONWEALTH GOVERNMENT SHIPBUILDING.

In addition to purchasing a fleet of mercantile steamers, the Commonwealth Government decided to build ships at their own yards, and the original programme provided for the construction of 48 vessels (24 wooden and 24 steel). Eight steel and eighteen wooden vessels were to be built in New South Wales; only two of the latter have been constructed, and both were built in New South Wales, the contracts for the remainder having been cancelled.

Of the steel vessels, the "Delungra," "Dilga," and "Dinoga" have been completed at Walsh Island, and the "Dundula" at Cockatoo Island. Each of these vessels is 3,308 gross tonnage.

The "Eurelia" and the "Enoggara" have been launched at Walsh Island, and the "Eununda" at Cockatoo Island, but are not yet completed.

SHIPPING REGISTERS.

Although the Act, which controls the registration of shipping in New South Wales, does not require the registration of vessels under 15 tons burthen, few of such vessels remain unregistered. The rules of yachting clubs ensure the registration of the yachts, steamers, and motor boats of the members; and for the purpose of sale or mortgage, business is facilitated by such registration.

The only ports in New South Wales at which shipping registers are maintained are Sydney and Newcastle.

The aggregate numbers and tonnage of steam and sailing vessels on the registers at the close of each year, since 1916, are shown in the following statement:—

Year ended 30th June.	Steam.		Motor.		Sailing.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
1916	551	92,579	173	2,136	418	37,250	1,142	131,965
1917	542	99,445	180	2,199	395	34,724	1,117	136,368
1918	537	101,473	177	2,367	386	34,394	1,100	138,239
1919	522	97,954	178	2,555	361	31,117	1,061	131,626
1920	514	116,114	187	2,461	313	23,614	1,014	147,189

Of the 1,014 vessels registered in New South Wales, the majority are of small tonnage. No less than 655 (64 per cent.) are under 50 tons, 294 (29 per cent.) are from 50 to 500 tons, 29 (3 per cent.) are from 500 to 1,000 tons, 17 (2 per cent.) are from 1,000 to 1,800 tons, and 19 (2 per cent.) are over 1,800 tons.

The following statement shows the number and value of vessels built outside Australia and brought into New South Wales for local trade during five years ended 30th June, 1920:—

Year ended 30th June.	From United Kingdom.		From Other Countries.		Total.	
	Vessels.	Aggregate Value.	Vessels.	Aggregate Value.	Vessels.	Aggregate Value.
1916	4	£ 74,913	1	£ 3,843	5	£ 78,756
1917	4	425,861	...	...	4	425,861
1918	...	...	1	3,362	1	3,362
1919	...	...	2	200,000	2	200,000
1920	3	160,000	...	...	3	160,000

Changes on the register by sales during the last five years are summarised as follows. Sales to foreigners result in removal of the vessels from the registers :—

Year ended 30th June.	To British Subjects.						To Foreigners.					
	Steam.		Motor.		Sailing.		Steam.		Motor.		Sailing.	
	Vessels.	Ton- nage.	Vessels.	Ton- nage.	Vessels.	Ton- nage.	Vessels.	Ton- nage.	Vessels.	Ton- nage.	Vessels.	Ton- nage.
1916	36	6,289	6	97	19	3,408	1	917	...	...	...	...
1917	27	10,235	6	156	12	2,449	1	705	...	...	1	13
1918	54	11,174	14	256	12	860	...	...	2	44	...	...
1919	31	5,268	12	132	22	409	1	2,280	...	...	1	15
1920	45	15,947	20	804	15	1,468	3	2,139	1	8	1	13

QUARANTINE.

The administration of all matters relating to seaboard quarantine is under control of the Commonwealth. The Quarantine Act, 1908-1915, defines the vessels subject to quarantine, and provides for the exclusion, detention, observation, segregation, isolation, protection, sanitary regulation, and disinfection of vessels, persons, goods, things, animals, or plants, so as to prevent the introduction or spread of diseases or pests into the Commonwealth. Particulars of vessels examined by the Government Port Health Officers at Sydney and Newcastle, during each of the last five years, are shown in the following table :—

Year ended 30th June.	Vessels.		Persons.		
	Ex- amined.	Vessels Fumigated.	Passengers.	Crews.	Total.
1916	701	937	26,409	41,403	67,812
1917	612	816	21,466	41,241	62,707
1918	431	752	15,000	25,248	40,248
1919	922	808	44,488	54,801	99,289
1920	928	876	89,485	69,900	159,385

Vessels arriving in Australian ports from overseas are examined at the first port of call, and in the case of vessels from places north of Australia, at the last port of call, and pratique is given ordinarily for the whole of the Commonwealth.

Stock quarantine is undertaken at Port Jackson, where 11 horses, 33 sheep, 117 cattle, 3 dogs, and 14 goats were detained during the year ended 30th June, 1920.

GOVERNMENT SHIPPING OFFICES.

Government Shipping Offices are maintained at Sydney and at Newcastle to deal with matters relating to the engagement and discharge of seamen of

British vessels. Following are the records of transactions at each of these shipping offices for the last five years:—

Year ended 30th June.	Engagements registered.			Discharges registered.			Licenses to ship.		
	Sydney.	New-castle.	Total.	Sydney.	Newcastle.	Total.	Sydney.	New-castle.	Total.
1916	30,585	4,276	34,861	29,646	3,303	32,949	2,549	201	2,750
1917	26,679	4,555	31,234	27,901	3,900	31,801	1,615	214	1,829
1918	26,002	4,109	30,111	25,407	3,332	28,739	2,839	605	3,444
1919	21,199	3,120	24,319	24,208	2,908	27,116	1,605	358	1,963
1920	23,305	3,307	26,612	21,503	2,479	23,982	1,694	459	2,153

During the year ended 30th June, 1920, seamen reported as deserters from British vessels, trading on foreign voyages, numbered 109., viz., 80 at Sydney, and 29 at Newcastle. The wages paid to seamen through these shipping offices amounted to £170,216, of which £151,974 was paid at Sydney. Wages issued in advance notes amounted to £1,054, of which £677 was recorded for Sydney.

Masters of foreign vessels engage and discharge seamen at the offices of the consuls representing the countries to which the vessels belong, and no particulars are available in regard to these transactions.

In regard to the crews of vessels which arrived from and departed to countries beyond the Commonwealth, there was an excess of arrivals of 2,425 in 1919, and an excess of departures of 2,439 in 1920.

WAGES.

The wages paid to the officers and crews of vessels in the Australian trade are regulated by Awards of the Commonwealth Court of Conciliation and Arbitration. The average wages paid per month in March, 1921, were as follows:—

Occupation.	Inter-state.		Coastal.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Officers—Chief	19 0 0 to 31 0 0	22 0 0 to 25 10 0	18 10 0 „ 21 10 0	16 10 0 „ 18 0 0
Second	16 10 0 „ 26 10 0	19 10 0 to 22 10 0	17 0 0 „ 23 10 0	16 10 0 „ 18 0 0
Third	17 0 0 „ 23 10 0	16 10 0 „ 18 0 0	16 10 0 „ 18 0 0	16 10 0 „ 18 0 0
Junior	£16 10s.	...	...	...
Engineers—Chief	30 10 0 to 51 0 0	33 0 0	19 10 0 to 42 0 0	19 10 0 to 42 0 0
Second	25 0 0 „ 33 0 0	33 0 0	19 10 0 to 42 0 0	19 10 0 to 42 0 0
Third	22 10 0 „ 27 10 0	27 10 0	19 10 0 „ 24 10 0	19 10 0 „ 24 10 0
Fourth	19 10 0 „ 24 10 0	24 10 0	16 0 0 „ 16 10 0	16 0 0 „ 16 10 0
Firemen	16 0 0 „ 16 10 0	16 10 0	16 0 0 „ 16 10 0	16 0 0 „ 16 10 0
Trimmers	£14	£14	£14	£14
Seamen—Steamers	£14	£14	£14	£14
Sailing Ships	12 0 0 to 13 0 0	8 0 0 to 10 0 0	8 0 0 to 10 0 0	8 0 0 to 10 0 0
Cooks	10 10 0 „ 18 5 0	10 10 0 „ 17 10 0	10 10 0 „ 17 10 0	10 10 0 „ 17 10 0
Stewards—Chief	£14 to £18	16 10 0 „ 21 0 0	12 10 0 „ 14 15 0	9 0 0 „ 10 0 0
Assistant	13 0 0 to 15 10 0	12 10 0 „ 14 15 0	12 10 0 „ 14 15 0	12 10 0 „ 14 15 0
Stewardesses	9 0 0 „ 10 0 0	9 0 0 „ 10 0 0	9 0 0 „ 10 0 0	9 0 0 „ 10 0 0

SEAMEN'S COMPENSATION ACT.

The Seamen's Compensation Act, 1911, applies to ships in the service of the Commonwealth (exclusive of naval or military service), and to ships trading with Australia, or engaged in any occupation in Australian waters, or in trade and commerce with other countries or among the States. The schedules to the Act indicate the amount of compensation payable, in case of death or total or partial incapacity, resulting from personal injury by accident to seamen in the course of their employment. Regulations also indicate methods of procedure for recovery of compensation.

RATES OF FREIGHT.

As has already been shown in the section treating of Commerce a large proportion of the export trade is conducted with the United Kingdom.

In the following table, which shows the rates of freight on certain articles by steamer only, the freight rates from Sydney to London have been shown:—

Article.		1913-14.	1918-19.	1919-20.	June, 1921.
Butter	Per box 56 lb.	2s. to 2s. 6d.	5s. 3d. + 5% to 6s. 3d.	5s. 3d. to 5s. 4d. + 5%.	Under control.
Copra	Per ton	42s. 6d.	208s. to 277s. 6d.	208s. to 225s.	120s.
Hides	"	50s. to 60s.	1½d. to 2¼d. per lb.	1½d. per lb.	1d. per lb.
Leather—In cases	"	80s.	135s. 360s.	135s. 270s.	118s. 244s.
" Sides of	"	¾d. to 1¼d.	1¼d. to 1½d. + 5%.	1¼d. to 1½d. + 5%.	1¾d. + 5% to 2d. + 5%
Meat—Frozen	Per lb.	55s.	120s. to 167s. 6d. + 5%.	120s. to 167s. + 5%.	105s.
Rabbits—Cold preserved	Per ton	47s. 6d.	180s. to 240s.	180s.	170s.
Tallow	"	25s. to 37s. 6d.	105s. to 160s.	120s. to 150s., less 5%.	50s.
Wheat	"	3d.	1¼d. to 2¼d.	1¼d.	1¼d.
Wool—Greasy	Per lb.	40s. to 45s.	120s. to 160s.	120s.	105s.
Measurement Goods	Per 40 cubic ft.	6s. 9d.	27s. 6d. to 35s.	35s.	22s.
Timber	Per 100 sup. ft.				

It will be seen that between 1914 and 1920 freights increased from 116 to 408 per cent. Since 1920 there has been a fall ranging from 5 to 63 per cent., but even in June, 1921, the rates were twice, and, in some cases, three times, as high as in 1914.

THE PORT OF SYDNEY.

The prominent position which Sydney enjoys as the chief distributing centre for Australasia, among other factors, is due partly to its natural harbour, wherein the largest ocean-liners can berth right at the wharves, and partly to its central position on the East Australian coast.

Sydney Harbour has every natural advantage for an ideal commercial centre.

On account of its narrow entrance it is almost land-locked, and resembles a lake rather than a sea-port. The entrance faces east, instead of south (whence bad weather comes) consequently the violence of the waves expends itself on the north headland instead of directly sweeping into the harbour to the inconvenience of shipping. The coast is generally sufficiently high to protect the harbour from the full force of violent winds.

The area is 14,284 acres (22 square miles) but on account of its irregularity the coast line is no less than 188 miles. The great length of coast line is a distinct advantage, as it provides unlimited facilities for wharves in close

proximity to the centre of the city, while the comparatively small area prevents the formation of high seas within the harbour itself.

The remarkable irregularity of Sydney Harbour is due to the fact that it is what geologists term a "drowned valley," having been formed by the subsidence of the continent which thus allowed the waters of the ocean to enter what was once a valley.

There are no large rivers entering the harbour to bring down silt, consequently very little expense is incurred in dredging, other than for the purpose of deepening the harbour permanently. The depth of the water at the heads is 80 feet, and at the wharves from 30 to 50 feet, so that there is no necessity for the erection of long jetties.

The rise and fall of the tides range from 3 to 6 feet only, the average of ordinary tides being 3 ft. 4½ in., a variation too small to inconvenience ships moored at wharves or to affect their entrance.

There is a reef in the harbour fairway, but as the reef-runs parallel to the direction of outgoing and incoming vessels, it is more of an advantage than a disadvantage, as it serves to create two channels, and the port is unique in having separate incoming and outgoing deep-sea ship channels. The eastern channel has a depth of 40 feet at low water, and the western channel has now been practically deepened to that extent.

Sydney already possesses extensive plant for loading and coaling ships and is completely equipped for storing and loading grain in bulk. At Ball's Head a private company has installed a plant which is capable of coaling vessels at the rate of 1,400 tons an hour, while in the same time an oil-burning ship can take in sufficient oil for a voyage of 6,000 miles.

The distances from Sydney by ordinary sea routes, to the principal ports of the world are as follow :—

Port.	Distance from Sydney.	Port.	Distance from Sydney.
	miles.		miles.
Adelaide	930	San Francisco	6,500
Albany	1,790	Vancouver	7,050
Brisbane	510	Hong Kong... ..	4,400
Fremantle	2,100	Singapore	4,175
Hobart	630	Capetown	6,375
Melbourne	575	Aden	6,875
Darwin	2,435	Bombay	6,005
Thursday Island	1,685	Colombo	5,125
Auckland	1,280	Suez	8,187
Wellington	1,240	London (via South Africa)	12,625
New Caledonia	1,073	„ (via Suez)	11,490
Suva	1,775	„ (via Panama)	12,770
Samoa	2,354	Marseilles	9,795
Solomon Islands	1,662	Naples	9,375
Honolulu	4,425	New York (via Panama)	10,030

During the year ended 30th June, 1920, the oversea imports at the port of Sydney were valued at £43,682,873, and the interstate imports at £21,939,771, the total being £65,622,249; the value of imports from other ports of the State to Sydney is not obtainable.

The following table shows the number of oversea, interstate, and State vessels with their tonnage which entered the port during the last ten years :—

Year.	Vessels Entered.	Net Tonnage.	Year.	Vessels Entered.	Net Tonnage.
1910... ..	8,844	7,137,308	1916†	9,285	7,535,277
1911... ..	9,216	7,769,040	1917†	8,453	6,725,823
1912... ..	9,675	8,494,059	1918†	7,538	5,320,400
1913... ..	9,922	9,018,785	1919†	7,499	5,152,666
1914*	4,881	4,710,577	1920†	7,545	5,803,384
1915†	9,466	8,164,333			

* Six months ended 30th June.

† 12 months ended 30th June.

SYDNEY HARBOUR TRUST.

Up to the year 1901, the wharves of Sydney Harbour were in private hands, there was no system of laying out the foreshores, access to the wharves was difficult and intricate, and the insanitary condition of the wharves and adjoining property, and the general chaotic conditions called for drastic treatment.

The wharves were resumed by the Government in 1901, together with a large area of adjoining property, and the Sydney Harbour Trust was appointed with full power of administration over the harbour, and the resumed property, including power to levy and collect certain tolls, etc., and to purchase and resume lands. The exclusive control of the port and shipping, harbour lights, beacons, buoys, wharves, and the preservation and improvement of the port generally were vested in the Trust.

The Harbour Trust, upon its creation in 1901, was debited with the cost of improvements made up to that time, as well as the cost of wharfage resump-tions; in 1900 these aggregated £4,700,000. In the last nineteen years, upwards of £4,200,000 more have been spent, making a grand total expended upon harbour improvements and foreshore properties of about £9,000,000.

The following table shows the number and length of berths under the control of the Harbour Trust, passenger ferries being excluded :—

Locality.	Number of Berths.	Length of Berths.
Woolloomooloo Bay	13	ft. 5,713
Circular Quay	10	3,953
Walsh Bay	12	6,885
Darling Harbour	101	34,838
Blackwattle Bay	27	3,191
Rozelle Bay	12	2,081
White Bay	10	4,200
Total... ..	185	60,861

As mentioned in the previous paragraph, these wharves are nearly all in the immediate vicinity of the business quarter of Sydney, which is a peninsula surrounded by Woolloomooloo Bay, Circular Quay, Walsh Bay, and Darling Harbour. In this respect the business part of Sydney bears a remarkable resemblance to Manhattan Island, the commercial centre of New York.

Most of these wharves are well provided with sheds, many of them of considerable dimensions, one at the grain loading wharf at Darling Island is 1,270 feet long and 80 feet wide, another at the grain loading jetty at Pyrmont is 1,060 feet long and 51 feet wide.

One of the latest improvements is the construction of a wharfage scheme in connection with the bulk handling of wheat at Glebe Island. The Government has erected silos, with a storage capacity of six million bushels, which can be unloaded from railway trucks at the rate of 80,000 bushels per hour. The wheat will be delivered to ships at the rate of 60,000 bushels per hour, and the stream can be split into four, thus feeding four different vessels simultaneously.

An efficient Harbour Trust Fire Brigade is stationed at Goat Island, consisting of three ships the "Hydra," "Pluvius," and "Cecil Rhodes," which can discharge 3,500, 2,500, and 3,500 gallons per minute respectively. These steamers are also fitted with heavy suction pipes for salvage purposes.

The Trust has a fleet of nine dredges, one mounting a 15-ton crane. During the year ended 30th June, 1920, 1,345,287 tons of sand, silt, mud, rock, &c., were removed. The cost of dredging, towing, and repairs during the same period amounted to £53,359.

During the year 40,930,513 passengers were carried by the various ferry services, as against 36,310,694 during the previous year.

The number of persons employed by the Trust in June, 1920, was 1,628, and their salaries for the same month amounted to £34,206.

The capital debt on 30th June, 1920, amounted to £8,959,886, and the revenue and expenditure during the year ended 30th June, 1920, were as follows :—

Revenue.		Expenditure.	
	£		£
Wharfage Rates	323,306	Commissioners' Salaries	3,300
Tonnage	20,394	Allowance, Deputy Commissioner	236
Berthing Charges... ..	2,003	Head Office	43,788
Rents—Wharves, Jetties, Bonded		Supervising Wharves	12,514
Stores, &c.	174,780	Control of Harbour	4,130
Rents—Shops and Houses ...	64,180	Management of Property	28,752
Bond and Motor Lorry Charges	38,734	Lighting Property	1,373
License Fees	3,635	Watching	2,093
Other	31,281	Dredging	20,724
		Insurance	7,837
		Rates and Taxes	6,118
		Pensions	17,990
		Bonds and Motor Lorries	19,854
		Other	17,749
		Total, Working Expenditure	186,458
		Interest on Capital	353,037
		Disbursements from Public Works	
		Fund	19,992
Total	658,313	Grand Total	559,487

The gross revenue for the year was £658,313, equal to 7·46 per cent. on the capital expenditure, and the net revenue was £471,855, equal to 5·34 per cent. After allowing for interest on capital at the rate of 4 per cent., and deducting disbursements from Public Works Fund there was a surplus of £98,826, equal to 1·12 per cent. on the capital.

NEWCASTLE HARBOUR.

Newcastle Harbour is at the mouth of the Hunter River; its area is 2,757 acres. The minimum depth on the line of fairway is 23 feet 6 inches at low water, ordinary spring tides, but vessels which draw 27 feet can enter safely at high water spring tides, and it is proposed to deepen the entrance to 32 feet at low water. A fleet of ten dredges is employed to maintain and deepen the port. The spring tide range is 5 ft. 6 in., and that of neap tide, 3 ft. 6 in.

The harbour is sufficiently landlocked to render it safe for vessels in all weathers, and its natural advantages have been improved by the construction of breakwaters.

Owing to its proximity to the very extensive coal-fields of Newcastle and Maitland, the port has a large export trade in coal, and the establishment of steelworks at Port Waratah has further increased its trade.

Wharfage accommodation to the extent of 21,971 feet is provided for the following purposes:—

Coal shipping	...	...	...	...	10,138 feet.
General cargo	...	...	...	...	6,855 „
Wharves on leases	...	...	...	...	2,550 „
Wharves for Government purposes	...	...	...	...	2,428 „

In addition, there are ninety-eight mooring dolphins and jetties for vessels awaiting loading.

The coal shipping wharves, which are situated on the eastern side of Carrington, and in the inner basin are fitted with one steam crane and seventeen hydraulic cranes, with a capacity from 12 to 30 tons, one McMylor hoist, and six 15-ton electric cranes.

Coal loading, which is limited to a great extent by the trimming, has been carried out on vessels up to an average rate of 450 tons per hour. The depth at low water at these berths varies up to 28 feet.

The general cargo shipping wharves are located on the side of the harbour adjacent to the city and are connected with the Great Northern Railway. The depth of water at these wharves is from 5 to 28 feet at low water, ordinary spring tides. Storage accommodation is provided at Lee Wharf, which it is proposed to extend still further.

HARBOURS AND ANCHORAGES.

The principal shipping places on the coast of New South Wales, which has an approximate length of 700 miles, may be classified as natural harbours, artificial harbours, bar harbours, and anchorages. The following statement shows these shipping places in order from north to south, their distances

from Sydney, and the average depths at low water, ordinary spring tides, and the number and length of wharves at 30th June, 1920 :—

Distance from Sydney in miles.	Port.	Average depths low water ordinary spring tides.		Wharves.	
		On Bar.	On inner crossing.	No.	Length.
		ft. in.	ft. in.		feet.
374	Tweed River (<i>l</i>)	5 0	7 0	2	185
345	Byron Bay (<i>a</i>)* ... ..	...	...	1	1,442
331	Richmond River (<i>b</i>)	12 6	11 6	3	1,000
296	Clarence River (<i>b</i>)	11 8	12 9	41	1,345
254	Woolgoolga (<i>a</i>)* ... ..	...	...	1	1,561
240	Coff's Harbour (<i>a</i>)* ... ..	...	...	1	1,642
230	Bellenger River (<i>b</i>)	4 3	5 7	2	160
223	Nambucca River (<i>b</i>)	5 0	5 3	8	1,440
216	Macleay River (<i>b</i>)	7 8	7 9	13	780
209	Trial Bay (<i>a</i>) ... ..	...	...	...	...
174	Hastings River (Port Macquarie) (<i>b</i>)	6 5	3 9	7	315
159	Camden Haven (<i>b</i>)	4 9	5 9	4	160
147	Crowdy Bay (<i>a</i>) ... ..	...	...	...	...
144	Manning River (<i>b</i>)	9 0	3 0	13	650
123	Port Forster (<i>b</i>)*	3 0	6 0	4	1,080
109	Sugarloaf Bay (Seal Rocks) (<i>a</i>) ... ..	...	...	...	...
83	Fly Road (Port Stephens) (<i>n</i>)	27 0	...	1	120
62	Port Hunter (<i>b</i>)*	23 6	...	25	21,971
49	Lake Macquarie (<i>b</i>)	4 9	4 0	3	116
19	Broken Bay (<i>n</i>) ... ..	...	...	...	...
—	Port Jackson (<i>n</i>)*	40 0	...	185	60,861
12	Botany Bay (<i>a</i>) ... ..	...	...	2	...
44	Wollongong (<i>art</i>)*	14 0	...	...	1,600
48	Port Kembla (<i>a</i>)* ... ..	...	...	3	2,762
53	Shellharbour (<i>art</i>)*	6 0	...	2	346
59	Kiama (<i>art</i>)* ... ..	...	...	...	1,060
74	Crookhaven (<i>b</i>)	15 0	9 6	3	220
82	Jervis Bay (<i>n</i>) ... ..	...	...	...	...
108	Ulladulla (<i>art</i>)* ... ..	...	...	1	180
134	Bateman's Bay (<i>b</i>)	6 0	...	3	180
141	Moruya River (<i>b</i>)	6 9	6 0	2	80
157	Narooma (Wagonga Inlet) (<i>b</i>)	5 0	3 0	7	280
163	Bermagui Bay (<i>a</i>)* ... ..	...	...	1	120
186	Tathra Bay (<i>a</i>)* ... ..	...	...	1	120
197	Merimbula (<i>b</i>)* ... ..	...	...	1	120
208	Twofold Bay (Eden) (<i>a</i>)* ... ..	...	...	1	560

(*) Denotes anchorage. (b) Bar harbour. (art) Artificial harbour. (n) Natural harbour.
* Maintained by the Government.

As shown in the above table, certain wharves are maintained by the Government, the remainder being under the control of the Shires and Municipalities in which they are situated.

MANUFACTURING INDUSTRY.

COMPARED with older countries, New South Wales cannot be considered an important manufacturing country. Nevertheless over £50,000,000 have been invested in these secondary industries, which give employment to about 145,000 persons. The industries are principally domestic, which have been called into existence by local requirements, or as the result of natural resources. There are many products which come into competition with imported articles, but of manufacture for export in the ordinary meaning of the term, there is very little, except of food commodities.

Returns relating to the manufacturing industry are collected under the authority of the "Census Act, 1901," and must be furnished by every proprietor of a factory. The returns are used for statistical purposes only, and may not be produced in any court of law even under subpoena.

Prior to 1896 there was no uniformity in the method of collection in the various States, but in that year uniformity was secured with Victoria by agreement between the Statisticians. A standard classification of factories was adopted at a conference of statisticians in 1902, and the statistics for all the States have since been compiled on the same basis.

The following table is a summary of the important facts relating to the establishments in New South Wales which came within the definition of a factory and furnished returns in 1901, 1911, 1918-19, and 1919-20. The figures for the first two years relate to the calendar years, but the others are for the years ended 30th June.

Particulars.	1901.	1911.	1918-19.	1919-20.
Number of Establishments	3,367	5,039	5,460	5,662
Number of Employees ... {	Male ...	82,083	96,884	109,836
	Female ...	11,674	26,541	30,707
	Total ...	66,230	108,624	127,591
Salaries and Wages paid to Employees.† {	Male £	*	8,917,583	14,966,689
	Female £	*	1,130,079	1,991,250
	Total £	4,952,000	10,047,662	16,957,919
Capital invested in Land, Buildings, and Fixtures	£ 7,838,628	13,140,207	22,081,877	24,138,890
Value of Plant and Machinery... ..	£ 5,860,725	12,510,600	23,651,152	26,366,083
Machinery—Average Horse-power in use	h.p. 44,265	127,547	197,836	187,514
Value of Materials and Fuel used	£ 15,637,611	34,913,564	72,035,493	83,899,163
Value added to Raw Materials in process of Manufacture	£ 10,010,860	19,432,447	32,767,525	39,314,317
Total Value of Output	£ 25,648,471	54,346,011	104,803,018	123,213,480
Average per Factory—				
Employees	No. 19·7	21·6	23·4	25·5
Horse-power of Machinery	h.p. 13·2	25·3	36·2	33·1
Land and Buildings... ..	£ 2,328	2,607	4,044	4,263
Plant and Machinery... ..	£ 1,740	2,482	4,332	4,657
Material and Fuel	£ 4,644	6,928	13,193	14,818
Value added in process of Manufacture	£ 2,973	3,856	6,001	6,943
Total Output	£ 7,617	10,784	19,195	21,761
Average per Employee—				
Time Worked	months 11·32	11·55	11·57	11·54
Salaries and Wages †... {	Male £	*	114	161
	Female £	*	43	65
	Total £	81	96	137	155
Value of Materials and Fuel... ..	£ 236	321	564	581
Value added in Manufacture... ..	£ 151	179	256	272
Total Output	£ 387	500	812	853

* Information not available.

† Excluding drawings of working proprietors.

The foregoing statement shows that the number of establishments has increased since 1901 by 68 per cent., and the number of employees by over 118 per cent. In 1901 the capital invested in land, buildings, fixtures, plant and machinery amounted to £13,699,353, and in 1919-20 it had increased to £50,504,973, or by over 268 per cent. The value of the output, which includes the production of butter and cheese factories, was nearly five times as great as in 1901; but this is due largely to the increase in the values of commodities during recent years. Side by side with this development the amount paid in wages increased by 347 per cent., and the expenditure on materials and fuel by 437 per cent.

GOVERNMENT WORKSHOPS AND FACTORIES.

Until a comparatively recent period the establishments under Government control consisted almost entirely of railway workshops, dockyards, and other establishments engaged principally in the repair or renovation rather than in the actual manufacture of articles. Now, however, there are State factories producing such diverse articles as bricks and clothes. In view of the number and importance of State and Commonwealth industrial undertakings, the following table has been prepared to show the details of their operations in 1919-20, in comparison with those of other establishments:—

	Governmental.	Other.	Total.	
Number of Establishments... ..	81	5,581	5,662	
Number of Employees ...	Male	18,321	91,515	109,836
	Female	688	33,930	34,618
	Total	19,009	125,445	144,454
Salaries and Wages paid to Employees.*	Male ... £	3,905,044	15,223,304	19,128,348
	Female ... £	41,266	2,511,582	2,552,848
	Total ... £	3,946,310	17,734,886	21,681,196
Capital invested in Land, Buildings, and Fix- tures... ..	£ 2,940,096	13,236,764	16,176,860	
Rent paid	£ 4,498	524,304	528,802	
Value of Plant and Machinery	£ 4,399,305	21,966,778	26,366,083	
Machinery—Average Horse-power in use... ..	61,449	204,352	265,801	
Value of Materials and Fuel used	£ 3,290,191	80,608,972	83,899,163	
Value added to Raw Materials in process of Manufacture... ..	£ 4,580,495	34,733,822	39,314,317	
Total Value of Output	£ 7,870,686	115,342,794	123,213,480	

* Excluding drawings of working proprietors.

† In the above table each of the various railway workshops is counted as a separate establishment.

In making comparisons between the results shown by Governmental and Other establishments, it should be noted that in the former repair work constitutes the largest portion of the work done; also that in such establishments the profit would appear in reducing the price of the product rather than in showing a large margin over cost.

CLASSIFICATION OF MANUFACTORIES.

The manufacturing industries have been arranged for purposes of reference and comparison into nineteen classes, in accordance with a standard classification adopted at a Conference of Statisticians.

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Page 331—*Delete* last paragraph.

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The classes are as follow:—

CLASS I.—TREATING RAW MATERIALS, &c.

Boiling-down Tallow, Refining, &c.
Sausage Skins, &c.
Tanneries.
Wool-scouring, Felmongering.
Chaff-cutting, Corn-crushing, &c.

CLASS II.—OILS AND FATS, &c.

Oil and Grease.
Soap and Candles.

CLASS III.—STONE, CLAY, GLASS, &c.

Bricks and Tiles.
Glass (in Juding Bottles).
Glass (Ornamental).
Lime, Plaster, Cement, and Asphalt.
Marble, Slate, &c.
Pottery and Earthenware (including Modelling, &c.)

CLASS IV.—WORKING IN WOOD.

Boxes and Cases.
Cooperage.
Joinery.
Saw-mills.
Wood-turning, Wood-carving, &c.

CLASS V.—METAL WORKS, MACHINERY, &c.*

Agricultural Implements.
Art Metal Works.
Brass and Copper.
Cutlery.
Engineering.
Galvanized Iron-working.
Ironworks and Foundries.
Railway Carriages, Rolling-stock, &c.
Railway and Tramway Workshops.
Smelting.
Stoves and Ovens.
Tinsmithing.
Wire-working.
Other Metal Works (including Nail and Lead Mills).

CLASS VI.—FOOD AND DRINK, &c.

Bacon-curing.
Butter-factories, Creameries, &c.
Butterine and Margarine.
Cheese Factories.
Condensed Milk.
Meat-preserving.
Biscuits.
Confectionery.

CLASS VI.—FOOD AND DRINK, &c.—continued.

Cornflour, Oatmeal, &c.
Flour-mills.
Jam and Fruit-canning.
Pickles, Sauces, and Vinegar.
Sugar Mills.
Sugar Refining and Distilling.
Aerated Waters, Cordials, &c.
Breweries.
Condiments, Coffee, Spices, &c.
Ice and Refrigerating.
Malting.
Tobacco, Cigars, &c.

CLASS VII.—CLOTHING, AND TEXTILE FABRICS, &c.

Woollen and Tweed Mills.
Hosiery and Knitted Goods.
Boots and Shoes.
Clothing (Stop).
Clothing (Tailoring).
Clothing (Waterproof and Oil-skin).
Dressmaking and Millinery (Bakers' Material).
Dressmaking and Millinery (Customers' Material).
Dyeworks and Cleaning.
Furriers.
Hats and Caps.
Shirts, Ties, and Scarfs.
Rope and Cordage.
Sailmaking.
Tents and Tarpaulins.

CLASS VIII.—BOOKS, PAPER, PRINTING, &c.

Electrotyping and Stereotyping.
Paper-making, Paper Boxes, Bags, &c.
Photo-engraving.
Printing and Binding.

CLASS IX.—MUSICAL INSTRUMENTS, &c.

Musical Instruments and Sewing Machines.

CLASS X.—ARMS AND EXPLOSIVES.

Arms and Explosives.

CLASS XI.—VEHICLES, SADDLERY, HARNESS, &c.

Coach and Waggon Building.
Cycles and Motors.
Perambulators.
Saddlery, Harness, &c.
Spokes, &c.
Whips.

CLASS XII.—SHIP AND BOAT BUILDING AND REPAIRING.

Docks and Slips.
Ship-building and Repairing.

CLASS XIII.—FURNITURE, BEDDING, &c.

Bedding, Flock, and Upholstery.
Chair-making.
Furnishing, Drapery, &c.
Furniture and Cabinet-making, and Billiard Tables.
Picture Frames.
Window Blinds.

CLASS XIV.—DRUGS AND CHEMICALS.

Chemicals, Drugs, and Medicines.
Paints and Varnishes.
Inks, Polishes, &c. (including Fertilisers).

CLASS XV.—SURGICAL AND OTHER SCIENTIFIC INSTRUMENTS.

Surgical, Optical, and other Scientific Instruments.

CLASS XVI.—JEWELLERY, TIME-PIECES, AND PLATED-WARE.

Electro-plating.
Manufacturing Jewellery, &c.

CLASS XVII.—HEAT, LIGHT, AND POWER.

Coke-works.
Electric Apparatus.
Electric-light and Power.
Gas-works and Kerosene.
Lamps and Fittings, &c.
Hydraulic Power.

CLASS XVIII.—LEATHERWARE (N.E.I.).

Leather Belting, Fancy Leather, Portmanteaux, and Bags.

CLASS XIX.—MINOR WARES (N.E.I.).

Basket and Wickerware, Matting, &c.
Brooms and Brushware.
Rubber Goods.
Toys.
Umbrellas.
Other Industries.

The returns relate to establishments employing four or more than four persons engaged directly or indirectly in working at certain handicrafts, or in preparing or manufacturing articles for trade or sale, and to establishments employing less than four persons, where machinery, operated by steam, gas, electric, water, wind, or horse power, is used.

The term "establishment" includes branches which, whether conducted in separate buildings or not, deal with separate branches of industry, and are therefore counted as industrial entities.

With the exception of tanneries, of bacon, butter, cheese, soap and candle factories, of brickyards, of quarries, and of gas and lime works, establishments operating with manual labour only, and with fewer than four workers, are not included. If two or more Chinamen are employed, however, the place is considered to be a factory.

The foregoing definition, based on the number of workers, applies uniformly to all other industries, and includes tailoring, bootmaking, dress-making, and millinery establishments. It does not, however, cover shops engaged only in retail trade and in the distribution or importation of goods; nor does it apply to bakeries, butcheries in which sausages and smallgoods are made, laundries, monumental masonry yards, and waterworks.

With the exception of blacksmiths' and wheelwrights' shops, the definition covers establishments in which workers are engaged in repairing or assembling manufactured parts of an article.

If a manufacturing business is conducted in conjunction with an importing or a retail business, particulars relating to the manufacturing section only are obtained; and persons employed in the importing or retail branch of the business are not included. Where two or more industries are being conducted, a return is furnished for each industry; if power from the same generating plant is used for more than one industry, it is proportionately distributed. The generation of electric-light and power for use in other manufacturing operations, even if carried out on the premises, is treated as an independent industry.

The value of production includes the products of educational, charitable, and reformatory or other public institutions, excluding penitentiaries.

MOTIVE POWER.

The power used for driving machinery in factories is derived almost entirely from steam. Other agencies, principally gas, are used only to a limited extent, and, although there are electric engines of considerable voltage, they are employed mainly for lighting and tramway purposes, and the generation of their power depends upon some other class of engine.

The following table shows the distribution of motive-power through the various agencies of steam, gas, electricity (generated by steam-power), water and oil, expressed in units of horse-power, for the first and second quinquennial periods and succeeding years since Federation:—

Year.	Establishments using Machinery.	Horse-power of Machinery (Average used).						Av'ge H.P. per Establishment.
		Steam.	Gas.	Electricity.	Water.	Oil.	Total ex-Electricity.	
1901	1,969	42,555	1,577	330	97	36	44,265	22
1906	2,496	70,192	4,212	8,989	75	277	74,756	30
1911	3,550	113,939	12,201	20,671	222	1,185	127,547	36
1912	3,775	130,479	16,028	26,652	273	1,181	147,961	39
1913	3,974	141,025	13,802	35,885	307	1,478	156,612	39
1914-15	3,987	158,718	14,552	50,179	283	1,885	175,438	44
1915-16	4,077	177,162	13,926	58,075	319	1,689	193,096	47
1916-17	4,272	159,712	13,312	61,702	274	1,830	175,128	41
1917-18	4,444	175,232	14,110	67,719	248	1,795	191,385	43
1918-19	4,451	181,611	14,227	74,567	63	1,935	197,836	44
1919-20	4,730	171,590	13,342	78,287	165	2,417	187,514	40

During the nineteen years under review the potential horse-power of the machinery in the State increased from 57,335 to 430,813; or, exclusive of electric or secondarily-produced power, from 56,669 to 305,496. The development of electrical power is characteristic of the period, the full capacity of machinery so equipped advancing from 666 h.-p. in 1901, to 125,317 h.-p. in 1919-20. In all statements of the comparative horse-power of machinery it is, however, advisable to eliminate the electrical agency, as it is a reproduced or transmitted force originating from some other primal source.

The actual average motive force, exclusive of electricity, employed in operating machinery, amounted in all the factories of the State, in 1901, to 44,265 horse-power; and in 1919-20 to 187,514 horse-power. The average horse-power per establishment increased from 22 to 40, or by 82 per cent. during the period.

Exclusive of electrical power the proportion of average motive force used in operating machinery to potential motive-force was about 78 per cent. in 1901, and about 65 per cent. in 1919-20. Broadly speaking, the motive power of machinery is capable of supplying a third more energy than that ordinarily operated.

ESTABLISHMENTS.

The following table shows the number of manufactories and works in the Metropolitan district and in the remainder of the State, together with the number of establishments in which machinery was installed:—

Year.	Metropolitan District.			Remainder of State.			New South Wales.		
	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.	With Machinery.	Without Machinery.	Total.
1901	754	661	1,415	1,215	737	1,952	1,969	1,398	3,367
1906	1,136	635	1,771	1,360	730	2,090	2,496	1,365	3,861
1911	1,793	717	2,510	1,757	772	2,529	3,550	1,489	5,039
1912	1,964	686	2,650	1,811	701	2,512	3,775	1,387	5,162
1913	2,093	658	2,751	1,881	714	2,595	3,974	1,372	5,346
1914-5	2,154	709	2,863	1,832	573	2,405	3,986	1,282	5,268
1915-6	2,250	565	2,815	1,827	568	2,395	4,077	1,133	5,210
1916-7	2,416	589	3,005	1,856	495	2,351	4,272	1,084	5,356
1917-8	2,545	540	3,085	1,899	430	2,329	4,444	970	5,414
1918-9	2,575	578	3,153	1,876	431	2,307	4,451	1,009	5,460
1919-2.	2,819	557	3,376	1,911	375	2,286	4,730	932	5,662

Shipping facilities and an incomparable harbour have made Sydney the chief manufacturing centre of the State, but in some industries Newcastle is an important rival, and has large iron and steel-producing works, which are lacking in the Metropolis. In the earliest days of the State's history, Sydney, as the first place of settlement, was of necessity the sole manufacturing town in the territory; in 1901, after more than a century of colonisation, the Metropolitan area contained over 42 per cent. of the manufacturing establishments in the State, and in 1920 this proportion had increased to nearly 60 per cent.

The country manufacturing industries are occupied mainly with the direct handling of primary products, but at Lithgow there are the Commonwealth small arms and ammunition works and a large iron and steel foundry, while Newcastle has large iron and steel works, a galvanised iron works, an extensive ship-building yard, and numerous other large factories.

In the Metropolitan area factories for the clothing and textile fabric industries head the list, followed in order by those treating metals and machinery. In the remainder of the State the industries dealing with food and drink are first in order of precedence, followed by those working in wood; next come establishments engaged in making vehicles and harness.

The following table shows the principal facts relating to each class of manufacturing industry conducted in the State and in the Metropolitan district during the year 1919-20:—

Class of Industry.	Establishments.			Average Number of Employees.			Average Time worked per Employee.	Horse-power of Machinery—Average used.	Value of Machinery, Tools, and Plant.	Total Salaries and Wages, exclusive of Drawings of Working Proprietors.
	Males.	Females.	Total.	Males.	Females.	Total.				
NEW SOUTH WALES.										
Treating Raw Material, etc.	237	4,349	125	4,474	10-88	8,645	757,649	789,181		
Oils, Fats, etc.	39	1,363	361	1,744	11-39	1,992	451,138	261,501		
Processes in Stone, Clay, Glass, etc.	290	8,032	110	8,142	11-39	16,130	1,635,453	1,310,044		
Working in Wood	754	9,045	180	9,205	10-96	18,119	1,163,548	1,230,850		
Metal Works, Machinery, etc.	671	31,428	629	32,057	11-63	54,809	6,843,717	5,332,981		
Connected with Food, Drink, etc.	783	13,110	6,172	19,282	11-18	34,347	4,561,435	2,711,367		
Clothing, Textile Fabrics, etc.	1,035	8,541	20,888	29,429	11-78	7,473	986,460	2,947,355		
Books, Paper, Printing, etc.	473	7,479	3,168	10,647	11-83	7,423	1,707,319	1,589,937		
Musical Instruments, etc.	23	549	47	586	11-64	363	21,097	107,784		
Arms and Explosives	23	814	3	819	12-00	1,574	123,705	197,483		
Vehicles and Fittings, Saddlery, etc.	434	4,955	195	5,150	11-62	2,072	254,525	660,613		
Ship and Boat-building, etc.	36	6,870	38	6,908	11-98	4,791	1,502,655	1,459,925		
Furniture, Bedding, and Upholstery	270	3,859	505	4,364	11-59	2,779	139,444	629,314		
Drugs, Chemicals, and By-products	117	1,639	91	2,620	11-94	2,488	513,904	351,085		
Surgical and other Scientific Instruments	16	155	44	199	11-94	60	13,569	28,768		
Jewellery, Timepieces, and Plated-ware	61	783	113	896	11-86	346	39,837	145,465		
Heat, Light, and Power	238	4,670	88	4,758	11-46	101,632	5,112,816	949,661		
Leatherware, N.E.I.	37	652	379	1,031	11-80	188	22,638	119,433		
Minor Wares, N.E.I.	93	1,523	610	2,133	11-51	1,179	161,110	242,837		
Total ...	5,662	109,836	24,618	144,454	11-54	268,501	26,563,033	21,681,166		
METROPOLITAN DISTRICT.										
Treating Raw Material, etc.	112	3,069	121	3,190	11-79	7,047	607,267	634,037		
Oils, Fats, etc.	26	1,023	311	1,334	11-78	1,447	359,127	206,019		
Processes in Stone, Clay, Glass, etc.	141	5,326	75	5,401	11-59	8,369	764,348	891,969		
Working in Wood	256	4,281	97	4,378	11-68	8,523	486,150	685,639		
Metal Works, Machinery, etc.	504	20,868	569	21,437	11-87	16,896	2,905,535	3,753,400		
Connected with Food, Drink, etc.	272	8,158	5,440	13,598	11-48	18,898	3,057,696	1,895,730		
Clothing, Textile Fabrics, etc.	333	7,467	19,223	26,695	11-75	5,979	850,700	2,677,410		
Books, Paper, Printing, etc.	282	6,216	3,047	9,263	11-84	6,640	1,379,360	2,135,545		
Musical Instruments, etc.	23	549	47	586	11-64	363	21,097	102,784		
Arms and Explosives	4	22	2	24	12-00	39	1,005	4,017		
Vehicles and Fittings, Saddlery, etc.	260	3,346	147	3,493	11-57	1,137	149,330	491,123		
Ship and Boat-building, etc.	32	4,750	12	4,762	11-99	3,758	1,181,652	1,056,590		
Furniture, Bedding, and Upholstery	235	3,539	496	4,035	11-61	2,549	127,653	584,620		
Drugs, Chemicals, and By-products	108	1,440	97	2,417	11-95	1,960	364,718	318,683		
Surgical and other Scientific Instruments	16	155	44	199	11-94	60	13,569	28,768		
Jewellery, Timepieces, and Plated-ware	59	783	112	875	11-86	346	39,177	142,814		
Heat, Light, and Power	101	2,966	61	2,967	11-52	74,163	3,135,434	562,644		
Leatherware, N.E.I.	37	652	379	1,031	11-80	188	22,638	119,433		
Minor Wares, N.E.I.	85	1,475	607	2,082	11-51	1,128	158,464	236,176		
Total ...	3,376	76,005	31,772	107,777	11-73	159,512	15,576,060	15,789,731		

The average number of employees per establishment is 32 in the Metropolis, 16 in the remainder of the State, and 26 in the whole State; in 1901 the averages were 30, 12, and 20 respectively.

In the Metropolitan district the tendency is towards an increase of small workshops and factories, and a gradual decline in the proportion of larger establishments; nevertheless, the proportion of hands employed in factories employing over ten hands has increased slightly since 1901.

Since 1913 the number of establishments in New South Wales has increased by 5·9 per cent., and the number of employees by 20 per cent. During the war there was a large withdrawal of male labour from industrial life, and the number of persons employed in manufactories and works fell below that of 1913, but the leeway has been recovered, and the persons now employed number 24,000 more than in 1913.

CAPITAL INVESTED IN PREMISES.

With regard to capital permanently invested in manufacturing industries, particulars are available only regarding the value of land, buildings, and fixtures which are the property of the occupier; if they are not the property of the occupier the rental value is recorded.

The following statement shows the extent to which, since 1901, the capital value of the premises used for manufacturing purposes has increased, also the advance in the value of plant and machinery installed:—

Year.	No. of Establishments.	Capital Value of Premises (owned and rented).	Value of Machinery, Tools, and Plant.	Average per Establishment.	
				Value of Premises.	Value of Machinery, Tools and Plant.
1901	3,367	£ 7,838,628	£ 5,860,725	£ 2,328	£ 1,741
1906	3,861	*9,335,966	8,407,337	2,418	2,178
1911	5,039	13,140,207	12,510,600	2,608	2,483
1912	5,162	14,395,026	13,795,195	2,789	2,672
1913	5,346	15,405,018	14,861,676	2,882	2,780
1914-15	5,269	16,843,698	16,866,982	3,197	3,201
1915-16	5,210	17,770,517	18,211,104	3,410	3,495
1916-17	5,356	18,920,057	20,364,122	3,532	3,802
1917-18	5,414	20,533,171	21,739,739	3,793	4,015
1918-19	5,460	22,081,877	23,651,152	4,044	4,332
1919-20	5,662	24,138,890	26,366,083	4,263	4,657
Percentage Increases, 1901-1920... ..	68·2	207·9	349·9	83·1	167·5

*Value in 1907.

The premises owned by the occupiers in 1919-20 were valued at £16,176,860, and rented premises at £7,932,030, the valuation of the latter being based on the rent paid, capitalised at fifteen years' purchase.

It will be noted that the value of machinery and plant is now greater than that of the land and buildings. The great advance, particularly during the last five years, in the value of the former, does not imply an extraordinary increase in the employment of mechanical utilities, being due mainly to inflated values.

SALARIES AND WAGES.

The amount of salaries and wages quoted throughout this chapter is exclusive of amounts drawn by working proprietors.

The salaries and wages paid to employees in manufactories and works amounted in 1919-20 to £21,681,196; male workers received £19,128,348, equal to £181 1s. 1d. per head; and female workers, £2,552,848, or £74 6s. 8d. per head.

A comparison of the total amount of salaries and wages paid since 1901 is shown below, together with the average amount received and the average time worked per employee:—

Year.	Salaries and Wages (exclusive of drawings by Working Proprietors).			Wages Levels. 1911 = 1000.			Average time Worked per Employee	
	Total.	Average per Employee.			Males.	Females.		Total.
		Male.	Female.	Total.				
1901	£ 4,952,000	£ s. d. *	£ s. d. *	£ s. d. 81 0 0	*	*	839	months. 11·32
1906	5,591,888	*	*	77 9 7	*	*	804	11·45
1911	10,047,662	114 4 9	43 2 1	96 7 1	1000	1000	1000	11·55
1912	11,592,052	122 10 0	48 7 9	104 8 10	1072	1123	1085	11·59
1913	12,683,384	127 15 4	50 5 10	109 13 2	1118	1167	1139	11·62
1914-15	12,667,721	130 19 3	52 18 10	112 18 11	1146	1223	1172	11·46
1915-16	13,413,845	141 9 1	53 14 6	119 5 11	1238	1246	1238	11·56
1916-17	14,381,309	149 6 11	57 9 10	126 3 3	1307	1334	1309	11·55
1917-18	14,701,255	148 13 8	61 5 6	126 3 7	1304	1422	1309	11·47
1918-19	16,957,919	160 16 4	65 9 3	137 6 6	1408	1519	1425	11·57
1919-20	21,681,196	181 1 1	74 6 8	154 17 6	1585	1724	1607	11·54

* Not available.

Since 1911 the average wages of males have increased by over 59 per cent., and of females by 72 per cent.; it should be noted, moreover, that the proportion of juvenile labour was slightly less in the earlier year, when boys under 16 represented 3 per cent. of the total males, compared with 3·5 per cent. in 1920, and girls under 16 represented 8·5 per cent. of all females employed, as against 10·8 per cent. in 1920.

Comparing the wages in 1920 with those of 1913, the year before the war, it will be seen that the average wage of males has risen from £127 15s. 4d. to £181 1s. 1d., and of females from £50 5s. 10d. to £74 6s. 8d.; the rates of increases are 41·7 per cent. and 47·8 per cent. respectively. The average time worked in each year was practically the same.

The average wage of males is highest in the arms and explosives industry, in which the average amount paid per worker in 1919-20 was £242 8s. 6d. This is due in a large measure to the inclusion of the Commonwealth Small Arms Factory, where a large proportion of highly-skilled labour is employed. No other industry pays an average wage approaching this amount. The next highest average wage received was by those engaged in

ship-building, namely, £217 0s. 1d. The lowest average wage, £149 0s. 6d., was received by leather workers.

Of the female workers, those employed in the clothing industries received an average wage of £76 3s. 3d. in 1919-20, being £4 12s. 5d. more than was paid to employees engaged in printing, book-binding, &c. The average wage of all female workers was £74 6s. 8d.

VALUE OF PRODUCTION FROM MANUFACTORIES, AND COSTS.

In a previous table giving the value of production from manufactories, returns from establishments treating milk products were included.

The value of goods manufactured or of work done in 1919-20, excluding the production of establishments dealing with milk products, amounted to £117,625,874. Of this amount, £78,997,974 represents the cost of materials used and fuel consumed, the value added by processes of treatment, inclusive of salaries and wages, being £38,627,900.

The following table shows the proportion of each item combined in the process of production to the total output:—

Heading.	Industries connected with MILK Products.	Other Industries.	All Industries.	Proportion of Total Output.
	£	£	£	per cent.
Materials	4,852,286	76,336,211	81,188,497	65·5
Fuel, including Motive-power rented ...	48,903	2,661,763	2,710,666	2·2
Salaries and Wages	193,948	21,487,248	21,681,196	17·6
Total	5,095,137	100,485,222	105,580,359	85·3
Output, or Goods Manufactured and Work done.	5,587,606	117,625,874	123,213,480	...
Balance for general Purposes and Profit...	492,469	17,140,652	17,633,121	14·7

Thus, out of every hundred pounds' worth of goods produced in manufactories, the materials used and the fuel consumed in the manufacture thereof cost £67 14s., while the workers received £17 12s., leaving a balance of £14 14s. for the payment of overhead charges and for profits.

There are, of course, numerous items to be considered before profits accrue. The cost of these cannot be determined accurately, but from the information available it is possible to make a fairly reliable estimate with regard to some very important items, namely, depreciation, and interest on invested capital.

Excluding Government workshops and factories from consideration, the capital invested in lands, buildings, and fixtures in 1919-20 amounted to £13,237,000. Municipal valuations would indicate that the unimproved value of property is about 37·5 per cent. of the improved value, and on this basis the value of the buildings and fixtures would be about £3,273,000. Factory buildings probably depreciate in value more quickly than any other class of buildings, and therefore 4 per cent. can be regarded as a moderate rate to be allowed yearly on that account.

Depreciation of plant is more rapid, and varies considerably in different industries. As a result of inquiries made of some of the largest manufacturers in various industries and of the managers of State undertakings, it is estimated that 6½ per cent. is a fair average allowance for depreciation of

plant and machinery. The allowance to be made for depreciation of land, buildings and fixtures would therefore be about £331,000 and on plant and machinery £1,428,000, or a total of £1,759,000.

In addition to the allowance for depreciation, a further allowance should be made for interest on invested capital. The capital invested in machinery and plant is £21,967,000, and in land and buildings £13,237,000; to this must be added the capital represented by goods awaiting treatment and by manufactured goods awaiting disposal. It has been ascertained that the average value of materials on hand awaiting treatment represents about 21·5 per cent. (equal to about two and a half months' supply) of the value of all material used during the year, which would indicate that during 1919-20 approximately £17,331,000 were thus invested. The value of unsold stocks on hand is about 5 per cent. of the total value of the output, which would represent a further investment of capital to the extent of £5,767,000. The total capital invested in 1919-20, therefore, was about £58,302,000. Interest on this amount at 6 per cent., which is the rate payable on Government loans, would be £3,498,000. The estimated allowance to be made for depreciation and interest would therefore be £5,257,000, to which must be added cost of rented premises £524,000, so that £5,781,000 should be deducted in respect of charges which must be taken into account before profits can be estimated. This would reduce the balance remaining after payment of wages, material, and fuel to £11,217,000, or 9·7 per cent. of the total output; and such heavy items of expense as insurance, advertising, rates and taxes would still have to be paid.

The following table shows, in each class of industry, the value of goods manufactured and of work done, the cost of materials used and of fuel consumed, the amount paid in wages and salaries, and the proportion of the total value of output which each of these charges represents:—

Class of Industry.	Goods Manufactured, and Work done.	Materials used.	Fuel consumed, including Motive-power rented.	Salaries and Wages. *	Proportionate Value of Manufactured Goods represented by—			
					Materials used.	Fuel, etc.	Salaries and Wages.	Balance.
	£	£	£	£	per cent.	per cent.	per cent.	per cent.
Treating Raw Material, Pastoral Products	13,002,928	10,383,416	105,978	789,131	79·8	0·8	6·1	13·3
Oils and Fats, etc.	3,478,428	2,543,224	62,347	261,501	73·1	1·8	7·5	17·6
Processes in Stone, Clay, Glass, etc.	3,520,101	925,662	360,561	1,310,044	26·3	10·2	37·2	26·3
Working in Wood	5,888,337	3,833,824	45,409	1,290,850	65·1	0·8	22·1	12·0
Metal Works, Machinery, etc. .. .	24,754,762	16,932,274	974,938	5,832,981	65·9	3·9	23·5	6·7
Connected with Food and Drink, etc.	37,306,854	29,296,352	410,597	2,711,367	78·5	1·1	7·2	13·2
Clothing and Textile Fabrics, etc. . .	12,890,898	7,794,972	68,944	2,947,356	60·4	0·5	22·9	16·2
Books, Paper, Printing, etc. .. .	5,360,048	2,524,789	56,799	1,589,937	47·1	1·1	29·7	22·1
Musical Instruments, etc. .. .	268,042	99,810	1,538	102,784	37·2	0·6	33·3	23·9
Arms and Explosives	322,666	48,188	2,063	197,463	14·9	0·6	61·2	23·3
Vehicles, Fittings, and Saddlery, etc.	1,811,869	763,825	18,385	690,613	42·1	1·0	38·1	18·8
Ship and Boat-building, etc. .. .	2,434,936	766,945	34,270	1,489,925	31·5	1·4	61·2	5·9
Furniture, Bedding, and Upholstery	2,121,623	1,200,623	13,601	629,344	56·6	0·6	29·7	13·1
Drugs, Chemicals, and By-products	3,143,747	1,991,632	24,096	351,655	63·3	0·8	11·2	24·7
Surgical and other Scientific Instruments	73,394	29,779	618	28,768	40·6	0·8	39·2	19·4
Jewellery, Timepieces, and Plated-ware	397,394	174,719	2,836	145,466	44·0	0·7	36·6	18·7
Heat, Light, and Power	4,745,657	1,403,274	515,391	949,661	29·6	10·9	20·0	39·5
Leatherware, N.B.I.	665,348	462,344	1,551	119,483	69·5	0·2	17·9	12·4
Minor Wares, N.B.I.	1,026,418	612,795	10,744	242,837	59·7	1·0	23·6	15·7
Total	123,213,480	81,183,497	2,710,666	21,681,196	65·5	2·2	17·6	14·7

* Exclusive of drawings of working proprietors.

It is interesting to note the extent to which the value of materials is enhanced by the processes of treatment. For all industries materials were 65·5 per cent. of the value of the output, but there was great diversity amongst the various classes, the proportion ranging from 26·3 per cent. in those industries dealing with stone, clay, and glass, to 79·8 per cent. in those treating the raw material of pastoral and agricultural products. These variations can be understood readily when the wide difference between the operations of the industries is considered, and the value of the plant and machinery employed is taken into account. The extensive use of plant alone is not, however, a factor in the creation of high values, this being the result also of the extensive use of machinery, and the industries dealing with food and those engaged in shipbuilding may be cited as examples. In the former class materials represent 78·5 per cent. and wages only 7·2 per cent. of the total value, while in the latter class the wages amount to nearly twice the value of materials used, and represent 61·2 per cent. of the total cost. It must be noted that in local shipyards a very large proportion of the work consists of repairs and renovations in which the cost of materials is much less than in the actual manufacture, and owing to the nature of the employment little machinery is brought into requisition.

The following statement shows the progress of manufactories, inclusive of those connected with milk products, the value of production, and the amount paid in wages during the period 1901 to 1920:—

Year.	Value of—					Salaries and Wages paid, exclusive of Drawings of Working Proprietors.	Balance (Output, less Materials and Wages).
	Materials Used.	Fuel Consumed, including Motive-power Rented.	Goods Manufactured, or Work Done.	Production, being Value added to Raw Materials.	Production per Em- ployee.		
	£	£	£	£	£	£	£
1901	15,140,896	496,715	25,648,471	10,010,860	151·2	4,952,000	5,058,860
1906	22,102,685	609,998	34,796,169	12,033,486	155·3	5,591,888	6,491,593
1911	33,670,951	1,242,613	54,316,011	19,432,447	178·9	10,047,662	9,384,785
1912	37,122,441	1,360,141	61,163,328	22,680,746	196·5	11,592,052	11,088,694
1913	40,537,476	1,371,425	65,672,495	23,763,594	197·5	12,683,384	11,080,210
1914-15	42,559,370	1,364,186	68,253,332	24,329,776	209·0	12,667,721	11,662,055
1915-16	44,227,079	1,528,220	70,983,864	25,234,565	216·6	13,413,845	11,820,720
1916-17	57,044,667	1,766,664	85,944,320	27,132,989	229·7	14,381,309	12,751,680
1917-18	64,618,261	2,060,076	96,178,191	29,499,854	244·2	14,701,255	14,798,599
1918-19	69,737,452	2,298,041	104,803,018	32,767,525	256·2	16,957,919	15,809,606
1919-20	81,188,497	2,710,666	123,213,480	39,314,317	272·2	21,681,196	17,633,121

The value of the output has grown from £25,648,000 in 1901 to £123,213,480 in 1920, and the value of production from £10,011,000 to £39,314,000.

The following table shows the proportion per cent. which the cost of wages, materials, and fuel bore to the total output of manufactories and works in each year:—

Year.	Wages.	Materials.	Fuel.	Balance for Profit and Overhead Charges.	Total.
1901	19·3	59·0	2·0	19·7	100
1906	16·1	64·0	1·8	18·1	100
1911	18·6	61·9	2·3	17·2	100
1912	18·9	60·7	2·2	18·2	100
1913	19·3	61·7	2·1	16·9	100
1914-15	18·6	62·3	2·0	17·1	100
1915-16	18·9	62·3	2·2	16·6	100
1916-17	16·7	66·4	2·0	14·9	100
1917-18	15·2	67·0	2·1	15·7	100
1918-19	16·2	66·5	2·2	15·1	100
1919-20	17·6	65·5	2·2	14·7	100

In the period covered by the table, materials and fuel have constituted a steadily-increasing proportion of the total value of the finished product in practically every class of industry, although in 1919-20 they represented 1 per cent. less and wages 1·4 per cent. more of the total value than in 1918-19.

The cost of the materials treated per employee has risen from £349 in 1913 to £584, but this is indicative of an increase in prices rather than in quantities. In many industries the material used in 1919-20 cost twice as much as in 1913, but the quantities used were certainly not twice as large, in fact the supply of many articles was limited.

There has been a progressive increase in the cost of materials per employee since 1911; up to 1915-16 it was fairly regular, but in the next year there was a steep rise from £396 to £503; in 1919-20 the value was £584.

The average value of output per employee exhibits on the whole the same features as the cost of materials used, namely, a fairly consistent increase up to 1915-16, when it was £613·2 per employee, with a sudden rise to £733·3 per employee in 1916-17. There were more moderate increases in the next three years, and the value in 1919-20 was £904·2 per employee.

The value of production per employee, that is, the value added to raw materials by the process of manufacture, shows almost similar increases. There was a fairly consistent increase throughout the last ten-year period; the values per employee in various years were—1909, £160·4; in 1913, £197·5; in 1916-17, £229·7; and in 1919-20, £271·8.

The ratio of the total amount of wages to the value added to raw materials varied during the last ten years from 50·9 per cent. in 1910 to 53·3 per cent. in 1913, and in 1919-20 it represented 55·1 per cent.

The ratio of the annual expenditure in wages and salaries to the value of production, that is, the value added to raw material, varies considerably in different industries, as will be seen in the following table, which shows the proportion per cent. of the amount annually expended in this connection during 1913 and the five years 1915-20:—

Class of Industry.	1913.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Treating Raw Material, etc. ...	48·2	42·2	37·6	30·2	37·1	31·4
Oils, Fats, etc. ...	24·7	31·5	32·8	22·7	27·3	29·9
Processes in Stone, Clay, Glass, etc. ...	57·0	56·8	58·7	62·4	60·7	58·6
Working in Wood ...	68·8	71·8	65·5	62·4	68·7	64·2
Metal Works, Machinery, etc. ...	57·9	57·0	56·7	51·4	57·1	78·3
Connected with Food, Drink, etc. ...	36·2	37·2	39·2	36·9	38·6	35·7
Clothing, Textile Fabrics, etc. ...	65·5	60·8	61·0	62·1	59·3	58·6
Books, Paper, Printing, etc. ...	61·6	61·9	61·2	56·6	59·6	37·2
Musical Instruments, etc. ...	56·8	65·3	64·5	60·4	60·8	61·7
Arms and Explosives ...	*61·8	*88·3	*22·4	*39·5	*38·3	*47·2
Vehicles and Fittings, Saddlery, etc. ...	64·5	67·2	70·4	68·6	70·0	67·1
Ship and Boat-building, etc. ...	82·7	88·2	96·7	90·8	90·7	91·2
Furniture, Bedding, and Upholstery ...	69·3	70·9	71·7	68·9	69·8	69·4
Drugs, Chemicals, and By-products ...	28·7	30·7	30·0	25·4	25·5	31·2
Surgical and other Scientific Instruments	59·1	58·0	55·2	46·5	50·7	64·8
Jewellery, Time-pieces, and Plated-ware	65·6	65·2	69·8	72·4	70·4	66·2
Heat, Light, and Power ...	26·4	28·4	28·8	29·5	27·6	33·6
Leatherware, N. E. I. ...	55·3	53·7	53·8	53·7	53·3	59·3
Minor Wares, N. E. I. ...	57·8	60·5	64·8	65·5	58·5	60·3
Total* ...	53·3	52·8	52·8	48·8	51·6	55·1

* Excluding Commonwealth Small Arms Factory.

EMPLOYMENT.

The relative importance of the different classes of manufacturing industries, based on their capacity to employ human labour, is shown in the following comparative statement of average number of persons engaged:—

Class of Industry.	Persons engaged, including Working Proprietors.				
	1901.	1911.	1913.	1918-19.	1919-20.
Treating Raw Material, etc.: Pastoral Products	2,981	3,890	3,992	4,145	4,474
Oils and Fats: Animal, Vegetable, etc. ...	698	889	923	1,385	1,744
Processes in Stone, Clay, Glass, etc. ...	3,102	5,695	6,563	6,531	8,142
Working in Wood	5,108	8,181	9,293	8,374	9,205
Metal Works, Machinery, etc. ...	13,831	22,862	27,619	28,129	32,057
Connected with Food, Drink, etc. ...	11,372	14,050	15,197	17,955	19,282
Clothing, Textile Fabrics, etc....	14,497	26,504	26,565	26,266	29,429
Books, Paper, Printing, etc. ...	5,573	9,134	10,009	9,812	10,647
Musical Instruments, etc. ...	226	387	406	445	596
Arms and Explosives	11	33	379	1,119	819
Vehicles and Fittings, Saddlery, etc....	2,541	4,416	4,550	4,697	5,150
Ship and Boat Building, etc. ...	1,541	2,429	3,358	5,097	6,908
Furniture, Bedding, and Upholstery ...	2,140	3,534	4,035	3,844	4,364
Drugs, Chemicals, and By-products ...	450	1,460	1,365	2,274	2,620
Surgical and other Scientific Instruments ...	69	96	97	186	199
Jewellery, Timepieces, and Plated-ware ...	165	753	816	767	896
Heat, Light, and Power	1,417	2,795	3,577	4,032	4,758
Leatherware, N.E.I.	117	461	525	855	1,031
Minor Wares, N.E.I.	391	1,055	1,131	1,678	2,133
Total	66,230	108,624	120,400	127,591	144,464

During the quinquennial period, 1901-6, the increase in the number of persons engaged in manufacturing industries was 11,592; during the next quinquennial period, 1906-11, it amounted to 30,802; but during the period 1911-16 it was only 7,777. Owing to the withdrawal of a number of male workers capable of bearing arms, there was a decline of 3,789 persons during the two years 1913-15, and during 1915-16 a further decline of 210 persons; but in each succeeding year the number increased, and in 1919-20 there were 16,863 more persons employed than in 1918-19. In quinquennial periods the aggregate figures for all classes give the following increases; for purposes of comparison the increase in the general population during the same periods is given also:—

Period.	Increase in Employees.	Increase in Population.
1901-06 (5 years)	17·5 per cent.	8·9 per cent.
1906-11 (5 years)	39·6 „	13·4 „
1911-16 (4½ years)... ..	7·1 „	9·8 „
1916-20 (4 years)	24·1 „	8·7 „

Over the whole period the number of employees in manufacturing industries increased by 118·1 per cent., as compared with 47·2 per cent. among the general population, the corresponding annual rates of increase being 4·3 and 2·1 per cent. respectively.

The following table shows the average number of persons engaged in manufacturing industries in the Metropolitan area and in the remainder of the State since 1901:—

Year.	Employees (including Working Proprietors).			Year.	Employees (including Working Proprietors).		
	Metropolitan District.	Remainder of State.	Total.		Metropolitan District.	Remainder of State.	Total.
1901	42,415	23,815	66,230	1915-16	85,365	31,036	116,401
1906	52,605	25,217	77,822	1916-17	85,404	32,593	117,997
1911	77,592	31,032	108,624	1917-18	88,019	32,535	120,554
1912	83,352	32,209	115,561	1918-19	92,762	34,829	127,591
1913	86,263	34,137	120,400	1919-20	107,777	36,677	144,454
1914-15	84,971	31,640	116,611				

Under the classification of "Remainder of State" are included such urban centres as Newcastle, Broken Hill, Parramatta, Granville, Lithgow, Goulburn, and Bathurst, yet it is significant that Sydney and the Metropolitan suburbs constituted the chief manufacturing centre of the State, and that whereas the number of employees in the Metropolitan district increased by 65,362, or 154·1 per cent., from 1901 to 1920, the increase in all other parts of the State was only 12,862 persons, or 54 per cent.

The following figures show the increase in the employees of both sexes during the decennium, 1910-20:—

Year.	Metropolitan District.		Remainder of State.	
	Males.	Females.	Males.	Females.
1910	47,955	22,030	27,464	2,297
1919-20	76,005	31,772	33,831	2,846
Increase per cent.	58·5	44·2	23·2	23·9

During 1919-20 the increase in the Metropolitan area amounted to 15,015 persons, of whom 11,480 were males and 3,535 were females; and in the remainder of the State there was an increase of 1,848 persons, of whom 1,472 were males and 376 were females. Hence the actual increase of workers on the figures of the preceding year was 16,863 for the whole of the State.

CHILD LABOUR.

The law regulating primary education prescribes that children must attend school until the completion of their fourteenth year, exception being made only in case of those who, prior to reaching that age, have obtained exemption certificates. The Shops and Factories Act of 1896 prohibited the employment of children under the age of 14 in any factory, unless by special permission of the Minister for Labour and Industry; but such

special permission may not be given to a child under the age of 13 years. Since the 30th December, 1909, permission has not been granted, except under extreme circumstances, to any girl under the age of 14 years.

Of 7,588 juveniles engaged in manufacturing, 6,367 were employed in factories within the Metropolitan area. Reviewing the statistics of juveniles since 1896, it is noticeable that in the past boys formed consistently a larger body than girls, but the numbers now agree very closely. About 92 per cent. of the girls employed were working in Sydney and suburbs, but one-fourth of the boys were employed in establishments located outside the Metropolitan area.

Certificates of Physical Fitness.

The employment in a factory of juveniles under the age of 16 years is conditional upon a medical certificate as to physical fitness being secured by the factory occupier under the Factories and Shops Acts.

During the year 1920 certificates were issued to 7,129 juveniles as follows:—Metropolitan District, 3,060 boys and 3,177 girls; Newcastle, 376 boys and 300 girls; Broken Hill, 6 boys; and in the rest of the State 158 boys and 52 girls. The number of certificates issued yearly is increasing.

Special Permits to Work.

Special permits to work in a factory were issued during 1920 to 180 children between the ages of 13 and 14 years in the following districts:—Metropolitan, 132 boys and 36 girls; Newcastle, 10 boys and 2 girls; and the number of certificates issued in 1920 is the highest since 1909, with the exception of 1919, when 237 special permits were issued.

SEX AND AGE DISTRIBUTION.

The following table shows the sex and age distribution of the persons engaged in manufactories from 1907, the first year for which statistics respecting child employment are available, to 1920:—

Year.	Persons Employed in Manufactories, including Working Proprietors.								
	Adults.			Children under 16 years of age.			Adults and Children.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1907	63,547	18,634	92,181	2,406	1,880	4,286	65,953	20,514	86,467
1911	79,609	24,274	103,883	2,474	2,267	4,741	82,083	26,541	108,624
1912	85,953	25,290	111,243	2,225	2,093	4,318	88,178	27,383	115,561
1913	90,651	25,278	115,929	2,385	2,086	4,471	93,036	27,364	120,400
1914-15	87,972	23,876	111,848	2,437	2,326	4,763	90,409	26,202	116,611
1915-16	85,146	26,072	111,218	2,578	2,605	5,183	87,724	28,677	116,401
1916-17	86,306	26,638	112,944	2,604	2,449	5,053	88,910	29,087	117,997
1917-18	87,441	27,938	115,379	2,584	2,591	5,175	90,025	30,529	120,554
1918-19	94,298	28,146	122,444	2,586	2,561	5,147	96,884	30,707	127,591
1919-20	106,012	30,854	136,866	3,824	3,764	7,588	109,886	34,618	144,454

It was shown on page 342 that during the year 1919-20 there had been an increase in the number of persons engaged in the manufacturing industries of the State amounting to 16,863, of which total 12,952 were males and 3,911 were females. There was a total increase of adult workers amounting to 14,422, of which number 11,714 were males and 2,708 were females; and there was an increase of 2,441 in the number of children under 16 years of age, 1,238 being boys and 1,203 girls.

The following statement shows the proportion of adults and children of each sex per 1,000 persons employed at intervals since 1907:—

	1907.	1911.	1913.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Adults—								
Males ...	735	733	753	732	731	725	739	734
Females ...	215	223	210	224	226	232	221	214
Total ...	950	956	963	956	957	957	960	948
Children under 16 years—								
Males ...	28	23	20	22	22	21	20	26
Females...	22	21	17	22	21	22	20	26
Total ...	50	44	37	44	43	43	40	52
Grand Total	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

The number of boys under 16 is about 4 per 100 male adults. The ratio varied very little from 1916 to 1919, but in 1920 increased considerably, and is now higher than it was in 1907. The ratio is highest in biscuit factories, where there are usually more than 20 boys to 100 men employed, and in the leather trades, where it is about 1 boy to 8 men.

The number of boys employed in various industries since 1907, and the ratio per 100 male adults in the same industries are shown below:—

Industry.	Boys under 16 employed.					Number of Boys employed per 100 male adults.				
	1907.	1911.	1916-17.	1918-19.	1919-20.	1907.	1911.	1916-17.	1918-19.	1919-20.
Food, &c.—										
Condiments, Coffee, and Spices ...	17	28	37	34	60	8	13	11	7	10
Biscuits, &c. ...	123	178	157	154	213	27	37	26	22	21
Confectionery ...	50	42	43	68	74	7	6	5	6	5
Tobacco, Cigars, &c. ...	10	61	82	75	57	2	10	10	10	6
Clothing, &c.—										
Clothing (Slop) ...	54	52	33	27	49	6	5	4	4	7
Clothing (Tailoring) ...	61	47	47	41	75	3	2	3	2	4
Boots and Shoes ...	242	126	158	158	178	8	5	6	6	5
Woollen and Tweed Mills	6	18	35	49	86	3	5	8	3	12
Hats and Caps ...	20	28	32	18	66	6	5	7	3	10
Bricks and Tiles ...	30	52	52	83	127	2	2	2	3	3
Boxes and Cases ...	10	22	41	47	68	3	3	5	6	8
Engineering ...	92	121	153	112	201	2	2	2	2	2
Ironworks and Foundries ...	59	84	56	86	101	3	4	2	2	2
Tinsmithing ...	59	44	59	49	96	10	6	8	6	10
Coach and Waggon Building ...	74	73	61	54	112	4	3	3	3	5
Arms, Explosives, &c. ...	...	...	54	73	42	...	...	4	7	5
Electric Apparatus ...	6	6	11	51	71	4	2	2	8	6
Leather and Belting, Portmanteaux, Bags, &c. ...	20	41	32	53	82	9	12	8	11	12
Furniture, Cabinetmaking, and Billiard Tables ...	53	51	68	52	113	3	2	3	2	4
Printing and Binding ...	354	330	339	262	443	7	6	6	5	7
Paper-making, Paper Boxes, Bags, &c. ...	56	37	50	58	68	14	8	9	8	8
Cycles and Motors ...	26	27	46	44	90	7	4	3	3	5
Other Industries ...	984	1,006	955	938	1,352	2	2	2	2	2
Total ...	2,406	2,474	2,604	2,586	3,824	4	3	3	3	3

Similar details relating to the employment of girls under 16 are given below. As with boys the ratio of girls to women is highest in biscuit factories and in leatherware factories, where 17 girls were employed in 1919-20 to 100 adult females, and in hat and cap factories, where the ratio is about 15 girls to 100 adults:—

Industry.	Girls under 16 employed.					Number of Girls employed per 100 female adults.				
	1907.	1911.	1916-17.	1918-19.	1919-20.	1907.	1911.	1916-17.	1918-19.	1919-20.
Food, &c.—										
Biscuits	107	110	91	136	155	25	18	13	18	17
Confectionery	36	67	79	182	165	8	16	12	18	11
Condiments, Coffee, and Spices	6	28	37	49	76	4	13	9	8	10
Tobacco, Cigarettes, &c. ...	40	71	93	93	114	9	10	10	9	8
Clothing, &c.—										
Dressmaking and Millinery ...	422	463	490	437	654	11	10	9	9	12
Hats and Caps	92	98	75	68	134	14	11	9	9	15
Shirts, Ties, and Scarfs ...	138	156	147	183	315	11	10	9	13	16
Clothing (Slop)	327	501	280	272	358	9	10	7	7	9
Clothing (Tailoring)	104	103	166	178	349	5	4	6	6	9
Woollen and Tweed Mills ...	20	50	69	71	79	10	10	13	12	11
Hosiery and Knitted Goods ...	...	...	38	56	126	...	...	8	10	14
Underclothing and White Work... ..	*	*	*	*	105	*	*	*	*	12
Boots and Shoes	250	172	235	205	190	18	12	16	13	10
Chemicals, Drugs, and Medicine	19	33	43	76	86	10	10	10	12	11
Printing and Binding	94	154	208	146	273	10	11	13	9	14
Paper-making, Paper-boxes, Bags, etc.	85	117	110	127	158	15	18	17	15	14
Leatherware (N.E.I.)	1	11	15	32	66	3	15	8	11	17
Other Industries... ..	139	133	273	250	361	6	4	6	5	6
Total	1,880	2,267	2,449	2,561	3,764	10	9	9	9	11

* Not available.

The tendency of the factory system is for the employment of women and children to increase, and legislation has been introduced to resist this tendency within limits considered conducive to the total good of the community.

The following table shows, at intervals since 1911, the industries in which women and girls have been employed in greatest numbers, and the ratio to every hundred males employed in the same industries:—

Industry.	Average Number of Women and Girls employed.					Number of Women and Girls per 100 Males employed.				
	1911.	1913.	1917-18.	1918-19.	1919-20.	1911.	1913.	1917-18.	1918-19.	1919-20.
Food, &c.—										
Aerated Waters ...	152	139	118	107	117	11	10	13	12	12
Biscuits ...	705	846	832	910	900	108	113	101	108	90
Condiments, Coffee, and Spices ...	216	237	454	469	736	102	101	135	115	123
Confectionery ...	483	489	904	1,171	1,496	64	52	86	97	107
Cornflour, Oatmeal	199	256	174	165	145	73	89	65	62	61
Jam and Fruit-canning ...	449	396	448	491	779	114	105	87	92	125
Meat-preserving ...	121	157	251	228	183	13	15	24	18	20
Pickles, Sauces, and Vinegar ...	174	184	242	201	265	125	102	140	122	139
Tobacco ...	755	805	1,155	1,125	1,365	112	116	132	133	132
Clothing, &c.—										
Dressmaking and Millinery ...	5,053	4,814	5,937	5,333	5,392	5,677	4,150	3,227	2,930	3,328
Hats and Caps ...	1,029	975	976	851	909	192	171	192	160	143
Waterproofs and Oilskins ...	98	77	180	195	131	377	233	346	336	305
Shirts, Ties, and Scarfs ...	1,655	1,950	1,676	1,638	1,933	1,191	1,089	1,088	1,092	1,137
Slop Clothing ...	5,503	4,910	3,929	3,919	3,939	528	541	499	542	529
Tailoring ...	3,004	3,424	3,103	3,078	3,522	136	147	185	178	197
Furriers ...	24	38	62	78	136	100	135	210	116	166
Woollen and Tweed Mills ...	389	416	572	658	728	111	116	121	111	99
Hosiery and Knitted Goods ...	180	320	540	612	905	529	533	545	382	503
Dyeworks and Cleaning... Tents and Tar-paulins ...	32	33	87	110	147	89	71	100	100	89
Boots and Shoes ...	241	268	306	364	330	178	203	208	235	230
Chemicals, Drugs, and Medicines ...	1,593	1,559	1,789	1,845	1,928	57	58	66	66	60
Bedding, Flock, and Upholstery	105	130	147	154	156	26	26	28	276	36
Brooms and Brush-ware ...	15	24	51	44	46	7	10	20	18	17
Furnishing, Drapery, etc. ...	166	227	275	219	277	231	311	377	300	304
Inks, Polishes, etc. ...	...	108	159	166	174	...	65	62	81	80
Leatherware ...	74	110	259	298	379	19	26	56	58	58
Manufacturing Jewellery ...	70	74	95	84	98	14	13	20	16	17
Paper, Paper Bags, and Boxes ...	754	778	924	969	1,128	157	154	142	127	131
Printing and Book-binding ...	1,539	1,821	1,819	1,831	1,977	26	27	31	31	31
Rubber Goods ...	62	80	219	288	353	29	37	51	59	55
Soap and Candles ...	169	190	279	291	335	34	36	41	52	49
Tinsmithing ...	38	49	253	209	190	5	6	32	25	20
Other Industries ...	1,129	1,151	1,730	1,890	2,772	2	2	3	8	3
Total ...	26,541	27,364	30,529	30,707	34,618	32	29	34	31	31

OCCUPATIONAL STATUS.

Of all the persons engaged in manufacturing industries during the year 1919-20, approximately 85 per cent. were actually employed in the different processes of manufacture, or in the sorting and packing of finished articles.

The following statement shows the occupational status of the persons engaged in each class of industry in 1919-20:—

Class of Industry.	Working Proprietors, Managers, and Overseers.	Clerks, etc.	Engine-drivers, etc.	Workers in Factory, Mill, etc.	Carters, and others.	Persons regularly employed at their own homes.	Total.
Treating Raw Material, &c. ...	385	136	185	3,614	145	9	4,474
Oils, Fats, &c. ...	76	155	33	1,455	21	4	1,744
Processes in Stone, Clay, Glass, &c. ...	467	272	235	6,956	212	...	8,142
Working in Wood ...	1,049	519	436	6,808	393	...	9,205
Metal Works, Machinery, &c. ...	1,548	1,116	522	28,668	203	...	32,057
Connected with Food, Drink, &c. ...	1,181	1,297	848	15,465	488	3	19,282
Clothing, Textile Fabrics, &c. ...	1,703	586	48	26,287	118	687	29,429
Books, Paper, Printing, &c. ...	862	871	31	8,723	147	13	10,647
Musical Instruments, &c. ...	28	42	1	522	1	2	596
Arms and Explosives ...	19	43	5	741	11	...	819
Vehicles and Fittings, Saddlery, &c. ...	662	304	19	4,113	48	4	5,150
Ship and Boat-building, &c. ...	112	185	63	6,531	17	...	6,908
Furniture, Bedding, and Upholstery ...	408	97	15	3,813	28	3	4,364
Drugs, Chemicals, and By-products ...	185	238	29	2,121	47	...	2,620
Surgical and other Scientific Instruments. ...	24	17	...	152	5	1	199
Jewellery, Timepieces, and Plated-ware. ...	82	67	...	726	17	4	896
Heat, Light, and Power ...	359	258	581	3,507	53	...	4,758
Leatherware, N.E.I. ...	61	58	...	906	6	...	1,031
Minor Wares, N.E.I. ...	161	58	7	1,889	15	3	2,133
Total ...	9,372	6,319	3,058	122,997	1,975	733	144,454
Males ...	8,694	4,234	3,058	91,796	1,961	93	109,836
Females ...	678	2,085	...	31,201	14	640	34,618

The status of workers employed varied greatly in the nineteen standard classes of manufacturing industry. The proportion per cent. of working proprietors, managers, and overseers, was 6.5 for all classes, but fell to 2.3 in arms and explosives, and rose to 12.9 in vehicles, fittings, saddlery, and harness.

The workers actually employed in mill, workshop, and factory, represented about 85 per cent. of the total number engaged, and nearly 75 per cent. were males.

Only 4.4 per cent. of the employees were clerical workers, and of these nearly one-half were females. Workers employed in their own homes represented only 0.4 per cent., and they were almost entirely women engaged by clothing factories.

BOUNTIES ON MANUFACTURED PRODUCTS.

In order to develop the manufactures, products, industries, and commerce of the Australian Commonwealth, and generally to promote its manufacturing interests, the Federal Government inaugurated a scheme of bounty endowment, the necessary powers being conferred by section 51 (iii) of the Constitution Act, under the provisions of which such payments could be made uniformly throughout the States of the Federation. Though these bounties were payable only on articles manufactured in Australia from Australian products, an exception was made in the case of wire-netting, if woven from wire manufactured in the United Kingdom.

The enactments in this connection include the Sugar Bounty Acts, 1903-13; the Bounties Act, 1907-12; the Manufactures Encouragement Act, 1908-14; the Iron Bounty Acts, 1914-15; the Iron and Steel Bounty Act, 1918; the Shale Oils Bounties Act, 1910; the Shale Oil Bounty Act, 1917; and the Wood Pulp and Rock Phosphate Bounties Acts, 1912-17. The periods for the payment of these bounties have expired, except with relation to rock phosphate, shale oil, iron, and steel.

The Wood Pulp and Rock Phosphate Bounties Acts, 1912-17, conferred for ten years, from the 1st January, 1913, a bounty of 10 per cent. on the market value of rock phosphates manufactured into marketable phosphatic manure. On shale oil, the bounty is payable for a period of four years from 1st September, 1917, at the following rate per gallon:—Up to 3½ million gallons, 2½d.; 3½ to 5 million gallons, 2d.; 5 to 8 million gallons, 1½d.; each additional gallon, 1½d.

The bounty on iron and steel, up to a total amount of £200,000, is payable for a period of five years after 1st October, 1918, when the freight from the United Kingdom to Australia is £2 10s. per ton or under; the rate of bounty on black steel sheets is £1 10s. per ton; and on galvanised sheets, £2 per ton, including the bounty (if any) paid on the black steel sheets from which the galvanised sheets are made. When the freight exceeds £2 10s. per ton, the rates of bounty are decreased accordingly.

In 1918-19 and 1919-20 bounties amounting to £26,407 and £16,292 respectively were paid on shale oil produced in New South Wales.

INDIVIDUAL INDUSTRIES.

The information already given in this section relates only to the manufacturing industry as a whole or to groups of industries, and although it serves to show the general development of the industry, it does not furnish particulars relating to individual industries. It is desirable that detailed information should be available for all the important industries, but the output of many of them, *e.g.*, engineering works, is not readily classifiable, and as the output is perhaps the most interesting item, it has been deemed advisable in the following pages to confine the remarks to industries whose importance merits special mention, and whose output may be shown in detail with regard to both quantity and value.

TANNERIES.

Although skins and hides are still exported in large quantities, the tanning industry is steadily extending its operations; two-thirds of the leather produced is sole leather, but the production of the finer sorts is receiving more attention.

Two-thirds of the number of tanneries in operation in the State are situated within the boundaries of the Metropolitan area.

The following table gives particulars of the industry for the year 1901 and at intervals thereafter:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	108	76	72	74	77
Number of Employees ...	1,059	1,039	942	1,159	1,351
Average Horse-power used ...	711	1,044	1,269	1,812	2,389
Value of Land and Buildings † £	115,752	105,990	124,413	176,188	214,335
Value of Plant and Machinery £	47,274	82,241	89,010	117,731	140,468
Total Amount of Wages paid £	80,757	104,695	102,116	189,346	256,033
Value of Fuel ...	£ 4,893	7,160	6,469	14,454	17,601
Value of Materials used ...	£ 578,164	786,817	865,021	1,710,212	2,907,835
Value of Output ...	£ 735,231	982,023	1,060,049	2,149,198	3,548,164
Value of Production ...	£ 152,174	188,046	188,559	424,532	622,723
Materials Treated—					
Hides—					
Calf and Yearling ...	No. *	214,681	130,445	154,951	102,630
Other ...	No. *	317,025	323,297	454,593	647,236
Hide-pieces ...	cwt. *	2,537	4,050	5,600	4,200
Sheep Pelts ...	No. *	4,642,865	3,693,515	2,922,510	5,213,242
Other Skins ...	No. *	125,576	148,121	384,127	560,304
Bark ...	tons *	11,706	9,633	11,600	13,301
Articles Produced—					
Leather ...	lb. *	13,945,005	12,724,000	18,093,302	19,582,910
Basils ...	lb. *	4,324,139	3,821,434	3,570,825	3,619,644
Pelts, pickled ...	No. *	357,833	255,938	298,858	1,365,450
Other Skins, selling value	£ *	17,151	33,075	147,505	377,061
Fleshings ...	cwt. *	*	*	41,756	31,363

* Not available.

† Includes rented premises.

WOOL-SCOURING AND FELLMONGERING.

The wool-scouring and fellmongering industry has made rapid progress during recent years, but it is probable that much greater development will take place in the near future, particularly in wool-scouring. As will be seen from the following table, the quantity of wool treated is now approximately twice as large as in 1913:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	73	59	62	50	48
Number of Employees ...	1,459	1,603	1,553	1,786	1,775
Average Horse-power used ...	997	2,009	2,436	3,540	3,608
Value of Land and Buildings † £	125,836	169,418	156,277	198,650	246,327
Value of Plant and Machinery £	66,391	160,200	183,388	294,628	346,559
Total amount of Wages paid £	77,429	126,215	147,268	279,851	347,408
Value of Fuel... ..	£ 9,059	16,277	19,079	41,537	44,070
Value of Materials used ...	£ 25,244	2,151,713	2,496,029	5,060,216	5,541,302
Value of Output ...	£ 150,614	2,393,883	2,808,198	5,926,764	6,880,469
Value of Production ...	£ 116,311	225,893	293,090	825,011	1,295,096
Materials Treated—					
Greasy Wool ...	lb. *	34,023,054	31,241,578	63,108,238	50,686,825
Scoured Wool ...	lb. *	*	*	4,004,708	5,214,750
Skins... ..	No. *	5,180,335	4,930,409	4,022,464	6,684,037
Articles Produced—					
Scoured Wool ...	lb. *	33,283,378	31,677,853	42,964,824	42,941,898
Wool-tops and Noils ...	lb. *	*	*	3,783,039	5,119,905
Pelts... ..	No. *	4,655,524	4,297,680	3,276,656	4,445,608

* Not available.

† Includes rented premises.

SOAP AND CANDLE FACTORIES.

Of the industries in which oils and fats are treated, soap and candle making is by far the most important. The following table exhibits the chief particulars of the industry since 1901:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	44	37	31	26	25
Number of Employees ...	533	658	725	849	1,017
Average Horse-power used ...	503	785	764	820	890
Value of Land and Buildings† £	84,923	165,218	170,800	215,290	223,120
Value of Plant and Machinery £	89,147	150,453	170,995	260,947	253,870
Total amount of Wages paid £	37,681	49,555	59,117	102,945	131,383
Value of Fuel ... £	5,932	12,205	11,081	29,100	37,188
Value of Materials used ... £	208,676	359,096	406,113	837,240	1,076,868
Value of Output ... £	322,036	597,544	610,175	1,139,417	1,476,959
Value of Production ... £	107,428	226,243	192,981	273,077	362,903
Materials Treated—					
Tallow cwt.	*	117,428	143,593	166,801	147,490
Alkali lb.	*	6,370,007	6,623,006	4,632,648	5,528,630
Wax lb.	*	£	£	2,328,642	3,888,238
Resin cwt.	*	180,697	203,957	28,140	28,258
Copra Oil cwt.	*			37,149	21,705
Sand cwt.	*			20,230	18,736
Articles Produced—					
Soap cwt.	233,600	277,449	278,899	312,020	348,093
Soap Extract, Powders, &c. lb.	*	965,807	1,873,403	3,735,378	4,376,710
Candles (including wax) lb.	3,895,468	5,388,848	5,563,404	4,070,811	4,942,142
Glycerine lb.	631,680	*	*	1,715,244	2,110,891
Soda Crystals £	*	14,014	19,153	1,401	6,686
Oilene £	*	*	*	33,246	36,941
Stearine £	*	*	*	62,050	25,880

*Not available.

† Includes rented premises.

It should be noted that the alkali used and the soda crystals produced in factories other than those making soap and candles are included in the figures shown above for the years 1911 and 1913.

BRICKWORKS.

Brickworks employ approximately equal numbers of persons in the Metropolitan district and in the remainder of the State, but the output of the Metropolitan kilns is much greater and more varied. The following figures present detailed information concerning the industry in 1901 and later years:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	182	225	217	165	161
Number of Employees ...	1,823	3,017	3,665	2,875	3,774
Average Horse-power used ...	1,228	4,805	7,677	7,259	8,532
Value of Land & Buildings† £	200,170	391,875	49,350	656,735	728,255
Value of Plant & Mach'y £	108,589	449,100	666,470	735,861	972,288
Total Amount Wages paid £	149,342	322,781	428,106	410,965	633,670
Value of Fuel ... £	46,355	101,267	125,342	135,994	208,281
Value of Materials used ... £	32,199	70,881	83,653	101,376	134,219
Value of Output ... £	364,251	726,620	872,322	891,815	1,368,726
Value of Production... £	285,697	534,472	663,327	654,445	1,026,226
Articles Produced—					
Bricks No.	157,999,000	327,864,000	389,435,000	257,177,682	339,579,089
Tiles £	*	24,857	27,422	153,793	252,342
Pipes £	*	52,241	67,593	3,966	5,916
Pottery £	*	51,763	48,407	680	...
Hollow Building Blocks £	*	3,864	3,940	1,350	891
Fire Bricks, &c. ... £	*	*	*	52,888	71,837

* Not available.

† Includes rented premises.

Owing to the partial suspension of building operations during the war years there was a much smaller demand for bricks; but with the resumption of building operations the output improved considerably during 1919 and 1920. A number of establishments, chiefly in the Metropolitan district, also make tiles, pottery, &c., and the manufacture of roofing tiles has developed to such an extent that about 80 per cent. of the tiles now used in the State are of local production.

State Brickworks, Homebush.

In the latter part of 1911 the Government established State Brickworks at Homebush, near Sydney, where a considerable area of suitable clay had been found.

The business results of the past and previous years are regarded as highly satisfactory, the undertaking having been enabled to repay £20,000 on account of capital expended, and to set apart £20,000 for purposes of renewals, replacements, and new works. Besides supplying the requirements of the different Government Departments at a much reduced cost, the State Brickworks sell bricks to the public at prices greatly below those ruling outside. The sale prices given were for bricks loaded into trucks, and at the yard, Homebush Bay.

The following table gives particulars of the State Brickworks at Homebush Bay since 1915:—

Particulars.	1915.	1916.	1917.	1918.	1919.	1920.
Number of Bricks manufactured	32,331,801	38,137,384	20,720,250	28,936,715	35,439,684	37,367,209
Used for Public Works	27,999,787	35,287,615	22,255,045	13,912,968	20,896,882	17,722,953
Sold to Private Purchasers ..	3,616,009	2,828,262	6,127,621	15,879,945	14,863,730	19,492,205
Stocks at 30th June	321,317	282,521	1,472,876	588,397	257,067	373,278
Balance used at Works	719,005	60,303	146,638	23,281	10,402	35,840
Cost of Manufacture per 1,000	£ 1 5 7	1 5 4	1 12 1	1 14 5	1 14 9	2 0 0
Sale price per 1,000	£ 1 15 0	..	..	..	..	..
Seconds	£ ..	1 10 0	1 15 0	1 15 0	1 18 6	2 7 6
Commons	£ ..	1 15 0	1 17 6	1 17 6	2 1 0	2 10 0
Face	£ ..	3 0 0	3 5 0	3 5 0	3 10 0	4 3 0

SAWMILLS.

Sawmilling is an important industry both in the Metropolitan and country districts.

Sawmills are classified as Metropolitan, country town, and forest. To the first category belong only about one-twelfth of the total number, to the second about three-eighths; and to the last somewhat more than a half, of which the great majority are in the country division. Besides general sawmilling, some mills undertake moulding, planing, and the cutting of wood-paving blocks. In the more important centres sawmills are associated with yards dealing with imported timbers and joinery.

Details concerning the sawmilling industry at intervals since 1901 are as follow:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	345	452	477	427	477
Number of Employees ...	4,088	5,205	5,788	4,892	5,660
Average Horse-power used...	5,189	10,280	12,521	12,155	13,226
Value of Land and Buildings* ...	£ 317,193	465,548	553,102	575,107	633,667
Value of Plant and Machinery ...	£ 273,883	526,909	619,264	709,787	828,449
Total Amount of Wages Paid ...	£ 304,826	456,520	589,736	586,106	723,707
Value of Fuel ..	£ 17,601	6,503	9,230	16,212	23,712
Value of Materials used	£ 824,065	1,309,549	1,668,221	1,914,019	2,353,240
Value of Output ...	£ 1,336,153	2,057,807	2,517,103	2,867,775	3,554,794
Value of Production.	£ 494,487	741,755	839,652	937,544	1,177,842
Materials Treated—					
Logs—					
,, Hardwood sup. ft. }	213,228,000	147,706,000	185,441,000	147,185,800	172,789,300
,, Softwood ,, }		65,301,000	73,589,000	56,388,000	66,088,800
Articles Produced—					
Sawn Timber—					
Hardwood sup. ft. }	180,028,000	100,079,000	126,369,000	99,787,600	115,565,400
Softwood ,, }		51,392,000	54,335,000	41,896,800	45,061,600

* Includes rented premises.

METAL WORKS, MACHINERY, &C.

The industries included in this class are by far the most important to the industrial workers in the State, although the clothing trade employs a greater number of persons, of which number, however, nearly 73 per cent. are females.

Details of the production of these industries are not available, but in view of their great importance the following particulars relating to their operations in 1919-20 are included:—

Items.	Engineer- ing Works.	Ironworks and Foundries.	Railway and Tramway Workshops.	Smelting.	Other.	Total.
Number of Establishments ..	238	115	34	10	274	671
Number of Employees ..	8,129	6,582	9,008	1,133	7,205	32,057
Average Horse-power used ..	6,533	23,745	6,186	7,150	6,195	54,809
Value of Land and Buildings* ..	£ 1,017,575	854,379	1,111,398	220,577	1,144,709	4,348,638
Value of Plant and Machinery ..	£ 1,249,083	3,148,782	1,148,554	372,851	929,447	6,348,717
Total amount of Wages paid ..	£ 1,397,830	1,328,418	1,858,151	199,374	1,049,208	5,832,981
Value of Fuel ..	£ 62,559	769,655	31,800	47,149	63,777	974,938
Value of Materials used ..	£ 1,471,175	6,951,536	1,248,497	3,275,295	3,385,771	16,332,274
Value of Output ..	£ 3,381,039	9,340,128	3,140,738	3,649,443	5,243,404	24,754,762
Value of Production ..	£ 1,847,305	1,618,949	1,860,441	326,999	1,793,856	7,447,550

* Includes rented premises.

IRON AND STEEL WORKS.

New South Wales is fortunate in having large supplies of iron ore and coal, both of excellent quality.

As early as 1848 an attempt was made to produce pig-iron at Mittagong, where a blast furnace and rolling mills were erected, but the works were closed in 1855.

In 1875 a blast furnace was erected at Lithgow. Three years later it was producing about 100 tons of pig-iron per week from local ores. The production of pig-iron ceased in 1882, but the works continued to re-roll worn rails into smaller sections.

In 1905 contracts were made by the Government with William Sandford & Company for the supply of iron and steel for the use of State undertakings for a period of seven years. A modern blast furnace and steel furnaces were added to the existing plant at Lithgow, and the first cast of pig-iron in the new furnace was made on the 30th April, 1907. The weekly output was from 500 to 700 tons of pig-iron. Subsequently the company disposed of its interests to Messrs. G. and C. Hoskins, with whom the Government made a contract for the supply of iron and steel for a period of nine years, dating from 1st January, 1908. The Lithgow works were immediately reorganised, and by the beginning of 1909 the old rolling-mills had been remodelled, new high-pressure steam pipes installed, and new boilers and heating furnaces added. The ore used in these works is obtained from mines at Tallewang, Coombing Park near Carcoar, Breadalbane, and Cadia.

In June, 1915, the Broken Hill Proprietary, Limited, completed and opened extensive iron and steel works at Newcastle. In these works the blast furnace plant consists of three furnaces, two with a nominal daily capacity of 450 tons and the third with 100 tons capacity, the approximate annual output being about 240,000 tons. The rolling mill plant consists of a 35-inch blooming mill, 28-inch rail and structural mill, also 18-inch, 12-inch, and 8-inch mills for light structural material and merchants' bars. The steel and iron foundry is equipped with an acid open-hearth steel furnace of 25 tons capacity, and castings up to 40 tons in weight have been made. The coke required for the furnaces is produced by the company's own ovens, and the ore used is obtained from their quarries at "Iron Knob," in South Australia.

The following table shows the production of pig-iron in New South Wales in each year from 1907 to 1920:—

Year.	From New South Wales Ores.	From Other Australian Ores.	Total.
	Tons.	Tons.	Tons.
1907	18,631	...	18,631
1908	30,393	...	30,393
1909	26,762	...	26,762
1910	40,487	...	40,487
1911	36,354	...	36,354
1912	32,677	...	32,677
1913	46,563	...	46,563
1914	75,150	...	75,150
1915	76,318	66,662	142,980
1916	52,556	74,035	126,591
1917	45,025	102,394	147,419
1918	68,072	138,873	206,945
1919	80,941	152,754	233,695
1920	94,384	231,416	325,800

The quantity of iron ore used in 1920 for the production of pig-iron was 553,085 tons, of which 159,000 tons were mined in New South Wales.

The particulars relating to the production of steel in 1920 are as follows:—

Steel	..	..	..	..	42,032 tons.
„	Rails	..	..	..	54,170 „
„	Bars and Sections	..	..	..	133,373 „
„	Plates	..	..	..	4,417 ..
„	Billets	..	..	..	34,471 „

Smelting.

Smelting, as a distinct industry, is carried on in several centres in New South Wales, the most important works being at Cockle Creek, Boolaroo, in the Newcastle District, and at Port Kembla in the South Coast. At Cockle Creek portion of the Broken Hill ores are treated; as well as ores from mines in other parts of the State; but a large portion of the ores from the Barrier mines is treated in South Australia.

The smelting and treatment of ores occupied ten plants or establishments, of which four were in the Metropolitan division. Owing to the unsettled industrial conditions at Broken Hill, smelting was not carried on at the various establishments in the district during the year.

The following statement shows the operations of New South Wales smelting companies in connection with both local and imported ores during 1919-20:—

Metal.	Quantities of Metals extracted from Ores, Concentrates &c., the produce of—									
	N.S.W.	Vic-toria.	Queens-land.	South Aus-tralia.	Western Aus-tralia.	Tasma-nia.	N. Ter-ritory.	Papua.	New Zea-land.	
Silver oz.	437,240	4,435	105,614	132	25,903	348,204	15	102	1,554	
Lead tons	2,149	1	78	..	15	1,045	..	..	..
Copper „	1,874	6	10,036	4	168	5,096	..	10	4	
Tin „	1,180	..	462	..	185	..	23	..	..
Iron—Pig „	85,686	..	..	171,139	..	..	..	..	..
Antimony „	5	..	..	..	..	..	..	..	..
Ferro-Manganese „	410	..	..	..	..	..	..	..	..

BUTTER FACTORIES.

Of the many industries engaged in the preparation of articles of food few are more important than butter-making, which gives employment to over 900 persons, and has an annual output valued at £5,361,000. More than 90 per cent. of the butter produced within the State is made in factories.

Details concerning butter factories for the year 1901 and other years, including 1919-20, are as follow:—

Items.	1901.	1911.	1913.	1918-1919.	1919-1920.
Number of Establishments ...	130	150	140	126	120
Number of Employees ...	909	968	898	929	917
Average Horse-power used...	1,765	2,161	2,578	3,104	3,332
Value of Land and Buildings † £.	247,394	186,893	174,114	264,819	254,630
Value of Plant and Machinery £.	172,767	230,485	240,133	350,886	323,055
Total Amount of Wages paid... .. £.	74,176	110,617	123,401	153,633	178,432
Value of Fuel... .. £.	13,924	23,599	24,807	41,985	46,965
Value of Materials used £.	1,260,920	3,205,863	3,035,041	4,373,045	4,669,340
Value of Output £.	1,535,398	3,475,890	3,324,377	4,923,143	5,361,815
Value of Production... .. £.	260,554	246,428	264,529	508,113	645,510
Materials Treated—					
Milk gals.	*	1,019,151	580,749	96,052	9,452
Cream lb.	*	176,402,048	63,262,439	142,581,583	134,460,310
Articles Produced—					
Butter lb.	34,282,214	78,421,512	73,245,383	61,943,210	59,636,489

* Not available.

† Includes rented premises.

In addition to these factories, which are extensively engaged in making butter, there are a number of other factories also engaged in connection with dairy produce.

Particulars relating to all factories dealing with dairy products are given in the following table:—

Year.	Factories.							Estimated Value of Plant and Machinery. £	Machinery in use.						Persons Employed.	
	Butter only.	Cream and Milk.	Cheese only.	Bacon and Hams only.	Butter and Cheese.	Butter and Bacon.	Total.		Engines.				Cheese Presses.	Males.	Females.	
									Number.	Horse-power.	Butter Workers.	Churns.				
1914-15	142	609	66	21	4	1	843	446,507	963	6,947	109	258	704	146	1,949	33
1915-16	151	652	58	19	2	..	882	434,956	1,002	7,041	93	258	730	126	1,909	43
1916-17	128	846	60	21	5	..	1,060	506,968	1,205	7,946	73	238	914	143	2,167	49
1917-18	122	961	59	22	6	..	1,170	568,757	1,353	8,294	57	227	989	131	2,374	59
1918-19	124	927	58	23	8	..	1,140	537,291	1,544	8,309	46	224	1,003	149	2,349	66
1919-20	122	970	52	22	8	..	1,174	570,051	1,361	8,693	45	217	1,027	128	2,436	72

Bacon, hams, butter, and cheese are made largely also on farms; the special chapter in this Year Book dealing with the Dairying Industry should, therefore, be consulted for complete information regarding these branches of agricultural and manufacturing production.

MEAT-PRESERVING AND REFRIGERATING.

There were 9 establishments and 1,109 persons employed in connection with meat-preserving during 1919-20. One establishment in the country division was a rabbit cannery, and 4 meat preserving factories were within the Metropolitan area. The following table shows the number of carcasses

treated in establishments dealing with meat by canning and chilling at intervals since 1901:—

Year.	Meat-preserving Works.				Refrigerating Works.	
	Cattle.	Sheep and Lambs.	Meat and Tongues and Sundries.		Cattle.	Sheep and Lambs.
			Quantity.	Value.		
	No.	No.	lb.	£	No.	No.
1901	16,538	732,094	*	*	18,195	963,614
1906	9,995	274,950	*	*	5,352	1,283,862
1911	61,596	925,475	3,023,931	31,978	10,188	1,469,923
1912	50,941	616,435	2,301,418	37,079	11,552	1,191,711
1913	100,827	374,523	7,305,113	81,807	29,887	2,160,484
1914-15	103,778	415,397	7,356,501	90,293	53,605	2,423,638
1915-16	11,466	76,008	4,993,226	195,464	11,835	762,034
1916-17	25,963	28,474	686,652	20,631	27,977	791,752
1917-18	88,223	399,833	9,295,428	178,895	31,876	337,234
1918-19	41,517	648,435	9,989,757	240,819	32,337	583,695
1919-20	44,828	449,533	9,821,595	191,841	50,218	1,419,569

* Not available.

The total output was valued at £1,317,326, the principal item being tinned meat, 18,769,955 lb., valued at £910,264.

The detailed figures relating to the freezing and chilling of carcase meat at refrigerating works during the year 1919-20 were as follow:—

Live Stock Treated.				Frozen for Export.	Chilled.	Total.
				No.	No.	No.
Bullocks and Cows	...	...	...	39,053	8,316	47,369
Calves	...	...	...	1,771	1,078	2,849
Total	...	...	...	40,824	9,394	50,218
Sheep	...	...	...	1,007,429	43,507	1,050,936
Lambs	...	...	...	365,476	3,157	368,633
Total	...	...	...	1,372,905	46,664	1,419,569
Pigs	...	...	...	1,464	1,698	3,162
Total Carcases	...	...	...	1,415,193	57,756	1,472,949

BISCUIT FACTORIES.

There were in the State 9 establishments engaged in the manufacture of biscuits, 6 of which were within the Metropolitan area. The industry has

made rapid progress, and the value of the annual output now exceeds £1,000,000. Details for 1901 and other years including 1919-20 are given below:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	8	6	7	9	9
Number of Employees ...	845	1,360	1,594	1,749	1,904
Average Horse-power used ...	131	556	1,017	1,274	1,311
Value of Land and Buildings† £	42,253	94,050	111,886	126,174	134,182
Value of Plant and Machinery £	29,066	86,192	107,720	112,342	119,390
Total Amount of Wages paid £	35,165	70,055	88,358	173,563	189,187
Value of Fuel ... £	1,862	7,104	9,731	17,641	21,970
Value of Materials used... £	126,891	332,341	426,135	725,284	817,128
Value of Output ... £	213,645	529,108	665,226	1,071,757	1,246,915
Value of Production ... £	84,892	189,663	229,360	328,832	407,817
Materials Treated—					
Flour... .. tons	*	8,755	10,654	12,654	12,890
Sugar tons	*	*	*	2,968	2,975
Other—Value only ... £	*	*	*	507,253	430,980
Articles Produced—					
Biscuits lb.	*	22,029,000	27,606,000	43,055,326	44,081,100
Cakes—Value only ... £	*	*	*	21,572	23,350
Other— „ „ ... £	*	*	*	16,274	35,850

*Not available.

† Includes rented premises.

FLOUR-MILLS.

The amount of mill-power for grinding and dressing grain is ample for treating the flour consumed in the State, and an export trade has been developed, but unfortunately it has experienced a set-back from the war and other causes sufficiently detailed elsewhere in this book.

Details concerning flour-milling at intervals since 1901 are as follow:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	89	73	68	63	58
Number of Employees ...	889	967	1,035	1,326	1,129
Average Horse-power used ...	3,149	4,670	4,708	5,482	5,845
Value of Land and Buildings† £	334,037	357,356	369,664	413,870	470,638
Value of Plant and Machinery £	254,335	340,316	342,367	411,637	471,536
Total Amount of Wages paid £	77,321	123,491	137,514	229,690	223,236
Value of Fuel £	18,977	24,648	25,455	47,619	46,185
Value of Materials used... £	1,215,420	2,211,263	2,530,840	4,650,713	5,149,602
Value of Output £	1,514,512	2,538,331	2,957,947	5,171,446	5,973,792
Value of Production ... £	280,115	302,420	401,652	473,114	778,005
Materials Treated—					
Wheat bus.	9,369,534	12,616,111	13,963,806	18,648,403	16,920,856
Articles Produced—					
Flour tons	191,504	253,556	285,425	377,107	348,691
Bran „	*	65,182	69,855	86,202	76,015
Pollard „	*	45,276	52,739	92,765	71,570
Sharps and Screenings „	*	2,308	3,508	4,754	4,517
Wheat Meal, etc. ... cwt.	*	21,840	33,900	10,908	28,630

* Not available.

† Includes rented premises.

SUGAR-MILLS.

The manufacture of sugar has long been an important industry. As far back as 1878 there were 50 mills in the State, but there are now only 3, and employment is afforded to a smaller number of persons than were engaged ten years ago.

The reason for the decline in the manufacture of sugar is to be found in the decrease of the area under sugar-cane in New South Wales. The cultivation of sugar-cane is confined practically to the Richmond, the Tweed, the Brunswick, and the Clarence Rivers, and the area farmed is diminishing yearly, as other more profitable crops can be grown. Queensland is the great sugar centre of Australia, on account of its immunity from the frosts which retard the cultivation of the cane in higher latitudes.

The raw sugar manufactured in 1919-20 was valued at £236,353, and the molasses at £2,061.

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	4	4	3	3	3
Number of Employees	529	469	486	432	419
Average Horse-power used ...	2,578	3,000	2,750	2,273	2,273
Value of Land and Buildings £	12,177	52,480	54,000	106,112	105,908
Value of Plant and Machinery £	509,242	467,976	470,183	424,450	423,632
Total Amount of Wages paid £	31,764	38,004	51,476	45,818	42,743
Value of Fuel £	4,854	8,102	5,280	5,095	5,263
Value of Materials used £	95,394	107,600	208,899	180,336	163,858
Value of Output... .. £	197,137	206,277	354,742	271,270	238,414
Value of Production £	96,889	90,575	140,563	85,839	69,293
Materials Treated— Cane crushed tons	131,083	147,799	185,910	105,234	91,321
Articles produced— Raw Sugar cwt.	296,200	345,978	443,840	245,560	216,740
Molasses gals.	1,072,400	796,440	966,000	586,925	494,600

Sugar Refinery.

There is but one sugar refinery in the State which treats both local and imported raw product. During the year 1919-20 it handled 2,214,270 cwt. of raw sugar, which gave an output of 2,171,280 cwt. of the refined article, valued at £3,107,644.

The three mills, which were situated respectively at Harwood Island, on the Clarence River, at Broadwater, on the Richmond, and at Condong, on the Tweed, together with the refinery at Pymont, Sydney, during the year 1919-20 furnished employment to 1,054 persons.

BREWERIES.

There were in the State 17 establishments classed as breweries, of which 3, the largest and most important, were within Metropolitan boundaries. In

1911 there were 37 breweries in New South Wales, but though the number is decreasing, the output is steadily increasing.

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	51	37	31	18	17
Number of Employees ...	1,016	912	1,043	950	1,190
Average Horse-power used ...	1,105	1,035	1,593	2,880	3,192
Value of Land and Buildings* £	584,754	305,287	323,302	746,900	693,127
Value of Plant and Machinery £	190,710	281,316	382,290	786,312	832,705
Total Amount of Wages paid £	119,099	120,540	159,227	199,699	256,692
Value of Fuel ...	£ 13,849	17,794	23,232	50,141	56,010
Value of Materials used... £	282,128	494,219	671,157	906,589	1,082,456
Value of Output... £	1,022,247	1,140,151	1,423,586	1,822,375	2,373,895
Value of Production ... £	726,270	628,138	729,197	865,645	1,235,429
Materials Treated—					
Malt bshls.	532,930	667,457	809,171	737,229	872,452
Hops lb.	665,345	790,866	909,116	876,182	906,944
Sugar tons	3,927	4,421	5,218	6,039	5,731
Other Materials ...centals	...	7,705	9,404	110	706
Articles produced—					
Ale, Beer, Stout ... gals.	13,973,751	19,804,540	24,212,202	25,311,214	28,955,975

* Includes rented premises.

TOBACCO FACTORIES.

Sixteen factories under this classification were in operation during the year 1919-20, all situated within the Metropolitan area. Of these, 10 were engaged in the manufacture of cigars, 4 in that of tobacco, and 2 in that of cigarettes.

About a tenth of the tobacco manufactured in New South Wales is grown in the State. In 1919-20 tobacco was grown on 1,604 acres, and the year's crop was 19,236 cwt., valued at £136,380.

The following table shows details of the operations of tobacco factories in New South Wales at intervals since 1901:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	20	26	24	16	16
Number of Employees ...	1,061	1,462	1,497	1,973	2,400
Average Horse-power used ...	151	630	602	557	667
Value of Land and Buildings* £	155,452	192,569	154,748	232,128	242,346
Value of Plant and Machinery £	69,124	92,138	100,298	147,074	183,462
Total Amount of Wages paid £	55,149	131,323	149,129	238,150	331,324
Value of Fuel £	1,288	1,067	919	8,441	10,608
Value of Materials used £	389,148	776,302	910,713	1,912,970	2,948,948
Value of Output £	561,991	1,250,748	1,379,048	2,513,839	3,822,181
Value of Production £	171,555	473,379	467,416	592,428	862,625
Materials Treated—					
Australian Leaf ... lb.	883,615	745,405	727,759	742,365	861,002
Imported Leaf "	2,114,456	4,617,756	5,085,083	7,089,213	9,378,051
Articles produced—					
Tobacco lb.	2,524,231	3,996,471	3,885,562	5,145,793	6,885,972
Cigars "	67,128	87,818	86,264	131,701	160,717
Cigarettes "	457,276	1,899,462	2,526,130	3,437,405	4,498,359

* Includes rented premises.

WOOLLEN AND TWEED MILLS.

Although New South Wales is one of the greatest wool-producing countries in the world, those engaged in the manufacture of woollen materials numbered only 1,461 in 1919-20, which was 208 more than in 1918-19.

Woollen mills were amongst the earliest established in the State, but the industry has progressed very slowly.

The output of local tweed, however, is now nearly twice as great as in 1913, and it is probable that there will be greater expansion when the necessary machinery is available from oversea.

Details of employment, output, and other items, at intervals since 1901, are shown in the following table:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	4	5	5	6	7
Number of Employees ...	234	738	776	1,253	1,461
Average Horse-power used ...	255	937	1,549	2,590	2,900
Value of Land and Buildings† £	29,780	96,821	117,274	158,950	190,113
Value of Plant and Machinery £	26,650	122,927	170,693	242,403	338,098
Total amount of Wages paid £	12,459	66,536	71,852	136,931	176,204
Value of Fuel ...	£ 1,727	4,632	5,672	16,419	16,965
Value of Materials used £	30,272	142,915	156,364	538,498	580,694
Value of Output ...	£ 57,039	271,465	289,726	945,624	1,003,850
Value of Production ...	£ 25,040	122,918	127,690	390,707	406,191
Materials Treated—					
Scoured Wool ... lb.	685,240	1,225,470	1,242,223	3,384,642	3,527,481
Cotton ...	†	†	†	221,320	334,547
Articles produced—					
Tweed and Cloth ... yds.	525,020	1,054,845	1,312,363	2,162,486	2,208,846
Flannel and Blankets ...	£ *	†	†	145,256	147,852
Rugs and Shawls ...	£ *	95,313	62,050	14,000	12,500
Noils ...	£ †	†	†	11,192	12,978
Tops ...	£ †	†	†	57,147	20,306
Yarn ...	£ †	†	†	45,756	152,650

* 3,428 yards flannel, 5,000 pairs blankets, 900 rugs. † Not available.
‡ Includes rented premises.

BOOT AND SHOE FACTORIES.

Particulars of the operation of these factories since 1901 are shown in the following table:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	100	106	105	111	175
Number of Employees ...	3,979	4,411	4,262	4,622	5,157
Average Horse-power used ...	300	855	989	1,357	1,580
Value of Land and Buildings† £	166,413	222,983	237,135	326,029	433,269
Value of Plant and Machinery £	85,571	156,643	158,916	168,514	185,313
Total Amount of Wages paid £	216,869	367,605	382,223	553,234	706,267
Value of Fuel. ...	£ 2,978	5,298	5,818	9,599	12,045
Value of Materials used..	£ 398,309	709,818	754,744	1,333,919	2,047,904
Value of Output... ..	£ 692,253	1,221,748	1,284,489	2,132,285	3,101,212
Value of Production ...	£ 290,966	506,632	543,927	788,767	1,041,263
Materials Treated—					
Sole Leather lb.	*	5,189,000	4,467,927	5,261,069	5,693,171
Upper sq. ft.	*	8,010,000	8,070,590	7,554,448	7,984,912
Articles produced—					
Boots and Shoes .. pairs	2,821,724	3,730,760	3,640,068	3,605,002	3,872,709
Slippers, &c.	512,584	439,428	310,026	453,199	508,495
Uppers, N.E.I.... ..	...	71,133	53,295	114,259	40,525

* Not available.

† Includes rented premises.

In 1919-20 seventy boot-repairing establishments were included; they employed 318 persons, and paid £41,305 in wages; materials to the value of £47,089 were used, including 34,220 lb. of sole leather, and 856 square feet of uppers; the output was valued at £117,535.

The number of boot and shoe factories was 105, of which 91 were situated within the Metropolitan area and 14 in the remainder of the State.

HAT AND CAP FACTORIES.

There has been considerable expansion in the industry organized for the manufacture of hats and caps. Until 1898 it employed fewer than 100 persons, but in 1919-20 there were 1,565, of which number 58 per cent. were females.

There were 28 establishments listed under this classification, of which 1 only was outside the Metropolitan area. Particulars of the operations since 1901 are as follow:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	10	32	38	30	28
Number of Employees ...	330	1,566	1,545	1,333	1,565
Average Horse-power used ...	21	433	651	837	787
Value of Land and Buildings* £	14,076	108,936	124,396	152,906	142,951
Value of Plant and Machinery £	7,034	60,807	69,396	77,929	81,605
Total Amount of Wages paid £	15,055	96,498	104,879	132,509	157,609
Value of Fuel ...	314	4,376	5,096	6,126	7,341
Value of Materials used... £	28,662	127,494	157,391	262,354	352,395
Value of Output... £	54,698	293,591	355,064	522,831	660,655
Value of Production ... £	25,722	161,721	192,577	254,351	300,919
Hats & Caps Manufactured No.	563,976	2,692,778	3,084,959	2,099,144	2,294,505

* Includes rented premises.

ELECTRIC LIGHT AND POWER WORKS.

Few industries have made greater progress than that engaged in the production and supply of electric light and power. The development since 1901 is shown clearly by the details given in the next table:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	51	174	115	131	122
Number of Employees... ..	245	929	1,118	1,268	1,175
Average Horse-power used ...	3,494	54,734	76,054	107,682	93,264
Value of Land and Buildings† £	49,132	448,972	519,445	1,076,601	1,242,406
Value of Plant and Machinery £	192,842	1,257,173	1,391,007	2,228,624	2,285,830
Total amount of Wages paid £	28,862	134,884	170,745	237,212	253,099
Value of Fuel	17,166	183,248	219,080	455,671	390,042
Value of Materials used £	21,123	69,484	41,884	83,446	81,342
Value of Output	£ 87,241	896,607	1,266,801	1,545,942	1,552,764
Value of Production	£ 48,952	643,875	1,005,837	1,006,825	1,081,380
Materials treated—					
Coal tons	*	259,239	309,441	453,252	383,771
Articles produced—					
Electric Light ... units	*	20,727,000	27,834,225	42,116,274	43,186,244
Power units	*	114,610,000	165,873,147	230,330,132	229,617,230

* Not available.

† Includes rented premises.

GASWORKS.

Despite the substantial progress that has been made in the installation of electric lighting plants, the use of gas for purposes of illumination, power, and cooking, is also extending continuously, as will be seen in the following table:—

Items.	1901.	1911.	1913.	1918-19.	1919-20.
Number of Establishments ...	38	47	52	45	46
Number of Employees ...	650	1,053	1,351	1,316	1,560
Average Horse-power used ...	711	1,394	1,722	2,661	2,978
Value of Land and Buildings † £	459,060	564,387	496,942	960,500	985,775
Value of Plant and Machinery † £	480,533	888,711	1,112,828	1,752,450	1,802,378
Total amount of Wages paid £	80,654	154,426	194,683	231,366	329,634
Value of Fuel ... £	18,000	57,372	69,081	84,189	111,211
Value of Materials used £	123,440	277,861	305,592	560,417	680,818
Value of Output... £	583,815	910,972	1,035,257	1,756,219	2,006,378
Value of Production ... £	442,375	575,739	660,584	1,111,613	1,214,349
Materials treated—					
Coal tons	*	323,910	369,424	559,354	527,366
Shale... .. tons	*	55,621	37,865	32,748	20,989
Oil gals.	*	*	*	1,624,409	4,124,105
Articles produced—					
Gas ... 1,000 cub. feet	2,138,631	4,275,859	5,536,139	7,319,821	8,034,581
Coke tons	*	176,728	209,980	280,897	307,680
Tar gals.	*	3,650,000	4,180,054	7,927,127	7,894,590
Ammoniacal Liquor gals.	*	3,365,000	2,459,188	4,076,903	3,896,571
Sulphate of Ammonia tons	*	*	*	3,961	4,199

* Not available

† Includes rented premises.

OUTPUT PER EMPLOYEE.

In the last issue of the Year Book a statement appeared which showed the volume of output per employee, and per unit of horse-power of machinery in certain industries for the years, 1911, 1913, 1917-18, and 1918-19. It was stated also that a further investigation was being made and that the results would be published in the following issue.

As a result of this investigation it has been decided to discontinue the compilation of these tables. So many factors have to be considered, not only in the industry as a whole, but in connection with individual establishments, that it is practically impossible to deduce tables which would indicate fairly the output per employee or per unit of horse-power.

In connection with the question of the increase or decrease in the productive activity of the manufacturing industry as a whole the reader is referred to the chapter on "Employment and Production."

NEW INDUSTRIES.

Many branches of the manufacturing industry were stimulated owing to the restriction of importations during the war, and while the greater part of the resultant growth was in the extension of the field of operations of existing industries, a number of entirely new industries were also founded.

It is a matter for congratulation that great development has occurred recently in engineering and metal works. The manufacture of iron and steel is now a well-established industry at Newcastle and Lithgow, while at Sydney an extensive electric steel smelting plant is in operation, producing good quality steel, also machinery parts, including locomotive axles and tyres.

Great progress has been made also in the manufacture of galvanised iron. One large establishment situated near Sydney is capable of producing monthly 1,600 miles of wire netting, 400 tons of barbed wire, 300 tons of wire nails, and 100 tons of zinc white; while at Newcastle an English firm has just completed works for the manufacture of black and galvanised corrugated and plain sheet iron from steel bars supplied from the adjacent steel works of the Broken Hill Proprietary Company.

At Port Kembla, in close proximity to the Electrolytic Copper Refinery, which has been established for some years, new works, including rolling and wire-drawing mills, have been erected, and are now producing copper rods and wire, and later will manufacture copper and brass tubes.

AGRICULTURE

THE land of New South Wales, comprising an area of nearly two hundred million acres, is practically all under occupation. It embraces so great a variety of soils and climate that almost any kind of crop, whether specially the produce of temperate, and even cold, climates, or of sub-tropical regions, may be grown. The nature of the soil varies greatly in different parts of the country; but, except in the inaccessible or rugged portions of the mountain chains, and the more arid regions of the north-western districts, the soil is almost everywhere susceptible of cultivation. The variety of climate experienced extending through 8 degrees of latitude—from 29 degrees to 37 degrees south—causes a corresponding variety in the kinds of produce which may be grown successfully. The area absolutely unfit for occupation of any sort has been estimated roughly at less than 5,000,000 acres; it may, therefore, be said that the greater part of the area adapted for settlement is also, in some form or other, capable of being cultivated. Success in agricultural operations in New South Wales is, however, altogether independent of the mere fitness of the soil for cultivation. Up to the present, experience has shown that an irregular rainfall and a want of uniformity in the seasons, which are the chief characteristics of the climate of a large part of the interior, are the greatest drawbacks to the advance of agriculture, but research and experiment are extending steadily the areas on which agricultural pursuits may be followed with success.

The land adaptable to cultivation, under existing conditions, is found mainly in the Eastern and Central Divisions; but, owing to the confined nature of their basins, the portions of the valleys of the Coastal Rivers adapted for agriculture are limited, and the region is principally given over to dairy-farming. Large tracts of the Tablelands are hilly and rock-strewn, and are used mainly for sheep-raising. In the northern hinterland sheep-raising is still the principal industry, although that division has a plentiful rainfall and large areas adaptable to wheat-culture. It is, therefore, to the southern slopes and plains of the interior that agriculture at present is confined principally, and especially to the extensive and well-named Riverina district and the fertile tracts adjoining it on the north and east. Even here, however, only a small portion of the land has been cultivated, and great expansion is still possible.

The meagre rainfall and the absence of irrigation facilities in the Western Division, which includes eighty million acres, or two-fifths of the surface of the State, have hitherto rendered this great area practically unfit for cultivation, but it is eminently suited for raising merino sheep.

The agricultural potentialities of the more easterly areas have not yet been fully developed, but mixed farming is extending steadily westward, and wheat-growing is conducted in many parts in conjunction with sheep-raising. Moreover, factors such as the evolution of improved plant types, the improvement of methods of land tillage, the extension of irrigation facilities, and the development of the railway system, are expanding the area adaptable to successful agriculture and encouraging the cultivation of new areas.

The density of the population in New South Wales is one person to about 100 acres, and less than 4 acres per inhabitant have yet been turned by the plough.

AREA UNDER CULTIVATION.

Although an accurate soil survey of the State has not yet been made, it has been concluded from an approximate estimate, that, under existing conditions of agriculture, practically one-fifth of the area of New South Wales, or forty million acres of land, is adaptable to agriculture; but of this area less than one-fifth has been sown in any season.

Prior to 1890 agriculture developed very slowly in New South Wales, and, until 1897, a large proportion, ranging from one-third to one-half of the wheat supply of the State, had for many years to be imported from abroad. Maize-growing was generally on a more extensive scale than it is to-day, and the quantity produced was frequently greater than the quantity of wheat grown. Other crops were insignificant, and pastoral pursuits were the only extensive source of wealth-production in the State. Suddenly, toward the end of the nineteenth century, there began a rapid expansion in wheat-growing, and the area devoted to cultivation commenced to increase. This development was made possible by the combination of a number of favouring circumstances—railway facilities had begun to improve rapidly after 1880, population grew, and labour became more plentiful owing to the occurrence of a depression in other industries, new land tenures were introduced in 1895, the system of share-farming gained some popularity, and interest was stimulated by a number of interstate conferences held in Victoria which gave publicity to the valuable work of the eminent local experimentalist in wheat-breeding, William Farrer, which led to an improvement in wheat types and produced plants suited to the exigencies of local conditions. Moreover, in 1896 and 1897 the world's yield of wheat fell short of its needs. In 1897 the first surplus of wheat above local requirements was grown in New South Wales, and more than half-a-million bushels were exported in 1898. Since that date, wheat-growing has made rapid headway, and, though cultivation of other crops has not assumed importance, agriculture now constitutes an increasingly important factor in the production of wealth in the State.

The progress of cultivation since 1891, in quinquennial periods, is shown in the following table :—

Years ended June—	Average Area under—		Acres per Inhabitant under—	
	Cultivation, including Grasses.	Crops.	Cultivation.	Crops.
	acres.	acres.		
1891-95	1,398,199	1,048,554	1·18	0·88
1896-1900	2,252,649	1,894,857	1·73	1·46
1901-05	2,942,506	2,436,765	2·10	1·74
1906-10	3,575,873	2,824,253	2·34	1·84
1911-15	5,187,850	4,025,165	2·87	2·23
1916	7,041,934	5,794,835	3·77	3·10
1917	6,520,187	5,163,030	3·51	2·77
1918	5,850,341	4,460,701	3·10	2·36
1919	5,329,309	3,890,844	2·76	2·02
1920	5,313,472	3,770,155	2·62	1·86

The features of this table are the rapid extension which occurred toward the end of the last century, and the more rapid expansion between 1910 and 1916. The decline in the last three years was due to the occurrence of bad seasons and to the uncertain outlook which faced the growing of wheat for export during the war. The cultivation of maize and oats has also fallen off in recent years: other crops are of small extent.

VALUE OF PRODUCTION.

The estimated value of the agricultural production of the State during the last five years, with the proportion of each crop to the total value, is shown in the following table, the values being based on prices realised on the farm :—

Crop.	Value.					Proportion per cent.				
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
	£	£	£	£	£					
Wheat	13,352,980	7,165,890	7,385,140	3,588,650	2,194,020	65·6	55·1	54·0	29·2	16·2
Maize	723,270	722,250	875,220	580,380	1,502,900	3·6	5·5	6·4	4·7	11·1
Barley	20,630	12,600	19,280	20,890	12,160	0·1	0·1	0·1	0·2	0·1
Oats	173,820	128,840	266,720	265,350	168,700	0·9	0·9	2·0	2·2	1·2
Hay and Straw ..	3,897,910	3,016,400	2,774,200	4,356,770	5,468,005	19·1	23·2	20·2	25·5	40·3
Green Food	367,820	281,170	296,460	477,400	1,002,770	1·8	2·1	2·2	3·9	7·4
Potatoes	294,300	196,910	222,900	295,010	642,920	1·4	1·5	1·6	2·4	4·7
Sugar-cane	205,070	208,160	264,500	167,060	152,452	1·0	1·6	1·9	1·4	1·1
Grapes	98,400	68,260	53,860	113,920	111,180	0·5	0·6	0·4	0·9	0·9
Wine and Brandy ..	47,840	54,850	50,690	85,700	148,900	0·2	0·5	0·4	0·7	1·1
Fruit—Citrus	252,170	254,120	384,660	745,070	534,530	1·2	1·9	2·8	6·0	3·9
Other	243,210	280,990	376,390	577,990	555,058	1·2	2·1	2·8	4·7	4·1
Market-gardens ..	400,860	395,700	409,380	441,060	511,310	2·0	3·1	3·0	3·6	3·7
Other Crops	233,990	222,390	305,500	564,940	577,185	1·4	1·8	2·2	4·6	4·2
Total	20,362,360	13,011,530	13,684,900	12,280,190	13,582,090	100	100	100	100	100

The value of agricultural production reached its highest point in 1915-16, principally by reason of the largely augmented wheat yield of that year, which was supplemented by the occurrence of unusually high prices in the early part of the season as a consequence of the shortage in production caused by the drought in the previous year. In the years which followed, various causes, such as the uncertain condition of the wheat market, the derangement of oversea shipping, and the occurrence of indifferent seasons, combined to bring about a considerable decline in the volume of agricultural production, which reached its lowest point in the bad season which occurred in 1919-20. However, partly as a result of the scarcity consequent on bad seasons, and partly owing to factors connected with the war, prices of agricultural produce advanced considerably after 1917, and the monetary value of production did not exhibit any further decline. The large part played by prices may be gauged from a consideration of the index numbers quoted later. An analysis of the phenomenon of a decreasing volume of production accompanied by a stationary aggregate value of production is given in the Chapter "Employment and Production" of this Year Book.

The agricultural wealth of New South Wales at present depends mainly on the return from wheat and hay, the value of these crops in 1919-20 being £7,662,000, or nearly 57 per cent. of the total. Maize is next in importance, but the returns from other crops are comparatively small.

The value of production from agriculture, together with the average value per acre, affords an interesting summary of the expansion of agricultural pursuits and a measure of the condition of the industry.

Years ended June—	Average Annual Area Cultivated.	Average Annual Value of Production.	Value per Acre.
	acres.	£	£ s. d.
1887-91	858,367	4,030,611	4 13 11
1892-96	1,147,733	3,812,393	3 6 5
1897-1901	2,114,250	5,592,620	2 12 11
1902-06	2,515,268	6,302,903	2 10 1
1907-11	2,933,021	8,565,164	2 18 5
1912-16	4,507,748	12,867,474	2 17 1
1917	5,163,030	13,011,530	2 10 5
1918	4,460,701	13,684,900	3 1 4
1919	3,890,844	12,280,190	3 3 1
1920	3,770,155	13,532,100	3 12 7

The high value of production per acre shown in the ten years prior to 1897 was due to the fact that agriculture was on a smaller scale; cultivation more intense, than in recent years, and the yield per acre was usually higher. The increased value shown since 1918 has been due mainly to the large increases in the prices received for produce.

The average value per acre of various crops during each of the last four seasons is shown below in comparison with the average for the ten years preceding 1919-20:—

Crop.	Average Values per Acre.				Average Value for 10 Years preceding 1919-20.
	1916-17.	1917-18.	1918-19.	1919-20.	
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wheat	1 17 8	2 4 4	1 9 9	1 9 9	2 0 9
Maize	4 13 0	6 0 1	5 1 3	11 0 2	4 15 0
Oats... ..	1 18 5	3 4 7	3 1 4	2 4 4	2 11 0
Hay... ..	3 9 5	4 8 10	5 6 6	5 16 2	3 17 10
Potatoes	8 15 5	9 17 5	14 2 7	32 1 6	11 6 5
Sugar-cane... ..	39 17 1	47 6 8	36 11 9	31 11 8	31 4 5
Vineyards	19 18 8	16 3 6	30 5 4	39 15 6	19 5 1
Orchards	13 19 5	18 8 11	29 17 0	23 1 3	16 5 0
Market-gardens ...	37 4 6	40 7 6	43 18 4	51 15 10	37 7 10

This average value of production per acre measures the combined effect from year to year of yield obtained and prices realised, and may therefore be said to express the effect of market and season on the returns obtained by farmers from their holdings. To make the analysis complete, modifying factors, such as the cost of production, drought, and other causes of loss, should be taken into consideration.

Since the 1915 season the return from wheat grown for grain has been far below the average obtained since 1911, and this fact shows clearly the serious effects of the recent bad seasons, and of the uncertain market, on the growing of the principal agricultural product. A comparison with the returns obtained from hay crops (which are principally wheaten) adds weight to this point. Not only has the value per acre of hay products been far higher absolutely, but, from year to year, there has been a considerable improvement in the prices realised. The market for hay, however, is local and limited. It is also apparent that wheat has been almost unique in recent years in furnishing a decreasing return per acre. The values of

other crops, except oats, have all shown very rapid improvement, and particularly noteworthy in this respect is the increased return from maize-growing, which for many years has been languishing.

WHOLESALE PRICES OF FARM PRODUCE.

The prices realised for agricultural produce in New South Wales, when not regulated by the Government, vary with the seasons, and, therefore, show very great fluctuations. Wheat and flour, for which alone a foreign market exists, have been closely regulated in price since 1914, and, except in the years 1915 and 1920, when low production rendered importation necessary, the prices were allowed to vary but little. Wheat sold locally to millers for export as flour, however, brought considerably higher prices than the averages shown below. In the case of other produce, local production falls short of the requirements of the State, and importation is usually necessary.

The quotations here given represent the average prices obtained for farm products in the various Sydney markets; for country districts due allowance must be made for cost of transportation, etc. The average for the year represents the mean of the prices ruling during each month, and does not take into account the quantity sold during the month. The prices ruling in each month of the year are shown in the "Statistical Register." The figures are those quoted by the middleman, and not those obtained by the producers.

Crop.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wheat bush.	0 4 1½	0 5 5	0 4 10	0 4 9	0 4 9	0 5 1½	0 8 7½
Flour ton	9 8 5	13 7 0	11 5 4	11 1 0	11 0 0	11 5 9	18 10 11
Bran bush.	0 1 1	0 1 3½	0 0 10	0 0 9½	0 0 9½	0 1 2½	0 1 9½
Pollard "	0 1 1	0 1 5½	0 1 0½	0 1 0½	0 1 1	0 1 3	0 2 0
Barley (Cape) "	0 2 9	0 5 6½	0 3 1½	*	0 4 1	0 5 8	0 7 11
Oats "	0 3 0	0 4 7	0 2 10½	0 3 1	0 4 7	0 5 9½	0 5 7
Maize "	0 3 11½	0 5 2½	0 4 6	0 3 9½	0 5 7	0 8 0	0 8 7
Potatoes (local) ton	4 14 8	7 9 1	8 14 0	5 10 10	6 1 8	14 8 3	12 6 3
Onions "	9 2 10	7 19 0	5 0 9	10 5 0	14 4 9	15 12 5	20 7 3
Hay—							
Oaten ton	4 17 2	8 4 8	4 7 0	4 16 0	6 4 2	9 19 2	11 18 8
Lucerne "	4 9 4	5 16 7	4 6 0	3 12 0	4 17 9	10 9 7	11 6 10
Chaff—							
Wheaten "	5 0 6	7 3 8	3 18 10	4 1 4	5 11 6	8 18 9	10 12 11

* No quotations.

The combined price variations since 1901 of agricultural produce in Sydney markets, weighted according to the average consumption in the three years 1911-13, are shown below. The prices in 1911 have been adopted as base.

Year.	Index No.	Year.	Index No.	Year.	Index No.
1901	834	1908	1343	1915	1648
1902	1265	1909	1134	1916	1163
1903	1181	1910	1012	1917	1127
1904	789	1911	1000	1918	1377
1905	972	1912	1339	1919	1990
1906	429	1913	1069	1920	2430
1907	1003	1914	1135	1921*	1844

* First six months.

It will be observed that, though seasonal causes operated to produce high prices in 1902, 1903, 1908, 1915, 1919, and 1920, there has, nevertheless, been a marked rise in the price level due to other causes; but, if comparison be made with the index numbers for other commodities shown in the Chapter "Food and Prices" of this Year Book, it will be seen that the market has improved less for agricultural produce than for any other group of commodities.

AGRICULTURAL SETTLEMENT.

The following statement gives particulars of the area under crop in the seasons 1905-06, 1915-16 (the season of maximum cultivation), and 1919-20, and shows the advances in agriculture made in various districts:—

Division.	Area under Crops.			Index Numbers. (1905-06=100.)	
	1905-06.	1915-16.	1919-20.	1915-16.	1919-20.
Coastal—	acres.	acres.	acres.		
North Coast	109,704	95,024	86,022	87	78
Hunter and Manning	103,511	102,526	92,763	99	90
Cumberland	46,053	35,756	35,045	78	76
South Coast	51,009	45,257	40,507	89	79
Total	310,277	278,603	254,337	90	82
Tableland—					
Northern	68,362	80,597	64,691	118	93
Central	222,715	366,981	221,030	165	99
Southern	55,336	82,844	53,457	150	96
Total	346,413	530,422	339,178	153	98
Western Slopes—					
North	265,217	555,488	327,826	209	123
Central... ..	412,578	890,105	566,103	216	137
South	442,855	1,126,381	585,451	254	132
Total	1,120,650	2,571,974	1,479,380	229	132
Central Plains—					
North	10,261	40,322	24,919	393	244
Central... ..	287,437	593,714	404,926	207	141
Total	297,698	634,036	429,845	213	144
Riverina	745,183	1,769,478	1,260,765	238	169
Western	17,860	10,322	6,650	58	64
All Divisions	2,838,081	5,794,835	3,770,155	204	133

The season of 1919-20 was particularly unfavourable to agriculturists, and the decline indicated since 1915-16 was due to seasonal rather than to permanent causes.

It is, nevertheless, apparent that the sowing of crops is gradually waning in the coastal districts, where the bulk of the maize crop is raised. On the Tablelands agriculture is not in a flourishing condition, but, seemingly, favourable conditions will lead to a largely-increased area such as was cultivated in 1915-16. It is, however, on the hilly slopes and the plains of the central

interior that crops are raised, and more particularly in the southern parts of this area. The Western Division has not been found a profitable region for cultivation.

The area under crop in 1915-16 affords evidence that, given favourable conditions, large possibilities for expansion exist in the State, particularly in the Central, Southern, and Riverina Divisions.

Compared with the total area occupied for agricultural and pastoral purposes in the State the area tilled barely exceeds 3 per cent., and this indicates the small development of New South Wales as an agricultural country.

The following table shows the total area under crops, together with the total area of each Division, and the area in occupation, during the season 1919-20 :—

Division.	Total Area of Division.	Area under—			Proportion of area under Crops to Area under Occupation.
		Occupation in Holdings of 1 acre and over.	Crops.	Sown Grasses.	
Coastal—	acres.	acres.	acres.	acres.	per cent.
North Coast	5,409,370	3,926,106	86,022	1,124,551	1·8
Hunter and Manning	10,390,920	6,489,582	92,763	214,091	1·4
Cumberland	1,070,989	456,141	33,445	3,398	6·7
South Coast	5,484,122	2,465,800	46,507	158,827	1·7
Total	22,355,401	13,337,629	254,337	1,500,867	1·9
Tableland—					
Northern	8,928,487	7,362,041	64,691	8,229	0·8
Central	8,989,259	6,263,963	221,030	5,450	3·5
Southern	7,913,500	6,577,248	53,457	7,315	0·8
Total	25,831,246	20,203,252	339,178	20,994	1·7
Western Slopes—					
North	9,813,555	8,919,002	327,826	3,366	3·7
Central	6,252,567	5,210,804	566,103	2,235	1·8
South	8,185,759	6,957,680	585,451	6,891	8·8
Total	24,251,881	21,087,486	1,479,380	12,492	7·0
Central Plains—					
North	10,030,901	8,106,343	24,919	93	0·3
Central	16,029,880	15,266,023	404,926	3,191	2·7
Total	26,060,781	23,372,366	429,845	3,284	1·9
Riverina	19,767,073	18,504,046	1,260,765	4,680	6·8
Western	80,368,498	76,792,024	6,650	1,000	·01
All Divisions	198,634,880	173,296,803	3,770,155	1,543,317	2·2

The figures shown above include particulars of the Federal Capital Territory, the area of which is 593,920 acres.

This table illustrates the small extent of the agricultural development of the State referred to above. Even in the most fertile divisions, less than 9 per cent. of the area under occupation has been cultivated.

An analysis of the area under crop in the past four seasons is made below, and the yields of respective crops are shown also. The year ended 30th June, 1916, in which agriculture reached its highest development, has been included for comparative purposes.

Crop.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
Wheat (grain)—					
Area acres	4,188,865	3,806,604	3,329,371	2,409,669	1,474,174
Total yield bush.	66,764,910	36,598,000	37,712,000	18,325,000	4,388,022
Average yield p.a. ... bush.	15·9	9·6	11·3	7·6	3·0
Maize—					
Area acres	154,130	153,378	145,754	114,582	136,509
Total yield bush.	3,773,600	4,333,480	3,499,958	2,091,921	4,052,025
Average yield p.a. ... bush.	24·5	27·9	24·0	18·3	29·7
Oats (grain)—					
Area* acres	58,636	67,111	82,591	86,474	76,117
Total yield bush.	1,345,698	1,084,980	1,455,111	1,273,752	586,758
Average yield p.a. ... bush.	23·0	16·2	17·6	14·7	7·7
Hay—					
Area acres	1,108,919	858,532	620,644	814,960	936,400
Total yield tons	1,573,938	1,174,050	784,206	754,030	580,586
Average yield p.a. ... tons	1·42	1·37	1·26	·92	·62
Green Crops—					
Area acres	162,945	149,873	152,519	331,129	1,007,506
Potatoes—					
Area acres	19,589	22,449	22,580	20,879	20,043
Total yield tons	44,445	45,231	49,984	30,356	49,986
Average yield p.a. ... tons	2·27	2·02	2·21	1·45	2·49
Sugar-cane—					
Area cut acres	6,030	5,223	5,588	4,566	4,827
Total yield tons	157,748	143,558	174,881	105,234	91,321
Average yield p.a. ... tons	26·16	27·49	31·30	23·05	18·92
Orchards, etc.—					
Area acres	63,823	57,163	73,020	64,185	82,388
Market Gardens—					
Area acres	10,967	10,710	10,139	10,043	9,872
Total yield £	400,860	398,700	409,380	441,070	511,311
Average yield p.a. ... £	36·6	37·2	40·4	43·9	51·2
Minor Crops—					
Area acres	26,843	33,522	20,076	37,115	25,741
Total Area* ... acres	5,800,747	5,166,565	4,462,916	3,893,602	3,773,577

* Including area double-cropped.

It will be observed that wheat is the only crop extensively grown. The largest part of the area devoted to hay is also under wheat, though considerable areas are used for the production of oaten and lucerne hay.

In addition to the area shown as cultivated and under sown grasses, 83,476,348 acres are ringbarked, partly cleared, and under native grasses; and 3,051,032 acres were ready for cultivation on alienated holdings, including 2,795,190 acres which had been cropped previously, 128,612 acres of new land cleared and prepared for ploughing, and 127,230 acres in fallow.

AGRICULTURAL HOLDINGS.

A consideration of the number of holdings on which land was cultivated, and the various purposes for which these holdings were utilised, affords interesting information as to the popularity of the various crops. The number of farms on which wheat is sown, so far from exhibiting any permanent increase, has declined in the recent bad seasons, although the area devoted to this crop has practically doubled in the past twenty years. Several minor industries have been languishing over lengthy periods and

less attention is being paid to maize, potatoes, sugar-cane, and grape-growing. The cultivation of oats has extended, citrus fruit-growing is gaining rapidly in importance, and the occurrence of good seasons and high prices has given some stimulus to tobacco-growing.

Relatively to the area cultivated, the number of maize-holdings is greatly in excess of those of wheat, owing to the fact that many dairy-farmers crop small areas for use on the farms; whereas portion of the area under wheat—varying from one-fourth to one-seventh—is cultivated on the “shares” system, by which two or more growers cultivate one holding.

The number of holdings on which the principal crops were cultivated at intervals since 1900-01 is shown below.

Crop.	Number of Holdings.				
	1900-01.	1905-06.	1915-16.	1917-18.	1918-19.
Wheat	20,149	19,049	22,453	19,252	17,281
Maize	17,569	17,475	14,869	14,695	12,221
Barley	2,246	1,755	2,538	1,849	2,127
Oats	11,547	10,740	13,723	12,787	13,008
Potatoes	9,521	8,552	4,643	4,334	3,519
Tobacco	31	98	97	80	141
Sugar-cane	1,214	1,113	694	671	620
Grapes	1,832	1,530	1,292	1,304	1,275
Fruit—Citrus	1,905	2,385	5,787	6,221	6,165
Other	8,064	6,846	8,760	8,777	8,147
Market Gardens	2,266	2,842	3,301	2,931	2,729
Total Cultivated Holdings*	45,828	46,349	50,632	47,275	44,509

* Holdings used for dual purposes are included once only.

Particulars for 1919-20 are not available, except in regard to holdings under wheat, the number of which in that year was 16,266. In 1920-21 the number of holdings on which wheat was grown increased to 17,546.

The expansion of the wheat industry has been brought about more by reason of the fact that growers have cultivated larger areas than by any marked increase in the number of growers, although in bad seasons, such as 1918-19-20, it is evident that many former growers did not plant crops. If it be considered that, in normal seasons, a farm of less than 250 acres devoted exclusively to wheat will not provide subsistence for a farmer and his family, it is apparent that wheat-growing in many cases must be conducted in conjunction with other pursuits, and that in adverse seasons many farmers derive a living from sources other than agriculture.

The following comparative table illustrates the recent development of wheat-growing :—

Year.	Holdings on which Wheat was grown.	Total Area sown with Wheat.	Average Area per Holding devoted to Wheat.
	No.	acres.	acres.
1900-01	20,149	1,862,752	92
1905-06	19,049	2,253,029	118
1915-16	22,453	5,122,245	224
1918-19	17,281	3,227,374	187
1919-20	16,266	3,068,540	188
1920-21	17,546	3,656,720	208

MACHINERY.

For harvesting grain-crops the reaper and binder, the stripper, and the harvester are used, and there is considerable difference of opinion regarding the relative efficiency of each of these implements. The reaper and binder is employed almost exclusively in moist districts, but over the greater portion of the wheat areas conditions are favourable to the use of the harvester. A modern type of harvester, particularly adapted to Australian conditions, produced and developed locally, has contributed largely to the expansion of wheat cultivation, since it has enabled grain to be garnered with a considerable saving of time and labour. It is, however, a matter of some debate whether this useful implement is adaptable to the conditions which will govern harvesting should a system of bulk-handling of grain receive extensive application.

The following statement shows the area farmed, the total value of the machinery used, and the value of the machinery used per acre, in Divisions of the State in the year 1919-20 :—

Division.	Area Farmed.	Value of Machinery.	Value of Machinery per Acre.
	acres.	£	£ s. d.
Coastal	254,337	816,900	3 4 9
Tableland	339,178	778,800	2 5 11
Western Slopes	1,479,380	2,255,100	1 10 6
Central Plains and Riverina ...	1,690,610	2,229,800	1 6 4
Western	6,650	48,200	7 5 0
Total	3,770,155	6,128,800	1 12 2

A comparison of the value of farming implements and machinery in use during various years since 1900-1901 in each of the rural industries is shown in the following table :—

Season.	Farming.	Dairying.	Pastoral.*	Total Value.
	£	£	£	£
1900-01	2,065,776	237,221	754,055	3,057,052
1905-06	2,557,262	365,436	1,120,991	4,043,689
1910-11	3,414,621	534,745	1,483,081	5,432,447
1915-16	5,362,027	570,955	2,015,048	7,948,030
1918-19	5,696,916	711,964	2,609,529	9,018,409
1919-20	6,128,753	812,074	3,016,072	9,956,899

* Includes in many cases farming implements used on pastoral holdings.

FERTILISERS.

In New South Wales superphosphate is the only artificial fertiliser used in any considerable quantity, the soils in the wheat areas being generally deficient in phosphoric acid. Tests of manure conducted on the farmers' experiment plots indicate that the benefits derived from the application of superphosphates to wheat-lands, as a general rule, are most marked in the southern portion of the wheat-belt, viz., the South-western Slope and the Riverina. The beneficial results gradually diminish throughout the western

districts which form the central portion of the wheat-belt, and in the north-western districts no advantage is gained by the use of this fertiliser. The results may be affected, however, by the fact that fallowing is more common in the south than in the west, and much more than in the north.

The following table shows the area of land and the quantity of manure used during the year 1919-20;—

Division.	Area under Crop.	Total Area Manured.	Area Manured per cent. of Area under Crop.	Manures Used.			
				Natural (only).	Natural and Artificial, in Combination.		Artificial (only).
					Natural.	Artificial.	
	acres.	acres.		loads.	loads.	cwt.	cwt.
Coastal	254,337	34,136	13.4	55,979	96,704	71,145	70,880
Tableland	339,178	53,684	15.9	7,294	3,017	1,072	39,973
Western Slopes ..	1,479,380	514,363	34.9	2,070	110	410	225,523
Central Plains ...	429,845	74,798	17.4	20	395	10	24,916
Riverina	1,260,765	1,031,376	81.8	4,304	1,690	556	435,107
Western	6,650	405	6.1	1,295	...	...	2,244
Whole State...	3,770,155	1,708,762	44.5	70,962	101,916	73,193	798,643

The proportion of manured land in relation to the total cultivated in recent years has been somewhat less than one-half, although, as shown in the following table, a considerable increase in the use of fertilisers took place between 1907 and 1914, since when the area manured has declined with the area cropped.

The following table shows the total area cultivated, the total area manured, and the nature of the manures employed, in the various years between 1907-8 and 1919-20;—

Season.	Total Area under Crop.	Total Area Manured.	Area Manured per cent. of Area under Crop.	Manures Used—	
				Natural.	Artificial.
	acres.	acres.		loads.	cwt.
1907- 8	2,570,137	423,678	16.5	144,021	276,120
1913-14	4,568,841	2,226,742	48.7	166,753	1,010,596
1915-16	5,794,835	2,753,431	47.5	177,788	1,132,446
1918-19	3,890,844	1,780,254	45.7	180,734	856,074
1919-20	3,770,155	1,678,762	44.5	172,878	871,836

Extensive manurial trials are made regularly by the Department of Agriculture with the view of encouraging the adoption of better methods, and of demonstrating to farmers the great advantages to be derived from scientific cultivation by the production of largely-increased yields. It is in this important respect that much hope rests for the ultimate improvement of the low average wheat yield at present obtaining.

The sale of artificial manures is regulated by the Fertilisers Act of 1904, under the provisions of which measure the vendor is required to furnish to the purchaser a statement as to their nature and chemical composition. Further legislation has been urged for the more adequate protection of farmers.

SHARE-FARMING.

The system of agriculture known as share-farming has played an important part in the development of agriculture in New South Wales. It took its rise toward the end of the last century, and helped to overcome the difficulties which had retarded the extension of cultivation. Land holders could not obtain workmen to till large areas of their land, while new settlers were impeded for lack of cleared land, and of the necessary farming facilities, such as machinery, for which considerable capital was needed.

The following table shows particulars regarding the extent of cultivation on shares during recent years :—

Season.	Holdings.	Share Farmers.	Total Area Farmed on Shares.
	No.	No.	acres.
1915-16	2,474	4,781	1,297,269
1916-17	2,395	4,358	1,130,676
1917-18	1,950	3,461	861,573
1918-19	1,530	2,675	652,658
1919-20	1,501	2,423	671,972

The principles of the system are as follow. The owner leases his land, which is cleared, fenced, and ready for the plough, to the agriculturist for a period, and for the purpose of wheat-growing only. The farmer-tenant possesses the right to run upon the estate the horses necessary for working the farm, and the owner retains the right to depasture his stock when the land is not in actual cultivation. Up to a specified yield the parties to the agreement take equal shares of the produce, and any excess goes to the farmer as a bonus; the system, however, is subject to local arrangements.

Practically the whole of the area cultivated on the share-system is devoted to wheat-growing. The system reached its maximum development in 1915-16, when the area cultivated under it exceeded one-fifth of the total area under crop in the State. Since then the returns from wheat-growing have been bad on account of droughts and market difficulties, and share-farming has contracted more rapidly than other forms of cultivation.

Of the areas cultivated in 1919-20 on the share system, 269,302 acres were in the Western Slopes Division and 215,984 acres were in the Riverina.

THE DEPARTMENT OF AGRICULTURE.

Considerable attention is paid by the Government to the development of the agricultural industry, but great scope still exists for educational and scientific work in the industry in order that the wealth resources of the State may be fully and properly exploited to the advantage of the community.

The Department of Agriculture, created in 1890 to advance the interests of the farmers and fruit-growers of New South Wales, deals with all matters essential to agriculture. Its practical functions include the collection of

information by scientific investigation and practical experiments relating to the causes of the failure of crops, improved methods of cultivation, means of combating pests, the use of fertilisers, matters of drainage and irrigation, new plants and new implements, the disposal of surplus products, and the transport of produce. Such information is placed at the disposal of the agricultural producers of the State, and other assistance is rendered to them.

The officials answer many inquiries for advice or assistance, and visit various parts of the country throughout the year to give demonstrations to the farmers, and to advise generally regarding agricultural methods. During the last few years the practical services of the Department have been extended greatly by conducting experiments with various crops, fertilisers, and cultivation methods on the lands of private farmers. These amount to demonstrations of the value and efficiency of the scientific methods recommended by the Department, and they are having a marked influence on farm practice in many parts of the State. Local officers of the Department supervise these trials and bring the results under the notice of farmers in the vicinity.

The *Agricultural Gazette*, the official organ of the Department, is issued monthly. It presents to the farmers of the State the results of scientific researches and of the investigations of official experts.

Numerous bulletins and leaflets are issued for the guidance of various classes of rural workers, and most of the publications of the Department are supplied free to persons engaged in rural industries.

Country newspapers are furnished weekly with notes describing the investigations and educational operations of the Department with respect to improved methods of agriculture, dairying, stock-raising, &c.; and efforts have been made to develop many phases of primary production, fallowing, rotation in cropping, and the cultivation of maize being specially treated.

The principal heads of receipts and expenditure of the Department of Agriculture during the year ended 30th June, 1920, were as follow:—

<i>Receipts.</i>	£	<i>Expenditure.</i>	£
Agricultural College, Experiment		Agricultural College, Experiment	
Farms, etc.	56,148	Farms, etc.	148,083
Fees for fumigation, etc.	7,683	Bulk Handling of Wheat, Grain	
Miscellaneous	1,519	Elevators	690,285
Stock Branch	8,068	Fallowing Land	3,408
	73,418	Administrative	79,295
<i>Less Refunds</i>	37		921,071
		<i>Less Refunds</i>	20,238
			900,833
		Stock and Brands, Pastures Pro-	
		tection	69,494
		Botanic Gardens, etc.	38,285
		Commercial Agents	4,558
Total	£73,381	Total	*£1,013,170

* In addition there was expended £5,187 by the Stores Supply Department and £619 by the Resumed Properties Department on behalf of the Department of Agriculture.

Agricultural Bureau.

An Agricultural Bureau has been established under the direction of the Department. Its object is to foster the establishment in rural centres of societies, which will enable primary producers to meet together regularly for the purpose of exchanging ideas and experiences on every kind of subject that touches rural life, and it aims especially at making scientific

methods more popular. Assistance is rendered by the officers of the Department, many of whom visit the branches from time to time to deliver lectures and conduct practical demonstrations in some subject of local interest. The movement has exhibited already a tendency toward co-operation in the purchase of stores, and in two or three cases regular co-operative societies are growing out of the branches of the Bureau. The social side is not neglected, and some branches have ladies' sections. In this way the Bureau is assisting to make rural life more attractive.

Government assistance is granted in the form of subsidies payable to each branch at the rate of 10s. for every £1 membership fees. The Bureau was established in 1911, and at the 30th June, 1920, there were 108 active branches.

Agricultural Education and Experiments.

In order to obtain a knowledge of local conditions and to afford an education in agriculture on scientific bases, the Government has established the Hawkesbury Agricultural College, a number of experiment farms, several viticultural nurseries, an apiary, a stud-horse farm, and an agricultural training farm, besides farmers' experiment plots throughout the State.

The system of agricultural training in vogue in the educational institutions of New South Wales is not nearly so extensive as those of some other countries, but in the primary schools in 1920 nearly ten thousand pupils received some training in elementary agriculture, while school gardening was more commonly taught. Specialised tuition is given at various schools on the Murrumbidgee Irrigation area, and four secondary schools include agriculture in their curriculum. A Faculty of Agriculture was established at the University in 1911; in 1920 there were 25 students attending lectures, and 13 research scholars.

Facilities are afforded for the accommodation of students at the various experiment farms. In addition, schools of instruction for dairy factory workers are held periodically, and winter schools for students of both sexes are held annually at Hawkesbury Agricultural College.

Arrangements have been made for the specialised training of returned soldiers desirous of settling in rural life. Courses of instruction in various branches for a period of six months are provided at the Hawkesbury Agricultural College, and at Wagga, Bathurst, Cowra, Yanco, Trangie, Wollongbar, Grafton, and Glen Innes Experiment Farms. At these institutions instruction and board and lodging are free, and sustenance is paid by the Repatriation Department.

Hawkesbury Agricultural College.

The Hawkesbury Agricultural College provides accommodation for resident students, and imparts theoretical and practical instruction in a three-years' course, which embraces every department of agriculture. Instruction is given also in dairying, pig-raising, horse, sheep, and poultry-breeding; and experimental research work is conducted in connection with cereal and other crops, in cultivation with fertilisers, and in soil culture. All subsidiary branches of farm-labour are taught, including blacksmithing, carpentry, sheep killing, bee-keeping, and other occupations incidental to the pursuit of agriculture. In January, 1921, there were 190 regular students in residence.

Jersey dairy cattle and Romney Marsh sheep are bred, also stud pigs of various breeds, which are sold to farmers throughout the Commonwealth and New Zealand. In the poultry section the egg-laying competitions attract a large number of competitors from various parts of the State.

Experiment Farms.

Work of a general educational and research nature is conducted at the experiment farms, which have been established in various parts of the State with varying curricula, adjusted to meet local needs and climatic conditions. The aim is to disseminate better knowledge of the practice of agriculture in established industries, to encourage by example new activities suited to the locality, to demonstrate in a practical manner the agricultural possibilities of the State, and, in some cases, to afford instruction for students.

Particulars as to each farm are given in the following table:—

Farm.	Particulars (as at January, 1921.)			Special Purposes.
	Area.	Students in Residence.	Fees Payable.	
Wagga Wagga	Acres.	No.		
	3,220	32	1st year £15 ..	Specialises in seed wheat.
			2nd .. £10 ..	
Bathurst	752	27	do	Orchard and soil culture.
Wollongbar and Duck Creek	734	7	1st six months £5..	Stud farm—Dairy cattle and pigs.
Berry	403	..	.. .. .	Stud farm—Dairy cattle.
Howlong Viticultural Station	224	..	.. .. .	Phylloxera-resisting vines.
Grafton	1,075	..	1st six months £5 ..	Mixed farming suited to sub-tropical districts.
Glen Innes	1,073	1	do	Mixed farming and fruit culture.
Cowra	1,011	3	do	Specialises in seed wheat and cross-breeding with sheep.
Pera	1,153	..	.. .. .	Artesian-bore water applied to orchard culture.
Narara	100	..	.. .. .	Phylloxera-resisting vines.
Yanco	2,045	8	Nil.	Irrigation, ostrich farming and mule-breeding.
Nyngan	5,049	..	.. .. .	Dry-farming. Merino sheep suitable for dry areas.
Coonamble	1,945	..	.. .. .	Dry-farming. Wheat cultivation and sheep-farming.
Temora	1,606	..	.. .. .	Specialises in seed wheat.
Condobolin	1,348	..	.. .. .	Dry-farming. Suitable varieties of wheat.
Trangie	9,736	4	.. .. .	Stud-merino farm, also specialises in wheat culture.
Bangaroo	5,037	..	.. .. .	Stud farm—Horses.
Glenfield	112	..	.. .. .	Veterinary experiments.
Griffith	59	..	.. .. .	Mother-stock vineyard. Irrigated area.
Wauchope Apiary	36	..	.. .. .	Study of diseases among bees.
Total	36,748	82	.....	.....

Farrer Scholarships.

The Farrer memorial fund was established by public subscription in honour of the late William J. Farrer, whose work in the production of new wheats has afforded great benefit alike to the industry and to the community. The money subscribed has been vested in trustees, and the interest is used for the Farrer research scholarship, the specific object of which is the improvement of wheat cultivation. The scholarship is granted to a candidate selected by the trustees from applicants possessing certain qualifications.

The selected scholar presents his results at the close of the year in the form of a paper, to be published by the trustees. At the end of the year the holder of the scholarship may be re-appointed, or a new selection made.

The Government Farrer scholarship is offered for competition amongst students wishing to enter the Hawkesbury Agricultural College with a special view to the study of wheat-cultivation.

The *Daily Telegraph* Farrer scholarship consists of a grant of books, apparatus, etc., to the value of £10, given each year by the *Daily Telegraph* Newspaper Co., Ltd., to the best first-year wheat student at the Bathurst or Wagga experiment farm.

STATE ADVANCES TO SETTLERS.

In order to afford better facilities for the financing of the rural industries and to assist struggling settlers, the Government, in 1899, inaugurated a system by which advances were made to settlers on the basis of the French *Crédit Foncier*, at rates of interest and of repayment which were intended to be available for the benefit of every settler offering adequate security. The Act of 1899 has received several amendments, and in 1906 the powers of the Advances to Settlers Board were transferred to the Commissioners of the Government Savings Bank of New South Wales, and the maximum and minimum amount of advances were fixed at £2,000 and £50 respectively, repayable over a period of thirty-one years. In 1919, however, advances were restricted to a maximum of £1,250, and in March, 1920, the rate of interest was raised from 5½ to 6 per cent., with a further increase to 6½ per cent. on 6th May, 1921.

Up to the 30th June, 1920, the advances which had been made to settlers numbered 17,033, and amounted to £5,416,583, equivalent to £319 per loan, of which 10,679, representing £2,903,886, had been repaid, leaving 6,454 advances current at that date, the average balance of the principal being £449 per loan.

The operations of the bank relating to advances to settlers, at intervals since 1911, have been as follow:—

Year ended 30th June.	ADVANCES MADE.			REPAYMENTS.		BALANCES REPAYABLE.		
	Number.	Total Amount.	Average.	Number.	Total Amount.	Number.	Total Amount.	Average.
		£	£		£		£	£
1911†	838	331,693	395	743	185,420	3,754	1,074,359	286
1913†	1,386	771,272	556	414	116,476	5,094	2,051,132	403
1915	860	387,715	451	436	171,617	5,860	2,514,078	429
1917	501	161,855	323	384	152,513	6,162	2,522,674	409
1919	589	260,255	442	520	204,558	6,171	2,599,751	421
1920	1,102	642,170	583	819	338,036	6,454	2,903,886	449

† Year ended 31st December.

The Commissioners are empowered to make advances upon mortgages of land in fee-simple, and of land held under conditional purchase or lease, settlement purchase or lease, and homestead grant or selection. The advances are made to repay existing encumbrances, to purchase land, to effect improvements, to utilise resources, or to build homes. By this means material assistance is afforded both to prospective and to established settlers.

In 1914 the Commissioners of the Government Savings Bank were empowered to make advances upon mortgage of irrigation farm leases. The advances made numbered 122, representing a total sum of £20,805, but no advances have been made by the bank under this authority for several years. Settlers on irrigation areas may now obtain advances directly from the Water Conservation and Irrigation Commission.

RURAL BANK.

Under authority of the Government Savings Bank (Rural Bank) Act, 1920, steps were taken early in 1921 to establish a rural bank in New South Wales.

The new bank was placed under the direction of the Commissioners of the Government Savings Bank, and it continued on an extended basis the operations of the Advances Department, particulars of which are shown above.

The primary object of the bank is to afford more extensive financial assistance to primary producers than is usually obtainable from other institutions, and thus to promote rural settlement and development.

Funds are obtained from deposits at current account, fixed deposits, and the issue of deposit stock, rural bank debentures, and inscribed stock. Interest is allowed on fixed deposits at current bank rates, and current accounts are subject to trading bank conditions.

Loans are made only to persons engaged in primary production, or in closely-allied pursuits. The loans are of three kinds:—(a) Overdrafts on current account; (b) instalment loans, repayable by equal half-yearly instalments of interest and principal extending over thirty-one years; and (c) fixed loans for limited terms. The security required may be land, either freehold or held on any Crown tenure, stock, plant, crops, wool, &c.

The Commissioners are empowered to make advances to assist the subdivision of large estates. Accordingly, loans up to 80 per cent. of the market value of farms are made on lands which have a freehold or certificated conditional purchase title, and are partially improved. Such loans, however, are limited to a maximum of £1,250. In order to facilitate negotiations of sale, the Bank, after inquiry, issues certificates either to vendors or purchasers as to the amount it is prepared to advance on any land.

Approximately 130 branches of the bank have been opened throughout the State, and the current business of the Advance Department has been taken over, so that the bank commences operations with outstanding advances amounting to nearly £3,250,000, secured by mortgages from 7,000 borrowers.

RURAL INDUSTRIES BOARD.

In 1915 various schemes were inaugurated by the Departments of Agriculture and Lands to render financial aid in the form of loans, repayable by instalments, to farmers desirous of clearing areas of land for wheat-planting, and to assist necessitous farmers. The operations of these schemes were of comparatively small scope until 1919, when, owing to the long-continued and severe drought, 5,000 applications for assistance were received. The Government promptly voted £75,000 to meet the situation, and relief was distributed in the form of orders for fodder, household supplies, and fertilisers, while seed wheat was supplied under a separate scheme. An amount of £60,000 was advanced to about 1,000 applicants on the security of second and third mortgages and of crop liens. Dairy-farmers as well as wheat-growers benefited under the scheme.

The drought continuing, a serious situation developed, and £1,000,000 was raised locally by loan for relief purposes. On the 1st December, 1919, the Rural Industries Board was created to carry on the work, and it was assisted by eighty-five country boards. The purposes for which the board was constituted were (a) to take over, consolidate, and collect all advances under previous schemes since the year 1915; and (b) to extend the scope of relief given to necessitous farmers in order to enable them to sow crops during 1920. Relief measures were confined to cases where ordinary commercial assistance was not forthcoming, and a tentative limit of £500 per individual was fixed. It was found that many settlers had been suffering from the effects of drought for several years and were already heavily indebted. Usually promissory notes were accepted in these cases as the only security.

In 1920 a further loan of £1,000,000 was raised to help small graziers, as the long drought threatened serious depletion to the flocks of the State. Fortunately, however, beneficial rains fell in June, 1920.

Altogether advances amounting to approximately £1,600,000 were made to nearly 10,000 farmers, and 17,885 applications for relief were dealt with.

The operations of the Rural Industries Board during this period involved a total outlay of £2,254,118, as follows:—

Head of Expenditure.	£
Seed Wheat	546,587
Fodder	1,219,082
Household Supplies	57,661
Cornsacks	224,993
Cash Advances	182,386
Fallowing Advances	6,011
Miscellaneous... .. .	17,398
Total	2,254,118

while the advances and repayments as at 30th April, 1921, under all schemes since 1915 were:—

Nature of Advance.	Advances.	Repayments.
	£	£
1915 { Seed Wheat and Fodder	377,407	339,169
{ For Clearing Land	18,986	15,511
{ Loans	14,791	8,474
1916 { Cornsacks	1,660	1,387
1917 { Seed Wheat	450	242
1918-19-20 { For Fallowing	20,831	1,617
1919 { Seed Wheat	60,875	6,838
{ For Holdings of Hay	683	248
{ To Necessitous Farmers	75,000	...
1920 { Advances by Rural Industries Board	1,575,000*	128,784
Total	2,145,683*	502,270*

*Approximately.

INQUIRY INTO THE AGRICULTURAL INDUSTRY.

In September, 1920, a Select Committee of the Legislative Council, with Sir Joseph Carruthers as Chairman, was appointed to inquire into the "Conditions and prospects of the agricultural industry of New South Wales." Up to 31st December, 1920, five interim reports had been issued, and sittings were being held in country centres in June, 1921. In view of the importance of the findings, a brief summary of the various reports is given below.

Education and Research.

Attention was drawn to the pressing needs of the State as regards the provision of adequate facilities for agricultural education and scientific research. Existing establishments were found to be overloaded with duties and unable to compass all the work required of them. They were of insignificant magnitude when compared with those of great agricultural countries such as the United States and Canada. The enormous value of the research and educational work done in these countries was illustrated, and the evidence showed that heavy losses, estimated at £5,000,000 annually, result in New South Wales from insect pests, such as the sheep blow-fly, the wheat and corn weevil, the codlin moth, the bot-fly, the cut-worm, and the grasshopper,

while the yield of cereals is low. It was stated that "pests and diseases are increasing and new ones appearing," but that the whole trouble could probably be dealt with effectively at a cost of £100,000 per annum, expended on research and laboratory work.

Bulk Handling of Grain.

Comprehensive inquiries were made into the facts concerning the installation of wheat-elevators and the system of bulk-handling of grain, with particular reference to the transition from the bag to the bulk method. The more important conclusions may be summarised as follow:—The chief advantages to be derived from bulk-handling were considered to be a saving in the amount of grain lost in transit and from damage by mice and weevil, safer and better storage, better grading, facilities for cleaning the grain, the saving of freight on dirt and rubbish, economy in labour in handling of the grain. It was also anticipated that, with grading, better prices would be secured for good wheat, that farmers would be encouraged to produce by the best methods, and that better facilities would arise for financing the crop.

Among conclusions countervailing these was included the fact that in the view of shipping experts, the cost of shipping in bulk will be probably as great as the cost of shipping in bags.

It was also thought that the majority of existing farmers would adhere to the bag system until, at least, the time comes for scrapping worn-out implements and buildings, and that the bagging of wheat will continue for a very long time to come in respect of a large portion of the crop. It was expected that new farmers would usually adopt the bulk method.

Rural Credit and Finance.

The Commission was of the opinion that, because many landholders did not possess and were unable to obtain adequate capital to enable them to put their land to its fair productive use, numbers of settlers were forced to sell their holdings. It was demonstrated statistically that only one-half of the number of original holdings created since 1861 now exist separately.

It was asserted that, since "the existing bank system is intended to meet the requirements of trade and commerce and industries presenting entirely dissimilar aspects from those of land production and settlement," a sound system of rural finance is needed "to provide long-time loans on the land of farmers and settlers, associated, if required, with the principle of amortisation," and also to secure ways and means of providing temporary financial assistance to enable the farmer to carry on his operations.

The present system of extended payment for selections is not suited to the requirements of land finance, and the difficulties are increased by the complexity of the land laws. New legislation is needed to provide for the issue of a certificate of title to the selector early in his career, setting forth clearly the conditions of his title, and providing a simple method of registration and transfer of the title.

The true basis of a good system of rural finance was deemed to exist in the Local Credit Associations of older countries, but it was believed that less of the requisite community spirit existed here than abroad, and that much propaganda work would be necessary to encourage it.

WHEAT.

The mild climate of New South Wales makes it possible to work the soil on scientific lines throughout the year, and admits of the utilisation of paddocks for pastoral purposes after the crop has been harvested.

The area suitable for wheat-growing in New South Wales may be defined roughly as that part of the State which has sufficient rainfall to admit of ploughing operations at the right time of the year, to cover the growing period of the wheat-plant—April to October inclusive—and to fill the grain during the months of September and October; or, in the case of districts where the rainfall in these months is light, to counteract the deficiency by the increased falls in the earlier or later months.

This area is of considerable extent, but, until an accurate soil survey of the State is made, a reliable estimate of its size cannot be made. The coastal region is unsuited to wheat on account of the absence of suitable soils and of the prevalence of rust and other diseases occasioned by heavy rains. Inland, large areas on the Tablelands are also unfavourable for wheat-growing, and the far West has insufficient rainfall to make wheat-growing profitable except under extraordinary conditions. Between the Tablelands and the Western Division lie considerable tracts of slope and plain eminently adapted to the cultivation of wheat. It is in this area, and particularly in the southern and central portions, that most of the wheat of the State is grown, and it is here that the prospects of a large development in the wheat industry in the near future are brightest.

Formerly, land with an average rainfall of less than 20 inches was excluded from the area considered safe for profitable wheat-growing; and it was estimated that with the exception of the coastal and certain unsuitable northern districts, the area with an average annual rainfall of not less than 20 inches, suitable for wheat-growing, covered from 20 to 25 million acres.

Since 1904 it is estimated that the wheat belt has been extended westward and increased by about $13\frac{1}{2}$ million acres. Of this increase the greatest extension has taken place in the southern wheat areas, especially in the Riverina Division, where the spring rainfall is more suited than on the North-central Plain to filling and maturing the grain.

If wheat could be grown profitably in New South Wales on areas with an annual fall of 16 inches, another 9,000,000 acres would be added to the wheat belt. Improved methods of culture have enabled farmers to secure profitable returns even in districts of scanty rainfall.

On the map attached to this Year Book are shown the experience lines of profitable wheat cultivation, that is, the western boundaries of the area in which wheat has been successfully cultivated, as determined in 1904 and in 1912, the western boundary of the area over which the average rainfall is not less than 10 inches during the wheat-growing period being defined also.

In determining the present wheat experience line, due consideration was given to low yields attributable to bad farming, and other preventable causes. The average wheat yields for various districts do not always disclose accurately the possibilities of the region. Notwithstanding the improvement made during recent years in cultural methods generally, the majority of farmers do not obtain the maximum results possible under good treatment. The conservation of moisture by fallowing and by subsequent cultivation has not received sufficient attention, and the use of artificial manures should be more general.

On page 410 appears a table showing the area of the various divisions of the State, the average rainfall, the area under wheat, and the number of sheep and cattle in each division. Reference should be made to this table in connection with the above matter.

The following statement shows the fluctuations of wheat-growing as an industry in Divisions of the State:—

Division.	Area under Wheat for Grain.			Proportion in each District.		
	1905-06.	1915-16.	1919-20.	1905-06.	1915-16.	1919-20.
Coastal	acres. 10,845	acres. 5,217	acres. 1,065	per cent. 0·6	per cent. 0·1	per cent. 0·1
Tableland—						
Northern	14,546	7,642	2,830	0·8	0·2	0·2
Central	113,636	169,546	38,870	5·9	4·1	2·7
Southern	13,538	20,888	6,580	0·7	0·5	0·4
Total	141,720	198,076	48,280	7·3	4·7	3·3
Western Slopes—						
North	217,992	434,088	101,516	11·3	10·4	6·9
Central	343,928	693,099	206,177	17·9	16·6	14·0
South	350,780	901,799	291,424	18·1	21·5	19·8
Total	912,700	2,028,986	599,117	47·3	48·4	40·7
Central Plains	249,360	491,563	208,269	12·6	11·9	14·1
Riverina	620,616	1,463,728	616,614	32·0	34·9	41·8
Western	4,206	1,295	829	0·3	...	...
All Divisions	1,939,447	4,188,865	1,474,174	100·0	100·0	100·0

The year 1919-20 was one of the worst yet experienced by wheat-farmers, and the area cultivated was far below the average of previous seasons. The distribution of the area in this year shows that the industry is more stable in the Southern and Central interior than elsewhere in the State. Considered relatively and absolutely, the Riverina shows the greatest development, and improvements of less note are to be observed in the Central Plains and in Western Slopes Divisions. In 1915-16 these three divisions combined embraced 95 per cent. of the total area sown. The area in 1915-16 was the greatest yet cultivated for wheat in New South Wales in any season.

This analysis is made more complete by a consideration of the yield of wheat in these Divisions in the same seasons.

Division.	Yield of Grain.			Average Yield per Acre.		
	1905-06.	1915-16.	1919-20.	1905-06.	1915-16.	1919-20.
Coastal	bushels. 63,638	bushels. 33,881	bushels. 5,361	bushels 5·9	bushels 6·5	bushels 5·0
Tableland—						
Northern	213,706	79,172	5,742	14·7	10·4	2·0
Central	1,159,137	3,242,286	133,371	10·2	13·2	3·4
Southern	153,789	419,456	51,057	11·4	20·1	7·7
Total... ..	1,526,632	3,740,914	190,170	10·8	18·9	4·9
Western Slopes—						
North	2,221,094	5,616,454	99,324	10·2	12·9	·9
Central	3,037,476	11,325,164	565,020	8·8	16·3	2·2
South	4,603,764	16,426,101	1,053,129	13·1	18·2	3·6
Total	9,862,334	33,367,719	1,717,473	10·8	16·4	2·8
Central Plains	2,018,194	4,601,866	221,535	8·1	9·4	1·1
Riverina	7,243,888	25,011,778	2,251,320	11·7	17·1	3·6
Western	22,514	8,752	2,163	5·4	6·8	2·6
All Divisions	20,737,200	66,764,910	4,388,022	10·7	15·9	3·0

The almost complete failure of the crops in 1919-20 was occasioned by the severe drought that prevailed throughout the season in all parts of the State.

An interesting feature of the particulars shown for average yields is that wheat is most prolific in the Southern portion of the State, and that the yield is usually smaller from crops situated in the Northern and Western Districts.

The following statement shows the area under wheat for grain and for hay, together with the total production, average yield per acre, and quantity exported since 1897-98, when a surplus of wheat for export was first produced:—

Season.	Area under Wheat.				Yield.		Average yield per acre.		Quantity of Wheat and Flour Exported overseas in calendar year commencing season.
	For Grain.	For Hay.	Fed-off.	Total.	Grain.	Hay.	Grain.	Hay.	
	acres.	acres.	acres.	acres.	thousand bushels.	thousand tons.	bushels.	tons.	thousand bushels.†
1897-98	993,350	213,720	*	1,207,070	10,560	182	10.6	.85	582
1898-99	1,319,502	312,451	*	1,631,954	9,276	177	7.0	.57	437
1899-00	1,426,166	414,813	*	1,840,979	13,604	341	9.5	.32	865
1900-01	1,530,609	332,143	*	1,862,752	16,174	348	10.6	1.05	4,788
1901-02	1,392,070	312,358	*	1,704,428	14,809	287	10.6	.92	2,914
1902-03	1,279,760	320,588	*	1,600,348	1,585	76	1.2	.24	154
1903-04	1,561,111	286,702	*	1,847,813	27,334	452	17.5	1.58	9,772
1904-05	1,775,955	284,367	*	2,060,322	16,404	207	9.3	.73	5,661
1905-06	1,939,447	313,582	*	2,253,029	20,737	305	10.7	.97	5,338
1906-07	1,866,253	316,945	16,744	2,199,942	21,818	403	11.7	1.27	6,246
1907-08	1,390,171	365,925	129,813	1,885,909	9,156	198	6.6	.54	962
1908-09	1,394,056	490,828	104,202	1,989,086	15,483	427	11.1	.87	4,866
1909-10	1,990,180	380,784	5,825	2,376,789	28,532	566	14.3	1.49	12,111
1910-11	2,128,826	422,972	61,458	2,613,256	27,914	468	13.1	1.11	14,423
1911-12	2,380,710	440,243	80,731	2,901,684	25,088	423	10.5	.96	10,172
1912-13	2,231,514	704,221	31,557	2,967,292	32,487	780	14.6	1.11	17,116
1913-14	3,205,397	534,226	23,393	3,763,016	38,020	588	11.9	1.10	20,038
1914-15	2,758,024	569,431	815,561	4,143,016	12,831	355	4.7	.62	785
1915-16	4,188,865	879,678	53,702	5,122,245	66,765	1,212	15.9	1.38	23,514
1916-17	3,806,604	633,605	58,101	4,498,310	36,598	814	9.6	1.23	21,262
1917-18	3,329,371	435,180	63,855	3,828,456	37,712	485	11.3	1.11	12,650
1918-19	2,409,669	613,544	204,161	3,227,374	18,325	517	7.6	.84	19,694
1919-20	1,474,174	716,770	877,596	3,068,540	4,388	355	3.0	.49	427
1920-21	3,124,370	524,680	7,670	3,656,720	53,716	827	17.2	1.55	*

* Information not available.

† Flour has been converted to wheat at 1 ton of flour per 50 bushels of wheat.

From this record of twenty-four years' experience it will be observed that a poor wheat yield was obtained at intervals of more or less regular recurrence, viz., in the years 1898-9, 1902-3, 1907-8, 1914-15, 1918-19 and 1919-20, and that unfavourable seasons were particularly prevalent in the past seven years. But the remarkable recuperative powers of the State were demonstrated in the season 1920-21.

The area under wheat increased from 1¼ million acres in 1897-8 to 2¼ million in 1905-06. In the following seasons a decline was apparent, but a marked improvement took place in 1909-10, and thereafter the area increased rapidly, especially in the period 1912-15, when the maximum of over 5 million acres was reached. The decreases in the later seasons have been due mainly to a shortage of labour, unfavourable ploughing seasons, and difficulties in regard to the disposal of the harvest: moreover, the high prices obtainable for sheep and wool until the end of 1920 caused many farmers to substitute sheep-raising for wheat-growing.

Average Yield.

The average yield of wheat in New South Wales is subject to marked fluctuations by reason of the widely divergent nature of the seasons. The highest yields have been recorded after the worst droughts, and, besides giving dramatic proof of the advantages of fallowing, have gone far to make

immediate compensation for the losses sustained. The lowest yield on record was that of the 1902 season, being only 1.2 bushels per acre, while the highest—17.5 bushels per acre—was harvested in the following year. During the past twenty years the general average yield has been approximately 11½ bushels per acre. This yield is considerably below that which was obtained prior to the expansion of the wheat industry, but in those early years only some of the best wheat lands were tilled. However, a noticeable improvement has been apparent in the last ten years, although the general average for that period has been kept low by the occurrence of no less than four adverse seasons. In decennial periods the averages have been :—

Period.	Average Yield per acre.	Period.	Average Yield per acre.
1872-1881	bushels. 14.71	1902-1911	bushels. 11.04
1882-1891	13.30	1912-1920	11.31
1892-1901	10.02		

This yield does not compare favourably with the yields usually obtained abroad, even in the large wheat-producing countries, while smaller producing countries, particularly those situated in the colder climates, show far greater average yields :—

Country.	Period.	Average Yield per acre.	Country.	Period.	Average Yield per acre.
		bushels.			bushels.
United Kingdom ...	1909-1918	31.8	New South Wales ...	1912-1920	11.3
New Zealand ...	1917-1919	26.1	Australia ...	1912-1920	11.2
Canada ...	1915-1919	15.5	Russia (proper) ...	1909-1918	10.3
United States ..	1917-1919	14.1	Argentina ...	1917-1919	9.5

It is believed that, when more scientific methods of cultivation are widely adopted in New South Wales, and land is properly fallowed, tilled, and manured, the yield per acre will be increased considerably; and a further favouring factor exists in the great possibilities that attach to the improvement of wheat types by plant-breeding. However, it is anticipated that the warm climate and the prevalence of hot winds during the ripening period will always militate against a high average yield being obtained in New South Wales, such as is obtained in more humid countries.

Consumption of Wheat in N.S.W.

Since the abolition of the system of interstate book-keeping by the Commonwealth Department of Customs in 1910, it has been difficult to obtain information as to the extent of wheat movements interstate, and thus it has not been possible to estimate satisfactorily the consumption and export of wheat as regards New South Wales. Absolute accuracy, therefore, is not claimed for the analysis of the experience since 1910 in the following table, but it is probably fairly reliable. Allowances for the carry-over between periods have not been made, but it is likely that these are considerable only after large crops. A close approximation to the net average annual consumption may be made by choosing a lengthy period beginning and terminating in years when the carry-over was nil or negligible. Since

Figures similar to those shown above are not available for more recent years, but an indication of the condition of the world's post-war production of wheat is made in the following table of production in pre-war years compared with 1919 :—*

Country.	Annual Production of Wheat in Thousand Bushels.		Country.	Annual Production of Wheat in Thousand Bushels.	
	Average 1909-13.	1919.		Average 1909-13.	1919.
Europe—			America—		
Russia proper (b)	522,794	(a)	United States.. ..	686,691	940,987
France (b)	317,254	177,978	Canada.. ..	197,119	196,361
Italy	183,260	169,663	Argentine	157,347	184,268
Hungary proper (b)	156,523	(e) 156,530	Minor Countries (3)	37,625	45,105
Germany (b)	152,119	(d) 90,330			
Spain	130,446	133,939	Total, America	1,078,782	1,468,721
Roumania (b)	86,679	(e) 50,754			
United Kingdom	61,481	69,320	Australasia—		
Austria (b)	61,075	(a)	Victoria	27,656	14,853
Bulgaria (b)	43,725	34,019	New South Wales	26,717	4,296
Poland (b)	23,343	(a)	South Australia	22,343	14,980
Servia (b)	14,775	(d) (f) 4,126	Western Australia	5,671	11,223
Belgium	14,553	9,895	Queensland	1,250	312
Minor Countries (8)	37,432	41,492	Tasmania	806	214
Total, Europe	1,805,489	....	Total, Australia	84,943	45,383
Asia—			New Zealand	7,885	6,659
India	350,736	230,075	Total, Australasia	92,828	52,042
Minor Countries (5)	162,572	(a)	Grand Total	3,568,461	....
Total, Asia	513,308	....		
Africa—					
Egypt	34,900	(a)			
Algeria	33,071	25,559			
Tunis	6,063	7,349			
Union of South Africa	4,620	8,600			
Total, Africa	77,754	....		

(e) Not available. (b) Old boundaries. (c) 1917. (d) 1918. (e) Excluding Dobrudja.

(f) Unofficial estimate.

* Information from the Year Book of the United States Department of Agriculture, 1919.

It was estimated that the yield in 1920, in thirty-one of the largest producing countries of the world, was approximately 7 per cent. greater than in 1919, and an official bulletin of the International Institute of Agriculture forecasted that a small surplus above world requirements would exist in August, 1921.

Cost of Growing Wheat.

Various attempts have been made to secure the data necessary to form an accurate estimate of the cost of production of wheat in New South Wales; but as, either for grain or for hay, this depends largely upon the methods of culture, the area cultivated, the distance from the railway, and the soil conditions, the experiences of individual farmers have caused a wide diversity of opinion.

The factor which is probably the main cause of these differences is the efficiency of the producers. Wheat being the product of a large number of farmers working independently, it is natural that there should be greater variation in regard to efficiency than in other industries, where the producers are assembled under the supervision of experts and where there are greater facilities for improving methods of production and for utilising labour and materials on the most economical basis.

The following estimates have been provided by Mr. A. H. E. McDonald, Chief Inspector of Agriculture, to indicate the average cost of producing wheat on unfallowed and on fallowed land. For the purposes of the estimates

the area cropped annually is taken at 250 acres, viz., 230 acres for grain, and 20 acres for hay for horse feed; to crop this area in alternate seasons under the system of fallowing, the total area of the farm would be 500 acres. The value of the land is assumed to be £6 per acre and the value of the plant £680; as the farmer is engaged throughout the year in cultivating and other operations in connection with wheat-growing an amount of £260 per annum is added to cover the value of the farmer's labour. Experiments made by the Department of Agriculture indicate that an average yield of 20 bushels per acre may be obtained from fallowed land and the cost of production under the fallowing system is calculated on this basis, while 12 bushels per acre is taken as the yield from unfallowed land; in each case one bushel per acre is deducted for seed wheat.

In the case of fallowed land one crop is grown in two years. Where fallowing is practised, interest for two years is therefore allowed, but the stubble and herbage on the land are available for at least six months, and where sheep are kept, as is usually the case, this feed has some value. It is difficult to assess, but is probably worth at least three shillings per acre. Credit at this rate might reasonably be given to fallowed land on this account. When the land is not fallowed, the stubble is usually burnt and ploughing commenced in February or March.

The expenditure in the purchase of bags is a heavy item in the wheat-grower's account. Silos for bulk handling are now in working order in some of the important wheat-growing centres, and it is possible for farmers in these districts to reduce considerably the number of bags used by them. The silos have not, however, been in use long enough to enable a determination to be made of the actual saving which will accrue through bulk-handling.

The costs of production under conditions existing in New South Wales in May, 1921, were estimated as follows:—

Item.	Unfallowed Land.		Fallowed Land.	
	Per acre.	Total.	Per acre.	Total.
Hypothetical net yield bushels	11	2,530	19	4,370
Costs—	£		£	
Land—Interest, 250 acres, at £6 per acre, 6 per cent. per annum	90		180	
Plant—Interest and Depreciation, value £680...	90		90	
Allowance for Repairs	20		20	
Wages—Extra help	45		45	
Fertiliser—Superphosphate, 6½ tons	44		44	
Bags—At 8s. per doz.	28		48	
Cartage of Wheat to Rail at 9d. per bag ...	32		55	
Total cost, exclusive of allowance for farmer's labour £	349		482	
Cost per acre cropped for grain ,, ,,	£ s. d.		£ s. d.	
,, bushel on rail ,, ,,	1 10 4		2 1 11	
	0 2 9		0 2 2½	
Total cost, including allowance of £260 for farmer's labour £	609		742	
Cost per acre cropped	£ s. d.		£ s. d.	
,, bushel, on rail ,, ,,	2 12 11		3 4 6	
	0 4 10		0 3 4½	

Grading, Handling, and Marketing Wheat.

The maintenance and further development of the wheat industry in New South Wales is dependent largely on world demand, and on the efficiency of the facilities for gaining access to over-sea markets on such conditions that it will pay farmers to grow wheat in preference to other products. The price of wheat for export is determined by world's parity, and it fluctuates with the world demand, which inevitably governs production. The market for the exportable surplus of local wheat is found chiefly in Queensland and in the countries and islands of the Pacific and Indian Oceans, although a considerable proportion is sent to Egypt and to Europe—principally England. The further extension of the market for local wheat in Europe is in some measure opposed by the competition of great wheat-producing countries nearer the market—the United States, Canada, and the Argentine—and the advantages they derive from shorter distances and lower freights. However, scope for a considerable expansion in the wheat trade with eastern countries still exists, and local growers will benefit in the course of years as the world demand increases.

Australian wheat for export is marketed on the basis of a single standard known as f.a.q., or fair average quality. In New South Wales the standard is fixed annually by a committee of members of the Sydney Chamber of Commerce and of two Government representatives. Samples obtained from each of the wheat districts are weighed on McQuirk's patent scale, and an average struck, which is used as a standard in all wheat export transactions.

The following comparison shows the standard in New South Wales for each of the past ten seasons, and the date on which it was fixed in each year :—

Year.	Date Fixed.	Standard Bushel.	Year.	Date Fixed.	Standard Bushel.
1911-12	1st Feb., 1912	61½	1916-17	12th Mar., 1917	56½
1912-13	31st Jan., 1913	62½	1917-18	26th Feb., 1918	58½
1913-14	19th „, 1914	64	1918-19	30th Jan., 1919	62½
1914-15	15th Feb., 1915	60½	1919-20	6th Feb., 1920	61
1915-16	21st „, 1916	61	1920-21	10th Mar., 1921	59½

Under the present system the wheat is bagged on the farm and brought to the nearest railway station, whence that intended for export is carried in bags by rail to Sydney for shipment. At some of the stations the Railway Department has erected sheds, and a small charge is made for storage, but portions of large harvests have at times to be stored with scant shelter. At Darling Harbour, Sydney, where all the grain ships, except bulk carriers, are loaded, sheds and bag elevators have been provided.

The dislocation of shipping arrangements consequent on war conditions and the unprecedented harvest of 1915-16 resulted in the accumulation of quantities of wheat in this State far greater than those normally held. Owing to the disadvantages of long storage in bags, heavy losses of grain were caused by wet weather and plagues of mice and weevil. A Royal Commission of Inquiry was appointed by the Federal Government, and its report was presented in July, 1917. The erection of permanent storage facilities was recommended and the recommendation was carried into effect. The Wheat Storage Act of 1917 gave the Federal Government power to finance the

States in the construction of wheat elevators. New South Wales took prompt advantage of the act, and tenders were called for the necessary work before the close of the year.

The complete scheme provides for the erection of elevators at seventy-four country centres, with a total storage capacity of 15,400,000 bushels and of a terminal elevator in Sydney with a total storage capacity of 6,509,600 bushels.

Elevators at twenty-eight country centres were put into operation during the 1920-21 season. They comprised 109 storage bins capable of holding 5,450,000 bushels of grain, but only about 2,000,000 bushels were handled by this method in 1920-21, since bulk handling was still in its initial stages. The work of erecting the terminal elevator had so far advanced that the main storage space provided there was also utilised.

The works completed have cost approximately £1,500,000, and it is estimated that the further cost of completing the scheme would be £3,000,000.

For conveyance from country stations to the terminal, the Railway Commissioners converted a large number of 15-ton S trucks, and made them suitable for the carriage of grain in bulk. They are now engaged upon the design of a larger truck capable of carrying 40 tons of bulk wheat.

The question of bulk handling of wheat in New South Wales, with special reference to the transition from bag handling, was the subject of careful inquiry by a Select Committee of the Legislative Council in November, 1920, and a report has been issued. An analysis of the findings of this committee appears on an earlier page of this chapter.

Wheat Freights.

In the conditions governing the marketing of local wheat abroad, the availableness and cost of freight are very important factors. Owing to the greater distances from local than from American ports to European markets, freight rates are much heavier on Australian than on American cargoes, though both must be sold at world's parity, or at approximately the same price, yielding a smaller net return to local growers. During the war period this disparity was particularly marked owing to the very great increases in shipping costs, and the exportable surplus of wheat from New South Wales was sold principally to countries bordering the Indian and Pacific Oceans.

A comparative statement is given below of the freights ruling for bagged-wheat cargoes carried by steam vessels from Sydney to London in pre-war and recent years:—

Year ended 30th June.	Freight.				Year ended 30th June.	Freight.			
	Per ton.		Equivalent per bushel.			Per ton.		Equivalent per bushel.	
	s.	d.	d.	d.		s.	d.	d.	d.
1912 ...	17	6	to	30	0	6	½	to	11
1913 ...	10	0	to	35	0	3	¼	to	13
1914 ...	25	0	to	37	6	9		to	13
1918 ...	70	0	to	130	0	24	½	to	47
1919 ...	105	0	to	160	0	38	½	to	58
1920 ...	114	0	to	143	0	41	¼	to	52

By May, 1921, freights had fallen very considerably, and were quoted at from 40s. to 55s. per ton.

Wheat Pools.

By reason of the abnormal conditions which prevailed in the wheat industry of New South Wales, in December, 1914, when war and drought had produced a difficult situation, the Government assumed control of the disposal of the whole of the wheat grown within the State, and this was done

under authority of the Wheat Acquisition Act. A price of 5s. per bushel for wheat delivered at country railway stations was paid to farmers; there was practically no export, as the harvest of the season was insufficient to supply local needs.

The succeeding harvest (1915-16) was by far the largest yet gathered locally, and the difficulties which confronted its shipment and marketing led to an agreement being made between New South Wales and the other wheat-exporting States of the Commonwealth, whereby all wheat grown was "pooled," so that all growers might participate equitably in the proceeds of sales and all States might share on a common basis in shipping space as it became available through chartering agents responsible to the Commonwealth Government. An interstate ministerial committee, known as the Australian Wheat Board, performed the duty of realising the crop abroad, of fixing local prices, and of distributing freights between the States, while the handling and disposal of wheat within New South Wales was carried out by the State Wheat Office. The disposal of wheat was a slow and difficult process, and, pending sales, advances were made to growers by arrangement with the banks. This scheme was renewed for each subsequent season up to 1920-21.

All wheat grown in New South Wales to the end of the 1919-20 season has been disposed of, but the accounts have not yet been finalised.

The following statement, however, indicates the financial position on 11th July, 1921, so far as it was known, and shows the magnitude of the transactions in each season :—

Season.	New South Wales.			Commonwealth (Four States).
	Advances to Growers.	Expenses Paid.	Total Expenditure.	Total Expenditure.
	£ (000)	£ (000)	£ (000)	£ (000)
1915-16	12,383	1,801	14,184	39,056
1916-17	5,002	1,920	6,922	30,749
1917-18	6,081	1,717	7,798	26,922
1918-19	3,094	574	3,668	18,522
1919-20	164	15	179	14,916
1920 21	14,339	1,365	15,704	41,185
All seasons..	41,063	7,392	48,455	171,350

The amounts of payments made to growers in each season were determined by realisations—that is, by quantity sold and price obtained. So far as the financial situation permitted, these payments were made in advance of actual sales.

The following statement shows the payments made to farmers in New South Wales from the successive pools up to July, 1921 :—

Wheat Season.	Amount paid per bushel to farmers.	Guaranteed price per bushel.	Wheat Season.	Amount paid per bushel to farmers.	Guaranteed price per bushel delivered at country stations.
	s. d.	s. d.		s. d.	s. d.
1915-16 ...	4 10*	4 0†	1918-19 ...	4 10*	4 0
1916-17 ...	3 3§	Nil.	1919-20 ...	7 6*	5 0
1917-18 ...	4 0*	4 0‡	1920-21 ...	6 3§	7 6

* Less rail-freight and dockage.

† For wheat grown on new land.

‡ F.o.b.

§ Less dockage.

Final payments to growers cannot be made until all accounts have been adjusted. However, pending realisation and payment, certificates are issued to farmers for the amount of wheat pooled. These can be made negotiable instruments by a simple process, and sold at ruling market rates. "Wheat scrip," as it is called, is officially listed by the Stock Exchanges. Farmers disposing of their certificates thereby dispose of all right, title, and interest in them.

Particulars as to the position of the various pools of New South Wales as at 11th July, 1921, are shown below :—

Season.	Wheat Shipped.	Wheat Sold Locally.	Stock Adjustments.	Stock Suspense.	Total Wheat Pooled.
	thousand bushels.	thousand bushels.	thousand bushels.	thousand bushels.	thousand bushels.
1915-6	23,977	29,597	...	...	53,574
1916-7	7,893	21,631	2,526	...	32,050
1917-8	10,684	22,424	91	516	33,715
1918-9	549	13,343	...	...	13,892
1919-20	...	453	...	...	453
All Pools—					
1915-1919	48,103	87,448	2,617	516	138,684

Of the quantity sold locally the equivalent of 10,544,000 bushels was exported subsequently in the form of flour.

The whole of the 1920-21 harvest has not yet been disposed of, but the pool stood thus at 11th July, 1921 :—

Disposal.	Thousand Bushels.	Expenditure.	Thousand £
Wheat Shipped	24,490	First Advance to Farmers ..	6,144
Sold Locally	7,809	Second Advance to Farmers ...	6,278
Millers' Stocks	14,634	Third Advance to Farmers ...	1,917
Agents' Stocks	3,873	Expenses Paid	1,365
Total Wheat Pooled ..	50,806	Total Expenditure	15,704

If comparison be made between the quantities pooled from each harvest and the total wheat yield in each season, it will be found that of 217,504,000 bushels of grain grown in the past six seasons, 189,146,000 were pooled, leaving 28,358,000 bushels which were retained by the growers.

Prices of Wheat.

The following table gives the average prices per bushel ruling in the Sydney market each year since 1898. The figures for earlier years, published in the Year Book for 1919, exhibit clearly the tendency towards a gradual reduction in the value of the cereal down to 1895, when the price was the lowest of the series. In 1896, however, owing to a decrease in the world's supplies, the price rose considerably, and led to an extension of cultivation in Australasia. In the early years, when local production was deficient, the price in Sydney was generally governed by the prices obtained in the markets of Australian States where a surplus had been produced. Since the development of the export trade, however, it has been determined by the price realised in London, which is usually equal to that ruling in Sydney, plus freight and charges; but since 1915 local prices have been fixed by the Government.

The prices quoted are for an imperial bushel of 60 lbs. in Sydney markets.

Year.	February.		March.		Average Value for Year.	Year.	February.		March.		Average Value for Year.
	per bushel.		per bushel.		per bushel.		per bushel.		per bushel.		per bushel.
	s.	d.	s.	d.	s. d.		s.	d.	s.	d.	s. d.
1898	4	0	4	0	3 8	1910	4	1 $\frac{3}{4}$	4	1	3 10
1899	2	7 $\frac{1}{2}$	2	9	2 9	1911	3	7 $\frac{1}{4}$	3	5	3 6
1900	2	9	2	8	2 8 $\frac{1}{2}$	1912	3	9 $\frac{1}{4}$	3	8 $\frac{1}{2}$	4 1
1901	2	7	2	7	2 8	1913	3	6 $\frac{1}{2}$	3	7	3 2 $\frac{1}{4}$
1902	3	2	3	2 $\frac{3}{4}$	4 5	1914	3	8	3	9 $\frac{1}{4}$	4 1 $\frac{1}{2}$
1903	5	11 $\frac{5}{8}$ *	5	9 $\frac{1}{4}$ *	5 1 $\frac{3}{4}$ *	1915†	5	6	5	6	5 5
1904	3	0 $\frac{3}{4}$	3	0 $\frac{3}{4}$	3 2	1916†	5	1 $\frac{3}{4}$	5	0 $\frac{1}{4}$	4 10
1905	3	4 $\frac{1}{2}$	3	3 $\frac{3}{8}$	3 5	1917†	4	9	4	9	4 9
1906	3	1 $\frac{5}{8}$	3	2 $\frac{1}{4}$	3 3 $\frac{1}{2}$	1918†	4	9	4	9	4 9
1907	3	0 $\frac{7}{8}$	3	1 $\frac{1}{2}$	3 10	1919†	5	0	5	0	5 1 $\frac{1}{2}$
1908	4	4	4	5 $\frac{1}{2}$	4 3 $\frac{3}{4}$	1920†	8	5*	8	10*	8 7 $\frac{1}{4}$ *
1909	4	0 $\frac{3}{4}$	4	6 $\frac{1}{2}$	4 9	1921†	9	0	9	0	9 0 $\frac{5}{8}$

* Imported wheat. † Officially fixed. ‡ Official price on trucks of wheat for flour for home consumption. § To June.

The high prices ruling in 1903 and 1920 were due to the almost entire failure of the previous season's crop, on account of which supplies were drawn from oversea and other States. In 1920 the price of 9s. per bushel was fixed for wheat for local consumption in accordance with the anticipated world's parity and in order to encourage farmers to continue wheat growing.

An interesting comparison between the prices realised for wheat by the growers of three important exporting countries and one important consuming country is made in the following table:—

Crop Grown in—	Average Farm Value per Bushel of Wheat.			
	United Kingdom.	United States.	Canada.	New South Wales.‡
	s. d.	s. d.	s. d.	s. d.
1914	4 0	3 8	...	5 5
1915	6 2	4 4	3 9	4 10†
1916	6 7	5 3	5 5	3 3+
1917	9 3	8 4	8 1	4 0†
1918	9 0	8 6	8 5	4 10†
1919	9 1	8 10	7 10	7 6+
1920	9 1*	9 8	6 9	7 6§

* Seven months. † F.a.q. wheat, less freight. ‡ Guaranteed. † Crops in N.S.W. are marketed six months later than in countries of Northern Hemisphere.

The above averages have been taken from official publications of each country mentioned. Dollars have been converted at par rate of exchange. The marked disparity between the values in Canada and the United States in 1919 and 1920 was largely due to the abnormal exchanges.

It is evident that, though in the early years of the war prices of wheat rose precipitately abroad and furnished excellent returns to farmers, local conditions were not favourable to such an increase. The price for local consumption was fixed at a point considerably below the price in world markets and, though a large exportable surplus was produced in 1915-16 and subsequent years, the scarcity of shipping made it impossible to realise promptly or at favourable rates, with the result that the returns to farmers were low and were paid in small sums intermittently. It was not until the scarcity caused by the bad seasons of 1919 that the price paid to the farmer rose to a level approaching that of other countries.

MAIZE.

Before the development of the wheat-exporting industry of New South Wales maize-growing was the most extensive single agricultural pursuit. But it now ranks second in importance amongst the crops of New South Wales; its cultivation is small in comparison with that of wheat, and sufficient is not grown for local consumption.

Maize is cultivated chiefly in the valleys of the coastal rivers, where both soil and climate are peculiarly adapted to its growth. On the Northern Tableland also good results are obtained, and maize is gaining popularity as a profitable crop in rotation with hay.

The following statement shows the distribution of the area under maize for grain during the season 1919-20, with the production and average yield in each Division :—

Division.	Area under Maize for Grain.	Yield.	
	Total.	Total.	Per Acre.
Coastal—	acres.	bushels.	bushels.
North	49,918	2,045,013	41·0
Hunter and Manning	27,129	873,330	32·6
Cumberland	2,693	99,513	36·8
South	10,941	405,396	37·2
Total	90,681	3,423,252	37·7
Tableland—			
Northern	19,347	303,501	15·7
Central	3,670	113,451	30·9
Southern	297	5,976	21·2
Total	23,314	422,928	18·1
Western Slopes... ..	22,429	204,843	9·1
Central Plains, Riverina, and Western Divisions	85	1,002	11·8
All Divisions	136,509	4,052,025	29·7

The maize of the State is grown principally in the coastal districts, and more especially on the North Coast, although a considerable quantity is also raised on the Northern Tableland. Maize-growing reached its highest development locally in 1910, and since then, despite a distinct rise in the price level, production has been decreasing.

The following statement exhibits a comparative review of maize-growing since the season 1900-1, with a statement of the average price in Sydney markets for each crop :—

Season.	Area under Maize for Grain.	Production.		Average Price per Bushel, Sydney Markets.
		Total.	Average yield per Acre.	
	acres.	thousand bushels.	bushels.	s. d.
1900-1	206,051	6,293	30·5	2 8
1905-6	189,353	5,540	29·3	3 0
1910-11	213,217	7,594	35·6	3 0
1913-14	156,820	4,453	28·4	4 0
1914-15	143,663	3,175	22·1	5 2
1915-16	154,130	3,774	24·5	4 6
1916-17	155,378	4,333	27·9	3 10
1917-18	145,754	3,500	24·0	5 7
1918-19	114,582	2,092	18·3	8 0
1919-20	136,509	4,052	29·7	8 7

It is somewhat difficult to understand why maize-culture has declined so considerably in New South Wales, and why, so far from there being any export trade in this important grain, supplies have been regularly imported. Perhaps among the reasons may be included the absence of any attempt to encourage maize-growing in the way that wheat has been encouraged, the competition of more profitable pursuits, such as dairy-farming, the absence of an outlet in the form of an export trade, and the vagaries of the local market. In pre-war years the international trade in maize was somewhat less than half the volume of that for wheat. In the United States of America, where approximately 70 per cent. of the world's supply of maize is grown, it is by far the largest crop, but only about 2 per cent. of it is exported. The pre-war consumption in England was approximately eighty million bushels annually, imported principally from the United States and the Argentine.

No information is available as to the costs of producing maize in these countries, but it is apparent at least that the gross returns to growers in New South Wales are often considerably greater than those obtained in the United States, where the average yield per acre during the ten years, 1910-1919, has been 26·1 bushels per acre.

The estimated farm value per acre of maize in both countries is shown below. The estimate was made in both cases by multiplying the average number of bushels yielded per acre by the average price obtained by the farmer in each country:—

Year.	Farm Value per acre of Maize in—		Year.	Farm Value per acre of Maize in—	
	United States of America.	New South Wales.		United States of America.	New South Wales.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
1911	3 1 9	5 7 5	1916	4 10 5	4 13 0
1912	2 18 5	4 19 0	1917	7 10 3	6 0 1
1913	3 6 5	4 17 0	1918	6 16 6	5 1 3
1914	3 9 10	5 6 9	1919	8 0 9	11 0 2
1915	3 7 6	4 13 10			

No comparison is possible between the actual returns obtained in the two countries, since conditions vary so widely between them. It is apparent, however, that the improvement in the gross return per acre has been more marked in the United States in recent years than in New South Wales, and the absence of any substantial improvement locally until 1919 suggests some reason for the decline in maize-growing.

Information as to interstate movements of goods is not available since 1909, and it is, therefore, not possible to estimate accurately the annual consumption of maize at the present time. Nevertheless, some idea of the annual requirements may be obtained from the fact that, in the ten years ended 1909, the average annual consumption of maize in New South Wales was 4·1 bushels per head of population. Of late years, however, the production of maize has declined, and to maintain the consumption of earlier years an average annual import of $4\frac{3}{4}$ million bushels would be necessary now. The average annual maize crop during the past five seasons has been 3,150,000 bushels.

OATS.

The production of oats in New South Wales is not sufficient to supply the local demand, although where cultivation has been undertaken the return has been satisfactory. The elevated districts of Monaro, Argyle, Bathurst,

and New England contain large areas of land on which oats could be cultivated with excellent results, as it thrives best in regions which experience a winter of some severity.

The Northern Tableland gave the best average, with 17·7 bushels per acre. In the whole of the Tableland Division 9,906 acres were under crop, and yielded 113,568 bushels, or 11·4 bushels per acre; on the Western Slopes, 24,789 acres gave 171,210 bushels, or 6·9 bushels per acre, while in the Riverina the production was 298,947 bushels from 40,883 acres, or 7·3 bushels per acre. These three Divisions accounted for about 99·5 per cent. of the total production.

The following table gives statistics of the cultivation of oats for grain since 1900-1 :—

Season.	Acres under Oats for Grain.	Production.		Price per Bushel, Sydney Markets.
		Bushels.	Bushels per Acre.	
1900-01	29,383	593,548	20·2	s. d. 2 4
1905-06	38,543	883,081	22·9	2 10
1910-11	77,991	1,702,706	21·8	2 8
1913-14	103,416	1,835,403	17·7	3 0
1914-15	43,476	513,910	11·8	4 7
1915-16	58,636	1,345,698	23·0	2 10½
1916-17	67,111	1,084,980	16·2	3 1
1917-18	82,591	1,455,111	17·6	4 7
1918-19	86,474	1,273,752	14·7	5 9
1919-20	76,117	586,758	7·7	5 7

The cultivation of oats developed rapidly in New South Wales until 1913, but has since declined, and the area and yield have always been of small extent, local needs being supplied largely by importation.

The local yield per acre is considerably below that of the important producing countries, and the total yield insignificant compared with the world production, which usually amounts to more than 4,000,000,000 bushels per year. Though most countries produce sufficient for their requirements, considerable international trade is done in oats. The United Kingdom and France are the principal importers and Russia (formerly), but now the United States, Canada, and the Argentine are the principal world suppliers.

The return from the crop to growers in Canada and the United States may be gauged from the fact that, at farm prices, one acre of oats in the former country was, on the average (1915-19), worth £4 17s. 10d., and in the latter (1914-18) £3 15s. 2d., compared with an average of £2 11s. 0d. (1910-19) in New South Wales.

Until an accurate soil survey of the State is made it will not be possible to estimate the extent of the possible expansion of oat-growing in New South Wales.

For the reasons explained already in connection with maize, it is not possible to make a reliable estimate of the present consumption of oats in New South Wales. In the period 1900-1909 the average consumption was at the rate of 1·4 bushels per head of population. If this relationship still exists local requirements are now, on the average, about 2½ million bushels, necessitating a yearly import of 1,600,000 bushels.

At present the market for oats is chiefly in the metropolitan district, and the demand depends mainly on the price of maize. Large quantities are imported from Victoria, Tasmania, and New Zealand.

BARLEY.

Barley is produced only on a moderate scale, and local supplies of barley and malt are practically all imported. Although there are several districts where the necessary conditions as to soil and drainage present inducements for cultivation, particularly with regard to the malting varieties, barley is grown mainly in the North-Western Slope and the Riverina Divisions. The areas under crop in other districts are small, and do not call for special notice. The following table shows the area under barley for grain, together with the production at intervals since 1900-01.

Season.	Area under Barley for Grain.	Production.		Season.	Area under Barley for Grain.	Production.	
		Total.	Average per Acre.			Total.	Average per Acre.
1900-01	acres. 9,435	bushels. 114,228	bushels. 12·1	1915-16	acres. 6,369	bushels. 114,846	bushels. 18·0
1905-06	9,519	111,266	11·7	1916-17	5,195	73,370	14·1
1910-11	7,082	82,005	11·6	1917-18	6,370	97,824	15·5
1913-14	20,610	303,447	14·7	1918-19	7,980	86,313	10·8
1914-15	4,861	46,500	9·6	1919-20	5,354	33,892	7·2

The table shows considerable fluctuation as to the area cultivated, while the grain yield has varied greatly, ranging from 4 bushels per acre in 1902-3, when the crop practically failed, to the excellent rate of 21·9 bushels in 1886-7. The average crop during the last ten years has been about 14 bushels per acre.

HAY.

The following statement shows the area under each crop for hay, the total production, and the average return per acre during the last seven seasons :—

Type of Hay.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
<i>Area.</i>							
Wheaten	acres. 534,226	acres. 569,431	acres. 879,678	acres. 633,605	acres. 435,180	acres. 613,544	acres. 716,770
Oaten	211,606	161,320	176,183	161,723	118,917	152,842	172,310
Barley	1,395	1,179	1,348	866	844	1,238	1,750
Lucerne	52,479	52,582	50,544	61,584	64,708	46,359	46,555
Rye, etc.	1,424	1,432	1,166	754	995	977	1,015
Total	801,130	785,944	1,108,919	858,532	620,644	814,960	938,400
<i>Production.</i>							
Wheaten	tons. 588,127	tons. 354,531	tons. 1,211,677	tons. 813,768	tons. 484,708	tons. 517,370	tons. 354,659
Oaten	256,814	147,420	259,476	210,953	150,097	145,638	138,137
Barley	1,552	1,112	1,575	1,205	1,083	1,058	1,394
Lucerne	107,045	108,934	100,075	147,365	147,172	88,463	85,540
Rye, etc.	1,509	1,238	1,135	759	1,146	1,161	856
Total	955,047	613,235	1,573,938	1,174,050	784,206	753,630	580,586
<i>Average Production per Acre.</i>							
Wheaten	tons. 1·10	tons. 0·62	tons. 1·38	tons. 1·13	tons. 1·11	tons. 0·84	tons. 0·49
Oaten	1·21	0·91	1·47	1·30	1·26	0·95	0·80
Barley	1·11	0·94	1·17	1·39	1·28	0·85	0·79
Lucerne	2·85	2·07	1·17	2·39	1·28	1·91	1·84
Rye, etc.	1·06	0·86	1·98	1·01	2·27	1·19	0·34
			0·96		1·15		

A very considerable portion of the areas under wheat, oats, barley, and lucerne is utilised for the production of hay for farm stock and of cut chaff for the market. This proportion is increasing, but the extent of the increase depends on the climatic conditions of the season.

A scheme of fodder conservation has been propounded recently; it includes a proposal to store large quantities of hay in the form of chaff for sale to pastoralists in bad seasons, and, if adopted, will provide a considerable stimulus to the growing of crops for hay.

In general, oaten crops are grown in parts of the State which, on account of the climate, are unsuitable for maturing grain, and preference is given to cultivation for hay; moreover, the prices obtainable for the hay are usually so profitable as to prejudice development of the grain harvest.

The area under barley for hay is inconsiderable. Lucerne is always in demand, and consequently realises remunerative prices. It gives the best return of all hay crops, the average yield during the last ten years having been 2·2 tons per acre for lucerne, and a little over a ton each for oaten, barley, and wheaten hay. In favoured districts, and with careful attention, lucerne grows so rapidly that, from a series of crops, as many as eight cuttings may and have been procured, with an average of 1 ton per acre for each.

GREEN FOOD AND SOWN GRASSES.

The great advance in dairy-farming has caused a corresponding increase during recent years in the cultivation of cereals, lucerne, and grasses, for green food. The cultural development of grasses has received great attention particularly in the northern and southern coastal districts, the great centres of dairy farming in the State. Considerable areas have been sown also in the Central Tableland, and smaller cultivations in the Northern and Southern Tablelands and in the Murray Valley.

The following statement shows the increase in the area cropped for green food and sown with artificial grasses in various seasons since 1900-01 :—

Season.	Area Cropped for Green Food.	Area Sown with Grasses.	Season.	Area Cropped for Green Food.	Area Sown with Grasses.
	acres.	acres.		acres.	acres.
1900-01	78,144	422,741	1915-16	162,945	1,247,099
1905-06	95,058	627,530	1916-17	149,873	1,357,157
1910-11	179,382	1,055,303	1917-18	152,519	1,389,640
1913-14	146,239	1,234,455	1918-19	331,129	1,438,465
1914-15	949,619	1,251,453	1919-20	1,007,506	1,543,317

The area cropped for green food includes the area of crops which failed to mature either for grain or hay, and consequently were fed-off. This area is large in bad seasons and small when conditions are good. In 1914-15 no less than 815,561 acres sown with wheat were fed-off by stock, and in 1919-20 the area so treated was 877,596 acres.

Lucerne is grown in considerable quantities on the Hunter River flats, and the cultivation of this fodder plant is extending throughout the country, principally along the banks of the rivers flowing from the western watershed of the Dividing Range. During 1919-20 there were 40,201 acres grown for green food, and if to these be added the area cropped for hay, there were altogether 86,752 acres under lucerne.

ENSILAGE.

New South Wales is liable at intervals of fairly regular recurrence to long periods of dry weather, and, consequently, lacks a permanent supply of natural fodder. Hence the necessity arises for conserving the abundant growth of herbage of good seasons, in the form of ensilage, for use when natural pastures are exhausted. The need is well illustrated by recent experiences. In the latter part of 1919 and the first half of 1920 a severe drought caused heavy losses of sheep and farm stock. Extensive Government aid was given to many distressed farmers, and large sums of money were expended in purchasing fodder from other States at high prices. The breaking of the drought was followed by a prolific growth of grass, of which but a small part could be consumed. If the remainder were scientifically conserved, a vast store of inexpensive fodder would be available for future needs. To facilitate such conservation the Department of Agriculture offers liberal assistance to farmers by erecting for them silos at actual cost, repayable by easy instalments without interest. Farmers may sink pits for the same purpose at small expense. In either case free advice on all matters of material and method is given by the Department.

The possession of stocks of ensilage is highly advantageous to the prosecution of dairy farming in the districts of the coast, where the climatic conditions are unfavourable to the growth of winter fodder.

The quantity of ensilage of which returns have been supplied is shown in the following table:—

Division.	Ensilage Prepared.					
	1900-01.	1905-06.	1910-11.	1915-18.	1918-19.	1919-20.
	tons.	tons.	tons.	tons.	tons.	tons.
Coastal	1,694	1,414	18,125	7,028	3,580	11,012
Tableland	3,753	1,430	2,328	800	256	900
Western Slopes	847	2,250	2,654	5,788	1,990	1,012
Central Plains and Riverina	460	4,227	6,409	4,595	306	284
Western	100	...	100	300	160	120
Total	6,854	9,321	29,616	18,511	6,292	13,328

The quantity of ensilage made each year during the last decade has varied considerably, especially during the first half of the period. The year of maximum production was 1909, when 34,847 tons were made on 364 farms. The production has since decreased considerably. In 1919-20 the production was 13,328 tons, made on 112 farms, and valued at £25,009.

Considering the liability of the State to periods of severe drought, the small efforts made to conserve the fodder of abundant seasons is disappointing.

About the middle of 1921, however, an expert committee sat to consider the matter of fodder conservation as a means of drought insurance. An outline of the scheme proposed is given at the close of Chapter, "Pastoral Industry," of this Year Book.

POTATOES.

Potatoes are a very important article of food in New South Wales, but producers within the State supply a decreasing proportion—approximately one-third of the quantity consumed here. Considerable quantities are imported from other States, principally Victoria and Tasmania. Prices have of recent years risen to a high level without materially stimulating local production, and the consumption per head has fallen off heavily.

The following statement shows an estimate of the average production, import, and consumption of potatoes in New South Wales for the periods 1901–1909 and 1916–1920. In the latter period the quantity of import is partly estimated :—

Period.	Average Annual Production.	Average Annual Import.	Average Annual Consumption.	
			Total.	Per Capita.
	tons.	tons.	tons.	lb.
1901–09	63,170	50,540	113,710	175·3
1916–20	44,020	63,010	107,030	125·3

It is apparent that the local production of potatoes has diminished seriously, and that sufficient supplies have not been obtained from other States to maintain local consumption at its former level.

The factors governing the local potato supply are shown below in comparison with various years since 1900–01.

Season.	Area under Crop.	Production.		Price per ton, Sydney Markets, Local Potatoes.*
		Total.	Average per Acre.	
	acres.	tons.	tons.	s.
1900–01	29,408	63,253	2·15	101
1905–06	26,374	50,386	1·91	140
1910–11	44,452	121,033	2·72	111
1915–16	19,589	44,445	2·27	158
1916–17	22,449	45,331	2·02	111
1917–18	22,580	49,984	2·21	122
1918–19	20,879	30,356	1·45	288
1919–20	20,043	49,986	2·49	246

* Average for full calendar year following growing season.

A very heavy decline in potato-growing is apparent since 1910, when the industry was at its highest point and supplied sufficient for local needs. During the past five years production has been low and the area cultivated has remained stationary. The average yield during the last ten years has been 2·26 tons per acre, and the highest 2·8 tons per acre in 1909–10.

The average wholesale prices per ton of potatoes at Sydney during the season 1919-20 are shown below.

Month.	Local.	Victorian.	Tasmanian.	Month.	Local.	Victorian.	Tasmanian.
1919.	£ s. d.	£ s. d.	£ s. d.	1920.	£ s. d.	£ s. d.	£ s. d.
July ...	13 10 0	15 0 0	17 18 9	January ...	15 16 6	15 13 0	18 4 6
August ...	14 3 3	18 0 0	16 7 6	February...	12 15 0	*	16 18 3
September...	9 15 9	16 7 3	14 13 0	March ...	10 8 0	9 19 9	12 12 0
October ...	15 13 3	24 6 9	23 13 3	April ...	10 1 6	10 5 0	12 6 3
November...	28 19 0	17 3 3	27 5 6	May ...	14 0 0	11 6 0	12 13 3
December ...	22 6 0	12 6 0	26 0 0	June ...	14 0 0	14 4 3	16 4 6

*No Quotations.

In No. 10 Report of the Prices Investigation of the Inter-State Commission of Australia (1919) it was stated that local supplies of potatoes were handled by a combination of merchants, and that prices were needlessly dear in Sydney.

TOBACCO.

The local consumption of tobacco amounts annually to about five and a half million pounds per annum, manufactured principally from imported leaf, only about 11 per cent. being locally grown.

Tobacco culture is confined practically to the northern and southern portions of the Western Slopes and the Central Tableland.

The following statement shows the extent of the cultivation of tobacco, since 1900-01 :—

Season.	Area.	Production of Dried Leaf.		Season.	Area.	Production of Dried Leaf.	
		Total.	Average per Acre.			Total.	Average per Acre.
	acres.	cwt.	cwt.		acres.	cwt.	cwt.
1900-01	199	1,905	9.6	1915-16	1,277	9,563	7.5
1905-06	809	7,327	9.1	1916-17	952	921	1.0
1910-11	959	8,513	7.8	1917-18	791	2,609	3.3
1913-14	1,992	18,117	9.1	1918-19	1,80	20,952	12.5
1914-15	1,563	10,065	6.4	1919-20	1,604	19,236	12.0

For several years prior to 1889 the area under cultivation grew steadily, and in that year it reached the maximum of 4,833 acres. As, however, the local product did not compare favourably with the American leaf, it could not be treated profitably, and a large proportion of the crop remained upon the farmers' hands, so that many growers abandoned tobacco in favour of other crops. The area had declined to 533 acres in 1907-8, but subsequently

it increased, owing to the greater attention paid to the processes of curing. Tobacco manufacturers endeavoured to stimulate the industry by paying adequate prices for good leaf, and by employing expert assistance to instruct growers. In 1917 and 1918 the seasons were unfavourable, owing to the continuous rains in the early spring, which caused an outbreak of blue mould in the seed beds. However, for two years past, conditions have been most favourable, and both the best and largest crops yet produced in the State have resulted. The heavy yield per acre, coupled with the good quality of the leaf and the high prices realised, have encouraged growers to greater efforts.

SUGAR-CANE.

Sugar-cane was cultivated in New South Wales as early as 1824, but it was not until 1865 that systematic attention was given to this industry. Within a few years the richest portions of the lower valleys of the Clarence, the Richmond, the Tweed, and the Brunswick were occupied by planters. Mills were erected in the chief centres of the industry, and cane-growing and sugar-manufacturing became established industries in the north-eastern portion of the State, where the soil and the climate are in most respects well adapted to successful cultivation.

The following table shows the area and production in various seasons since 1900-01. As sugar-cane is not productive within the season of planting, the area under cultivation has been divided, as far as practicable, into productive and non-productive, the former representing the number of acres upon which cane was cut during the season, and the latter the area either newly planted or during which it was not sufficiently matured for milling, and was on that account allowed to stand for another year. On the average the area cut for cane represented about one-half of the total area planted.

Season.	Area.			Production of Cane.	
	Cut for Crushing.	Not Cut.	Total.*	Total.	Average per Acre.
	acres.	acres.	acres.	tons.	tons.
1900-01	10,472	11,642	22,114	199,118	19.01
1905-06	10,313	11,492	21,805	201,998	19.59
1910-11	5,596	8,167	13,763	160,311	28.65
1915-16	6,030	5,228	11,258	157,748	26.16
1917-18	5,588	5,003	10,596	174,881	31.30
1918-19	4,566	5,924	10,490	105,234	23.05
1919-20	4,827	5,741	10,568	91,321	18.92

* Exclusive of areas cut for green food or plants.

This table bears convincing evidence of the decline in New South Wales of this important branch of agriculture. Though improved methods have resulted during the past eight years in a noticeable increase in the average yield per acre, the total production of cane has fallen far below the level it reached twenty years ago. A persistent and marked decline, both in the total area cultivated and in the area cut for crushing is apparent throughout.

The largest area on record, consisting of 32,927 acres, was planted in 1895-6, while the greatest production, 320,276 tons of cane, was obtained in 1896-7, but the average yield in that year was only 17.6 tons per acre. At about this time alterations were made in the Customs Tariff with regard to sugar, and a great development in dairy farming on the Northern Rivers commenced. Both causes operated to prevent the progress of sugar-growing. In recent years another industry, that of banana-growing, has entered the field in competition with sugar-growing, and the higher returns in this new activity have added further serious cause to the decline in the area devoted to sugar. In 1918-19 and 1919-20 the area cultivated was smaller than in any preceding year since 1880, and the total yield the lowest on record.

The majority of the farmers combine the growing of sugar-cane with dairy-farming, and only a few estates are devoted entirely to its production.

In the *Agricultural Gazette* of New South Wales, November, 1920, the following estimate was given of the present cost of growing and the return from sugar-cane planted in virgin land over a period of three crops:—

Costs.	Per acre.	Returns.	Per acre.
	£ s. d.		£ s. d.
Clearing Land, per acre, and Planting Cane	18 0 0	First Crop, 40 tons per acre, at £2... ..	80 0 0
First Crop—Cultivating, Cutting, and Ploughing	37 0 0	First Ratoon Crop, 30 tons per acre, at £2	60 0 0
First Ratoon Crop—Cultivating, Cutting, and Ploughing	28 15 0	Second Ratoon Crop, 25 tons, at £2... ..	50 0 0
Second Ratoon Crop—Cultivating, Cutting, and Ploughing	25 12 6		
Total Cost	£ 109 7 6	Total Returns	£ 190 0 0

This estimate takes no account of interest on the capital value of the land and does not include any allowance for the farmer's salary as manager, but it includes the value of any labour he may have supplied himself. The net return of £81 per acre for the three crops is, therefore, to be increased by the value of the farmer's labour included among costs and diminished by interest and depreciation charges on land and plant.

The gross value per acre of the crop in the above estimate amounts to £63 6s. 8d. per year. The gross value of the actual returns in the 1919-20 season was £31 11s. 8d. per acre for an average yield of 18.9 tons per acre, which is, however, considerably below the general average of the State.

It became necessary in March, 1920, for the Commonwealth Government to grant a substantial advance in the price of sugar. This was done with a two-fold object, firstly, of stimulating local production and, secondly, of meeting the cost of imported supplies.

VINEYARDS.

The principal vineyards of the State are situated in the valleys of the Murray and the Hunter Rivers, where capital has been expended generously to introduce skilled labour, and to provide manufacturing appliances.

The great irrigated areas in the Murrumbidgee Valley are now rapidly growing in the favour of *vignerons*, and they may within a few years become the most important wine-producing districts of the State. Several hundred acres have already been planted with vines, and the results of the culture have proved highly satisfactory.

AGRICULTURE.

The vine-growing and wine-manufacturing industries are still, however, in their infancy, and at present the production is, speaking comparatively, insignificant.

The following table shows, at intervals since 1900-1, the total area under vines in this State, the area devoted to the wine-making industry only, the total production of wine in gallons, and the average number of gallons to the acre:—

Season.	Total Area under Vines.	Area under Vines for Wine-making only.	Production of Wine.		Season.	Total Area under Vines.	Area under Vines for Wine-making only.	Production of Wine.	
			Total.	Average per Acre.				Total.	Average per Acre.
	acres.	acres.	galls.	galls.		acres.	acres.	galls.	galls.
1900-01	8,441	4,534	891,190	197	1916-17	8,666	3,442	628,950	183
1905-06	8,754	5,279	831,700	157	1917-18	8,594	3,839	538,210	140
1910-11	8,321	4,354	805,600	185	1918-19	8,740	3,961	555,770	140
1915-16	7,883	3,501	571,000	163	1919-20	8,923	4,233	717,893	170

The wine produced in New South Wales during the year 1919-20 was valued at £146,590, and the brandy distilled by vigneron for fortifying purposes at £2,310.

The culture of grapes is not restricted to the production of fruit for wine manufacture, but a considerable area is devoted to their production for table use, particularly in various parts of Central Cumberland, and in the Orange, Yanco, and Mirrool Districts. The extent of land devoted to this branch of the industry in 1919-20 included 2,235 acres, with a production of 2,678 tons of grapes.

Although there is a large local demand, and possibility of an export trade for raisin fruits, no extensive areas have as yet been planted. In 1919-20 there were 645 acres cultivated for drying purposes, and the yield was 9,549 cwt., comprising 4,987 cwt. of sultanas, 2,097 cwt. of raisins, and 2,465 cwt. of currants. At the vineyards conducted in connection with the Wagga Experiment Farm and the Hawkesbury Agricultural College raisins and sultanas are dried every season and placed on the local market, where they are regarded as equal in every respect to the imported article.

ORCHARDS.

The cultivation of fruit is capable of considerable expansion, as both the soil and the climate of large areas throughout the State are well adapted to fruit-growing. A larger area of land is, however, being brought each year under fruit culture, and orchardists may obtain from the Department of Agriculture information as to the varieties which are recommended for planting in specified districts, and the prospects of ultimate success are thus greatly enhanced. With large areas of suitable soil and with climatic conditions ranging from comparative cold on the highlands to semi-tropical heat on the North Coast, a large variety of fruits can be cultivated. In the vicinity of Sydney, oranges, peaches, plums, and passion-fruit are most generally planted. On the Tableland, apples, pears, apricots, and all the fruits from cool and temperate climates thrive well; in the west and in the south-west, figs, almonds, and raisin-grapes can be cultivated; and in the north coastal districts, bananas, pine-apples, and other tropical fruits grow excellently. Citrus fruits are cultivated extensively, and form the largest element in local production.

Particulars of citrus orchards are shown in the following statement :—

Season.	Area under Cultivation.			Production.	
	Productive.	Not Bearing.	Total.	Total.	Average per Acre.
	acres.	acres.	acres.	bushels.	bushels.
1900-01	11,013	3,952	14,965	648,628	59
1905-06	15,054	2,795	17,849	886,493	59
1910-11	17,465	2,643	20,108	1,478,306	85
1915-16	17,542	5,717	23,259	1,360,898	78
1917-18	19,133	6,311	25,444	1,737,107	91
1918-19	20,529	7,068	27,597	1,619,346	79
1919-20	21,523	7,204	28,727	1,769,038	82

The number of orchards in which citrus fruit was cultivated during the year 1918-19 was 6,165, and of these the average area was $4\frac{1}{2}$ acres.

The production of oranges and mandarins has attained such proportions that the growers are obliged to seek oversea markets, the supply, both in New South Wales and in the adjacent States, exceeding in some seasons the local demand. During 1919-20 the export of citrus fruits from New South Wales amounted to 13,720 centals, valued at £22,153, practically all of which went to New Zealand.

The principal crops of fruit other than citrus products, which are more intensively cultivated in the neighbourhood of Sydney, range from natives of comparatively cold to those of temperate and semi-tropical climes, but their successful culture is determined by altitude as well as by parallels of latitude.

The following table shows the area under orchards and fruit-gardens exclusive of orangeries, together with the total value of each season's yield, at intervals since 1900-01 :—

Season.	Area of Productive Fruit-gardens and Orchards.	Area of Fruit-Gardens and Orchards not Bearing.	Total Area Cultivated for Fruit-gardens and Orchards.	Total Value of the Production of Fruit-gardens and Orchards.	Approximate Average Value per Acre.
	acres.	acres.	acres.	£	£ s. d.
1900-01	25,766	5,503	31,269	270,081	10 10 0
1905 06	25,189	3,577	28,766	189,195	7 10 0
1910-11	20,498	6,748	27,246	271,930	13 5 4
1915-16	19,006	13,173	32,179	243,210	12 16 0
1917-18	22,121	13,784	35,905	376,090	17 0 0
1918-19	23,795	12,970	36,765	742,730	31 4 0
1919-20	25,688	13,978	39,666	737,328	28 14 0

Owing to the subdivision of orchards for residential and other purposes the area under fruit declined from 32,346 acres in 1901-02 to 25,859 acres in 1909-10; since that season it has increased, and in 1918-19 was the highest on record.

More than one-third of the area devoted to fruit culture is in the county of Cumberland, the actual areas in 1919-20 being citrus, 11,498 acres; fruits

other than citrus, 7,559 acres. At the Murrumbidgee irrigation settlement fruit-trees are being planted very extensively, especially peaches, apricots, and oranges.

With the exception of oranges and mandarins, the fruit-production of New South Wales is far below average demands. The State is, therefore, obliged to import large quantities, the greater portion of which could be grown within its own boundaries. As a matter of fact, vast quantities of fruit produced in New South Wales never reach the consumer. This is due to faults of marketing, and to lack of co-operation among growers. Good seasons are rewarded by a glut of fruit, for which, apparently, there is no system of efficient handling; and while consumers are anxious to secure supplies of sound fruit, much of the produce is allowed to be wasted.

The extent of cultivation of each kind of fruit is shown in the following table for the past two seasons :—

Fruit.	1918-19.				1919-20.			
	Number of Trees not yet Bearing.	Trees of Bearing Age.		Number of Trees not yet Bearing.	Trees of Bearing Age.			
		Number.	Yield.		Number.	Yield.		
Oranges—			bushels.			bushels.		
Seville	31,054	94,114	109,180	29,790	94,714	98,767		
Washington Navel ...	141,850	208,044	181,003	137,993	234,829	202,896		
Valencia	182,148	231,267	198,397	186,233	273,794	242,854		
All other	90,932	593,885	502,321	95,120	582,060	503,371		
Lemons	88,063	251,311	222,612	88,079	257,035	270,876		
Mandarins	97,040	461,389	397,775	96,451	466,403	446,303		
Other Citrus	1,093	4,904	8,058	2,676	3,729	4,071		
Apples	371,554	703,406	519,327	369,737	718,350	524,303		
Pears—								
Williams	104,017	111,505	85,174	108,254	147,216	120,281		
All other	40,894	64,967	52,088	47,654	49,727	45,360		
Peaches—								
Early	140,797	450,209	386,771	146,833	494,472	507,958		
Canning	92,333	170,421	179,336	80,304	196,145	217,338		
Nectarines	10,271	38,201	28,137	9,943	34,892	29,218		
Plums	101,388	123,023	105,352	99,083	132,385	120,770		
Prunes	46,692	23,787	20,945	174,058	32,857	19,651		
Cherries	100,987	135,579	62,282	101,775	139,212	51,613		
Apricots	42,124	102,487	78,409	34,194	109,088	105,839		
Quinces	13,271	26,939	27,985	12,983	25,031	28,820		
Persimmons	3,769	11,000	11,310	5,196	10,677	11,878		
Passion Fruit	*31,513	*108,053	49,059	*32,641	*95,957	58,901		
All other	22,704	28,587	20,927	19,092	28,315	14,885		

* Vines.

The above figures include returns from private orchards, which are, however, of comparatively small amount, ranging from 2 per cent. of the total orchards in the case of citrus fruits; up to about 8 per cent. in the case of some stone-fruits.

Banana culture is becoming an important industry in the Tweed River district of the North Coast division. In 1919-20 the total area was 4,370 acres; 2,853 acres were productive and yielded 234,844 cases of bananas, valued at £174,380.

WATER CONSERVATION AND IRRIGATION.

THE provision of an adequate water supply for irrigation purposes is essential in a country liable to dry seasons which affect extensive areas, and a recognition of this fact has induced the Government to undertake various schemes, which will constitute portion of an irrigation system to serve the whole State.

The following table shows in conjunction with the total area, the area under crop, the number of sheep and cattle, and the average annual rainfall in the various divisions calculated over a period of years; the rainfall figures indicate the range of the averages of the representative stations in each division :—

Division.	Average Annual Rainfall.	Total Area.	Area Under Cultivation 1919-20.		Sheep, 1920.	Cattle, 1920.
			Wheat For Grain.	Other Crops.		
Coastal—	Inches.	Acres.	Acres.	Acres.	No.	No.
North Coast ...	38 to 63	5,410,000	...	86,000	7,000	760,000
Hunter & Manning ...	24—60	10,391,000	1,000	92,000	793,000	644,000
Cumberland ...	31—48	1,070,000	...	35,000	27,000	55,000
South Coast ...	27—56	5,484,000	...	40,000	216,000	240,000
Total ...	...	22,355,000	1,000	253,000	1,043,000	1,699,000
Tableland—						
Northern ...	30—32	8,928,000	3,000	62,000	1,945,000	405,000
Central ...	24—37	8,989,000	39,000	182,000	2,080,000	107,000
Southern ...	19—32	7,914,000	6,000	47,000	2,614,000	125,000
Total ...	...	25,831,000	48,000	291,000	6,639,000	637,000
Western Slopes—						
North ...	24—31	9,813,000	102,000	226,000	3,054,000	187,000
Central ...	20—29	6,253,000	206,000	360,000	1,933,000	62,000
South ...	20—28	8,186,000	291,000	294,000	3,160,000	140,000
Total ...	...	24,252,000	599,000	880,000	8,147,000	389,000
Plains and Riverina—						
North Plains ...	19—23	10,031,000	9,000	16,000	2,195,000	86,000
Central Plains ...	17	16,030,000	199,000	206,000	3,270,000	73,000
Riverina ...	14—17	19,767,000	617,000	644,000	4,573,000	117,000
Total ...	...	45,828,000	825,000	866,000	10,038,000	276,000
Western Plains ...	9—16	80,368,000	1,000	6,000	3,382,000	83,000
Whole State ...	...	198,634,000	1,474,000	2,296,000	29,249,000	3,084,000

The table shows the great extent of the country with a low average rainfall. In these areas the majority of the sheep are depastured, and a large proportion of the crops is cultivated; therefore, there is urgent necessity for the conservation of all the available water to carry the stock over periods of drought, and to increase the cultivation of fodder and other crops which can be grown under irrigation. Even in the coastal districts, where the average rainfall is highest, the dairying industry suffers from periods of drought, of which the effects could be mitigated if sufficient attention were paid to conservation.

THE CONTROL OF WATER CONSERVATION AND IRRIGATION WORKS.

The system and the works necessary for its maintenance and development are under the control of the Water Conservation and Irrigation Commission, which consists of the Minister for Agriculture, as Chairman, and two other Commissioners. The works controlled by the Commission include the great Murrumbidgee irrigation scheme, the small irrigation settlements at Hay and Wentworth, natural works of water conservation, shallow boring for settlers, and water trusts and artesian bore trusts operating under the Water Act. The Commission has control also of storages and diversions of water by private persons for purposes of conservation and irrigation.

THE MURRUMBIDGEE IRRIGATION SCHEME.

Under this scheme a storage dam across the Murrumbidgee River has been constructed, to retain the flood water, which is released for use lower down the river during dry periods. Provision has been made for a movable diversion weir about 240 miles below the dam, to turn the required amount of water from the river into the main canal; a main canal, leaving the river near the weir; four main branch canals and a series of subsidiary canals and distributing channels through the area to be irrigated; bridges, checks, regulators, and other structures throughout the entire system; and meters for measuring the volume allowed to each farm. Towns and villages, roadways to serve each farm, and a general surface drainage system are included in this scheme.

The site of the storage dam is at Burrinjuck, 3 miles below the confluence of the Murrumbidgee and the Goodradigbee Rivers. The dam-wall, when complete, will have a maximum height of 240 feet, and will impound the waters in a lake covering 12,740 acres. The reservoir will have a capacity of nearly 33,612 million cubic feet or 771,641 acre-feet, the catchment area being about 5,000 square miles, drained by three principal streams—the Murrumbidgee, the Goodradigbee, and the Yass Rivers—up which the water will be backed, when the dam is full, to distances of 41 miles, 15 miles, and 22 miles respectively above the dam. Direct communication between Burrinjuck and the Main Southern Railway has been provided by the construction of a 2-foot gauge line from Goondah, a distance of 26 miles.

The irrigation areas are situated on the northern side of the Murrumbidgee River, and when fully developed it is estimated that there will be over 200,000 acres under irrigation in blocks devoted to fruit and vegetable-growing, dairying and stock raising, &c. With the aid of irrigation the soil and climate are suitable for the production of apricots, peaches, nectarines, prunes, pears, plums, almonds, melons, cantaloupes, and citrus fruits; also wine

and table grapes, raisins, sultanas, figs, olives, and most varieties of vegetables and fodder crops. Dairying and pig-raising are being conducted successfully by settlers in the areas.

Farms varying in size from 2 acres to 200 acres have been made available. The average agricultural farm is from 15 to 25 acres, but to suit the requirements of dairymen and other stock farmers, blocks of larger areas have been made available. These include non-irrigable or "dry" areas, in addition to the irrigable portion. The "water right" or number of "acre-feet" of water allotted to each holding is specified when the holding is notified as available for application, as is also the charge for such fixed water rights which may be altered at any time by notification in the *Government Gazette*. An "acre-foot" of water means such a quantity as would cover one acre with water 12 inches deep.

The conditions for the disposal of irrigation blocks are contained in the Crown Lands Consolidation Act of 1913 and its amending Acts. Any person over the age of 16 years if male, or 18 years if female (other than a married woman not living apart from her husband under decree of judicial separation), or by two or more such persons jointly, may apply for a farm or block. A married woman not judicially separated from her husband, or subject to any other statutory disqualification, may (a) acquire by way of transfer, with the consent of the Minister, out of her own moneys, a lease within an irrigation area; (b) continue to hold a lease which she held before her marriage; and (c) hold a lease which may devolve on her by will or intestacy of a deceased person. The tenure is perpetual leasehold.

The improvement conditions attached to the farm holdings include fencing, planting of trees for wind-breaks, construction of dwellings, and the destruction of noxious plants.

Subject to such conditions as to security and terms of repayment as the Commission may require, settlers may obtain an advance, or have suspended the payment of amounts owing. Such advances are limited to the total amount of funds made available by Parliament for this purpose. The Government Savings Bank Commissioners also have statutory powers to make loans upon mortgage of irrigation farm leases.

Large areas of land have been reserved for discharged soldiers; and camps have been established for the accommodation of selected applicants, who are granted farms after three months' satisfactory service. While in camp the men are employed upon developmental work in connection with their blocks, and are paid wages at award rates.

Upon taking up residence on their farms these settlers may obtain advances up to £625 for the development of their blocks, and subsequently such additional amounts as may be necessary to bring their land to the stage of productiveness. Payments for rent, &c., and repayments of advances will be suspended for five years in the case of fruit farms, and for two years in the case of dairy farms. The total indebtedness, including interest, will then be payable by instalments extending over a period of twenty years.

Towns and villages have been established at the centres of the Yanco and Mirrool irrigation areas, and the Commission is empowered to construct streets and to provide water-supply, sanitary, and other services.

Factories for butter, cheese, bacon, and for fruit and vegetable canning have been established on the areas to treat the produce of the settlers, also abattoirs to supply meat for local consumption, and an electric power-station from which light and power are supplied to the various factories and to residents.

The State nurseries at Leeton and Griffith supply fruit and other trees to the settlers, and an experiment farm is maintained at Yanco under the control of the Department of Agriculture; also a viticultural nursery at Griffith (in the Mirrool irrigation area) for the propagation of vines on phylloxera-resistant stocks.

During the year 1919-20 a total area of 33,415 acres was irrigated, and 19,791 acres were under crop. Details of production will be found in a statement on page 414.

HAY IRRIGATION AREA.

The irrigation area at Hay, on the Murrumbidgee River, consists of about 4,160 acres; prior to 1913 it was controlled by a trust appointed in 1897. On 30th June, 1920, the area held and used for irrigation purposes was 1,026 acres in 107 blocks, ranging from 3 acres to 34 acres in size; generally the term of lease is thirty-years, and the annual rental from 5s. to 10s. per acre. In addition, 2,698 acres of non-irrigated land had been taken up in 48 blocks, as permissive occupancies. The water-rate is fixed from time to time; during 1919-20 it was 25s. per acre per annum. The pumping machinery consists of a suction-gas plant, supplying two engines of about 55-horse-power each, working two centrifugal pumps, with an average combined capacity of about 4,000 gallons per minute. Dairying and pig-raising are the principal industries, the cultivation of fruit being very limited.

CURLWAA IRRIGATION AREA.

The Curlwaa irrigation area, situated at Wentworth, consists of 10,600 acres, of which 1,426 acres were held in irrigated holdings. On 30th June, 1920, practically the whole of this area had been taken up in areas varying from $1\frac{1}{2}$ acres to 37 acres. There are also 76 non-irrigated blocks, containing 7,106 acres, and the remainder of the area was common land. During the year 1919-20 an area of 909 acres was under cultivation, the area under fruit being 788 acres, of which 556 acres were bearing. Oranges, peaches, apricots, nectarines, pears, grapes, sultanas, and currants are grown, and it has been proved that the Curlwaa soil is eminently suited to fruit culture, some of the finest oranges grown in New South Wales being the product of this locality.

The pumping plant consists of a suction-gas engine of 120 horse-power, driving an 18-inch centrifugal pump, having a maximum capacity of 8,000 gallons per minute. The main channels measure about 9 miles and 10 chains in length.

The land may be leased for periods not exceeding thirty years, the annual rent at the present time varying from 1s. to 24s. per acre. The rate for water is fixed from time to time by the Commission and is at the present 20s. per acre per annum, except in a few special cases. Each lessee is entitled to receive a quantity of water equivalent to a depth of 30 inches per annum, limited to 4 inches in any one month.

PROGRESS OF IRRIGATION SETTLEMENTS.

Comparative statistics of the irrigation settlements in New South Wales are shown in the following statement; the particulars for 1910-11 relate to

the Hay and Curlwaa settlements only, as farming on the Murrumbidgee area was not in operation until the season 1912-13:—

Particulars.	1910-11.	1915-16.	1919-20.			
			Murrumbidgee.	Hay.	Curlwaa.	Total.
Cultivated Holdings No.	86	771	714	25	70	809
Area Irrigated Ac.	1,127	33,434	33,415	762	1,071	35,248
Area under—						
Crop	862	22,488	19,791	114	909	20,814
Grain	2	4,287	1,294	...	...	1,294
Hay and Green Food	399	13,631	10,474	52	121	10,647
Grape Vines—						
Bearing	186	353	776	5	242	1,023
Not yet Bearing	74	486	435	...	94	529
Orchards—						
Bearing	58	440	2,882	53	314	3,249
Not yet Bearing	139	2,896	3,735	3	138	3,876
Live Stock—						
Horses No.	239	3,300	3,996	221	167	4,384
Cattle—						
Dairy	484	2,461	2,833	387	42	3,262
Other	530	1,488	3,961	435	55	4,451
Sheep	703	32,440	13,424	1,971	99	15,494
Swine	134	2,799	1,690	92	4	1,786
Production—						
Wine gal.	...	650	31,340	...	...	31,340
Sultanas cwt.	...	2,778	1,534	...	2,553	4,087
Raisins	1,009	1,499	551	15	1,241	1,810
Currants ... ..	...	1,848	266	...	1,472	1,738
Oranges—						
Seville bush.	...	...	146	342	...	488
Washington Navel	273	4,938	18,169	20	8,442	26,631
Valencia... ..	...	...	6,246	...	1,153	7,399
All other ... ..	...	...	1,629	...	64	1,693
Peaches—						
Early	2,467	25,861	12,518	1,711	21,882	36,111
Canning ... ..	...	...	81,758	...	3,659	85,417
Nectarines ... ..	...	...	2,011	...	2,778	4,789
Apricots	2,905	10,690	44,418	1,042	13,590	59,050
Milk gal.	171,619	504,181	854,935	67,140	6,878	928,953
Butter (on farm) lb.	5,100	12,923	25,747	3,393	...	29,140
Bacon and Ham (on farm) ..	820	8,865	5,250	...	...	5,250

The area devoted to fruit-growing has increased considerably since 1915-16, but the orchards planted on more than half of the area have not yet reached the stage of production. Oranges, peaches, nectarines, and apricots are the principal kinds of fruit produced, but the yield is small in comparison with that which may be expected in a few years as the young trees become increasingly productive.

The following statement shows the number of fruit trees of the principal varieties, distinguishing the productive from those not yet bearing:—

Fruit Trees.	1910-11.		1915-16.		1919-20.	
	Pro-ductive.	Not yet Bearing.	Pro-ductive.	Not yet Bearing.	Pro-ductive.	Not yet Bearing.
Orange—						
Seville	} 202	3,606	6,509	67,020	562	2,774
Washington Navel					43,203	77,385
Valencia					12,992	31,411
All other	119	136	439	9,388	2,891	4,361
Peach—						
Early	} 1,752	4,503	16,812	101,113	25,187	13,849
Canning					109,025	59,713
Nectarine					3,419	2,537
Apricot	2,033	2,969	5,927	42,066	47,243	23,621
Prune ... ..	...	...	...	10,290	5,669	48,890
Plum	98	282	682	5,897	6,664	7,453
Pear—						
Williams	} 165	1,096	2,278	14,336	8,035	15,121
Other					1,859	5,339
Apple	400	718	1,256	3,065	2,320	8,257
Fig	201	38	303	3,395	1,089	3,606
Almond ... ..	...	140	582	5,446	4,414	7,030

WATER RIGHTS.

The Water Act, 1912, consolidates the Acts relating to water rights, water and drainage, drainage promotion, and artesian wells. Part II of the Act vests in the Crown the right to the use, flow, and control of the water in all rivers and lakes which flow through or past or are situated within the land of two or more occupiers. Private rights were abolished, and a system of licenses was established for the protection of private works of water conservation, irrigation, and drainage, and the prevention of inundation of land. During the year ended 30th June, 1920, 287 applications were received for new licenses, and 158 for the renewal of existing licenses; at the date mentioned 1,343 licenses were in force.

Water Trusts and Bore Trusts.

Part III of the Water Act, 1912, provides for the supply of water for irrigation, stock, or domestic purposes, and for drainage, the liabilities on which are repaid to the Crown, with interest spread over a period of years; the works are administered by trustees appointed from among the beneficiaries under the Act, except in the case of trusts in the Western Division, when the Western Land Board is appointed as trustee.

For the supply of water, trusts have been constituted in connection with (a) seventy-four artesian wells; (b) eight schemes for the improvement of natural off-takes of effluent channels, for the purpose of diverting supplies from the main rivers; (c) in three instances for the construction of weirs across stream channels; and (d) two pumping schemes—one from a natural watercourse, and one from a well.

The total area included within these trusts amounts to 6,627,024 acres.

Artesian Bores.

That portion of the great Australian artesian basin which extends into New South Wales covers approximately 70,000 square miles, and is situated in the north-western portion of the State.

The first artesian bore was sunk in 1879 on the Kallara pastoral holding, between Bourke and Wilcannia, and the first Government bore was completed in 1884 at Goonery on the Bourke-Wanaaring road.

The following statement shows the extent of the work which has been successfully effected by the Government, and by private owners, up to the 30th June, 1920 :—

Bores.	Flowing.	Pumping.	Total.	Total Depth.
				feet.
For Public Watering-places, Artesian Wells, etc.	121	35	156	323,044
For Country Towns Water Supply	2	1	3	4,354
For Improvement Leases	36	4	40	63,212
Total, Government Bores ..	159	40	199	390,610
Private Bores... ..	219	83	302	439,393

The average depth of Government bores is 1,963 feet, and of private bores 1,454 feet, and they range from 89 to 4,338 feet.

The deepest wells in New South Wales are in the county of Stapylton, one at Bronga having a depth of 4,338 feet and an outflow at present of 924,990 gallons; another at Dolgelly has a depth of 4,086 feet, and a discharge of 534,406 gallons per day. The largest outflow at the present time is at the Wirrah bore, in the county of Benarba, which yields 1,079,776 gallons a day, and has a depth of 3,578 feet.

Of the 549 bores which have been sunk, 378 are flowing, and give an aggregate discharge of 86,532,254 gallons per day; 123 bores give a pumping supply, the balance of 48 being failures.

The flow from 74 bores is utilised for supplying water for stock on holdings served in connection with bore-water trusts or artesian districts under the Water Act of 1912. The total flow from these bores amounts to 34,467,209 gallons per day, watering an area of 4,498,249 acres by means of 2,671 miles of distributing channels. The average rating by the bore trusts to repay the capital cost, with 4 per cent. interest, in twenty-eight years, is 1.5d. per acre, including the cost of maintenance and administration.

In the majority of cases the remaining bores are used by pastoralists for stock-watering purposes only, but in a few instances the supply is utilised in connection with country towns.

The watering of the north-western country by means of bore-water has largely increased the carrying capacity of the land; but, what is perhaps of greater importance, it has made practicable some pastoral settlement on small holdings in country previously utilised almost entirely by companies holding immense areas.

It has been determined that the multiplicity of bores is the chief factor governing the annual decrease in bore-flows, also that the limitation of the discharge of water from a bore will prolong its existence as an efficient flow;

action has been taken, therefore, to prevent any waste by the control of the bore-flow, and by its adjustment to actual needs. It is anticipated that this action will materially reduce the rate of decrease in the future.

Shallow Boring.

Arrangements were made in 1912 to assist settlers by sinking shallow bores, and the scheme, which was described fully in the 1916 issue of the Year Book, has met with considerable success.

Operations were commenced with one plant only, and the number has been increased gradually until 28 are at work. A large number of applications from settlers wishing to take advantage of the liberal conditions offered under the regulations has been received, and further applications are coming to hand, consequently the plants now in use will probably be insufficient to cope with the demand.

Up to the 30th June, 1920, 531 bores had been undertaken, but 94 proved failures.

In addition to the work conducted under the shallow-boring regulations, 20 bores have been sunk in the Pilliga Scrub and on Crown lands for the Lands Department and Forestry Commission. The fact that 46 of the bores put down in the Pilliga Scrub are giving a flowing supply is of special interest, as it indicates the possibility of tapping a small and hitherto unknown artesian basin.

Private Artesian Bores.

Much has been done in the way of artesian boring by private enterprise. So far as can be ascertained, 326 private bores have been undertaken in New South Wales, of which 24 were failures. The yield of the flowing bores is estimated at 38 million gallons per day. No data are available regarding the pumping bores.

THE MURRAY RIVER IRRIGATION SCHEME.

The River Murray Waters Act was brought into operation on 31st January, 1917. Its principal objective is the storage of 1,000,000 acre-feet of water in a dam to be constructed on the Upper Murray, 10 miles above the town of Albury, conjointly by the Governments of New South Wales and Victoria.

On 28th November, 1919, His Excellency the Governor-General performed the ceremony of turning the first sod, thus inaugurating the work of construction. At the same time the name, "Hume Reservoir," was given to the principal storage dam. By June, 1920, the preliminary surveys, plans and designs, and the preparatory constructional works, were well advanced.

The effect of creating the River Murray storage system will be to ensure at all times sufficient flow below Albury for diversions for irrigation, and for stock and domestic supplies, besides making good the losses in the water due to seepage, evaporation, and lockages. It has been decided to construct 24 locks and weirs on the Murray between Albury, New South Wales, and Blanchetown, South Australia, with nine more on the Murrumbidgee River. A depth of at least 5 feet of water will be maintained as far as Echuca, the present head of navigation on the Murray. The Act provides that, subject to certain conditions, New South Wales and Victoria shall share the regulated flow of the river at Albury, and shall each have the full use of all the tributaries of the parent stream within its territory below Albury, with the right to divert, store, and use the flows thereof.

It is estimated that the New South Wales regulated river-flow, after the construction of the Upper Murray storage-dam, will amount at least to 120,000 acre-feet per month at Albury during the irrigating season. An investigation to ascertain the methods by which the New South Wales proportion of the Murray waters can be applied most profitably is in progress. It is probable that considerable new areas will be irrigated for fruit-growing.

At a Premiers' Conference, 1920, it was recommended for the consideration of the Governments concerned that the powers of the River Murray Commission be extended in order to permit of the whole of the works in the three States being constructed under the direct control of one authority, and legislation is foreshadowed in this direction.

During the year 1920-21 considerable progress was made with the works, while the necessary surveys were conducted. Borings have been made to determine suitable sites for locks and weirs, and gauging stations have been recommended to record the volume of flow at various points and the losses therefrom.

The standard width of locks has been fixed at 56 feet, while the length of locks to be constructed above the junction of the Murray and Darling Rivers and in the Murrumbidgee River is to be 170 feet.

PASTORAL INDUSTRY.

IN New South Wales the pastoral industry is confined principally to sheep-raising and wool-growing, though, of late years, cattle-raising has increased in importance. It has always been by far the greatest source of wealth-production among primary industries; but, within the past twenty years, agriculture and dairying have developed rapidly, and the pastoral industry has assumed a place second to the manufacturing industry, as measured by the value of production.

It is to the rise of the pastoral industry that the State owes the continuance of the long period of rapid expansion which began with the gold-rushes of the 'fifties and ended in 1893. When the excitement of fortune-hunting had subsided, it was natural that, in response to the ever-increasing world demand for wool, attention should be diverted to pastoral pursuits. Extensive pastures and excellent breeds of sheep suited to local conditions existed, and all factors favoured the rapid development of industries connected with sheep, which now commenced to grow, and brought enormous benefits to the trade and industry of the State. In the twenty years which followed 1871 the value of pastoral production almost doubled, and many subsidiary manufactories were established. Year by year, until 1891, nearly one-half of the total value of production from all sources was derived from the pastoral industry; while the wool trade alone practically built up the export trade, as will be seen from the following simple comparison:—

Period.	Average Annual Value of N.S.W. Produce Exported.		
	Wool.	All Commodities.	Proportion of Wool.
	£	£	per cent.
1860-69	2,100,000	6,491,000	32.2
1870-79	4,847,000	9,114,000	53.2
1880-89	8,407,000	13,861,000	60.7
1890-99	9,303,000	16,611,000	56.0

It will be observed that wool assumed a constantly-increasing importance in the export trade of the State, and that the expansion up to 1890 was almost entirely due to the increasing value of wool sent oversea.

The development of the wool industry up to 1890 had proceeded very rapidly, for although prices had declined steadily after 1870, supply had not greatly exceeded demand in European markets, and the manufacture of textile fabrics was extending rapidly. But a severe check was sustained in 1890, when the Baring crisis produced stagnation in England in business enterprise, and prices declined heavily in consequence. In the next year

the number of sheep in the State reached its maximum, and the quantity of wool produced was greater than in any other year, except 1910. Bad seasons characterised the 'nineties, as well as stagnant markets. The number of sheep depastured in the State was probably in excess of its carrying capacity, and heavy losses resulted from successive droughts until 1902. Thereafter a steady revival commenced, and the industry improved until 1910, when a decline in production and in the number of sheep depastured commenced, and proceeded until 1920. Despite this decline in wool production, and the rapid development of the agricultural, dairying, and mining industries in the past twenty years, the pastoral industry has developed in the direction of cattle-raising and meat-production, and still maintains supremacy among primary industries. It contributes approximately one-third of the total value of the primary production of the State.

LIVE STOCK.

New South Wales does not possess any indigenous animals which would give rise to a large industry, and, of those introduced, sheep only may be said to have developed in such a way as to become a prolific source of wealth-production; indeed, their growth has been so remarkable that it has, in a sense, precluded the rise of other pastoral activities. Horses have been bred principally for their utility in various industries, but a small over-sea trade has sprung up in remounts. For many years cattle were produced only to supply local requirements of meat and dairy produce, but since the application of refrigeration to sea cargoes, an export trade in these commodities has become possible, and since 1910 considerable expansion has taken place in the number of cattle depastured in the State. Pigs are bred principally as a bye-product of the dairying industry, and the number does not fully meet local requirements.

The following table shows the number of live stock in New South Wales at the end of each decennial period from 1861 to 1911, and in 1920:—

Year.	Horses.	Cattle.	Sheep.	Pigs.
1861	233,220	2,271,923	5,615,054	146,091
1871	304,100	2,014,888	16,278,697	213,193
1881	398,577	2,597,348	36,591,946	213,916
1891	469,647	2,128,838	61,831,416	253,189
1901	486,716	2,047,454	41,857,099	265,730
1911	689,004	3,194,236	44,947,287	371,093
1920*	662,264	3,084,332	29,249,253	253,910

* At 30th June.

In addition to the live stock shown above at the 30th June, 1920, there were 30,824 goats (including 4,733 Angoras), 1,172 camels, 57 donkeys, 192 mules, and 416 ostriches. Since 1891 sheep have diminished in number to the extent of nearly 33 millions; horses have increased by 193,000, and cattle by 955,000, while, since 1911, the number of pigs has decreased by 117,000.

In order to indicate the parts of the State in which the flocks and herds predominate, the following table has been prepared, showing the number of live stock and the number per square miles in each Division at intervals since 1891:—

Division.	Number of Live Stock (000 omitted).				Number per square mile.			
	1891.	1901.	1911.	1920.	1891.	1901.	1911.	1920.
SHEEP—								
Coastal Belt	1,483	1,097	1,433	1,043	41·8	30·9	40·4	29·4
Tableland	7,882	8,859	8,961	6,639	208·6	234·5	237·2	175·7
Western Slopes	10,869	11,672	11,199	8,147	340·7	365·8	351·0	255·3
Central Plains and Riverina...	25,194	14,706	16,048	10,038	353·5	206·3	225·2	140·8
Western Plains...	16,403	5,523	7,306	3,382	122·5	41·2	54·5	25·2
Whole State	61,831	41,857	44,947	29,249	199·2	134·9	144·8	94·2
CATTLE, DAIRYING—								
Coastal Belt	197	284	653	631	5·6	8·0	18·4	17·8
Tableland	87	70	107	64	1·8	1·8	2·8	1·7
Western Slopes	37	40	78	44	1·2	1·3	2·4	1·4
Central Plains and Riverina ...	35	20	48	29	0·5	0·3	0·7	0·4
Western Plains...	7	4	9	2	0·1	0·0	0·1	0·0
Whole State	343*	418*	895	770	1·1	1·3	2·9	2·5
CATTLE, OTHER—								
Coastal Belt	640	667	915	1,068	18·1	18·8	25·8	30·1
Tableland	465	501	550	573	12·3	13·3	14·6	15·2
Western Slopes	247	306	422	344	7·7	9·6	13·2	10·8
Central Plains and Riverina ...	339	115	302	247	4·8	1·6	4·2	3·5
Western Plains...	94	41	110	82	0·7	0·3	0·8	0·6
Whole State	1,785	1,630	2,299	2,314	5·8	5·2	7·4	7·5
HORSES—								
Coastal Belt	163	161	207	208	4·6	4·5	5·8	5·9
Tableland	92	112	127	117	2·4	3·0	3·4	3·1
Western Slopes	76	111	180	163	2·4	3·5	5·6	5·1
Central Plains and Riverina ...	95	78	140	148	1·3	1·1	2·0	2·1
Western Plains...	44	25	35	26	0·3	0·2	0·3	0·2
Whole State	470	487	689	662	1·5	1·6	2·2	2·1

* Cows in milk only; dry cows and springing heifers are included in the total of Other Cattle.

The table also indicates the distribution of live stock over the State. Sheep are depastured principally in the hinterland of the State, and are densest in the Western Slopes Division. Dairying cattle and, in fact, all cattle are most numerous in the coastal areas, though considerable numbers exist on the tablelands. Horses, too, are most numerous in the coastal belt, probably because farming needs are greatest there, and because of their accumulation in Sydney and other populous centres. The table, moreover, affords interesting particulars as to the localities most susceptible to losses of sheep through drought. The greatest decline since 1891 has been on the Central Plains and Riverina, where the numbers have fallen from 353 to 140 per square mile, and the greatest relative decline on the Western Plains, where the falling-off has been from 123 to 27 per square mile.

SHEEP.

With a view to testing the adaptableness of New South Wales to sheep-raising, sheep of a high-class variety for wool-bearing were first introduced in 1797, when a small lot of Spanish Merinos—originally from the Escorial or Royal flock of Spain—were brought from the Cape of Good Hope for Captain Macarthur. This flock was established at Camden, and was increased by others of the same type from the Royal flock at Kew, England, in 1804. Other breeders later imported a number of high-class rams from Germany and some ewes, while a few of the Rambouillet blood from France were also

imported. But the flock at Camden held the leading stud position in the colony for thirty years, and was in considerable demand by the pioneers of the wool-growing industry.

After 1830 the Camden pastures and flocks deteriorated, and the Mudgee district, until 1870, became the principal centre for merino stud flocks. Thereafter high-class stud steadily gained repute in various parts of the State, and excellent breeding strains have since become distributed widely. Improvement in sheep types, as regards wool-bearing, has now proceeded so far that little room exists for further improvement in stud sheep, and at a recent conference of wool-growers it was urged that attention be confined principally to improving the general standard of flocks.

The following table shows the number of sheep at the close of each quinquennial period from 1861 to 1911, and illustrates the vicissitudes of sheep-breeding in New South Wales in the past seven years :—

Year.	Sheep.	Year.	Sheep.	Year.	Sheep.
1861	5,615,054	1891	61,831,416	1915*	33,009,038
1866	11,562,155	1896	48,318,790	1916*	32,600,729
1871	16,278,697	1901	41,857,099	1917*	36,196,383
1876	25,269,755	1906	44,132,421	1918*	38,621,196
1881	36,591,946	1911	44,947,287	1919*	37,381,874
1886	39,169,304	1913	39,850,223	1920*	29,249,253

* At 30th June.

In the adjustment of economic conditions after the gold-rushes, disappointed men began to turn again to ordinary occupations, and the real development of sheep-raising commenced. The flocks, which had decreased heavily during the 'fifties, grew at a remarkable rate after 1861, and a virtual boom in sheep-breeding prevailed for thirty years, despite the fact that wool values gradually declined from 1870 to 1902.

Though heavy decreases were shown in the number of sheep in the State in the years 1877 and 1884, these losses were regained quickly, and an otherwise almost unbroken series of increases continued each year until the remarkable total of nearly sixty-two millions was reached in 1891. These years present a marked contrast to the thirty years which followed, when the rabbit pest had become so general as to aggravate the effects of dry weather through destruction to natural herbage. A further important factor was the rise after 1900 of an export trade in canned and frozen mutton, which competed with the raising of sheep for wool. The growth of the agricultural industry may also have done something to displace sheep from their dominant position in New South Wales. However, it is contended that the flocks of 1891 exceeded the sheep carrying capacity of the State, and that a large proportion of the subsequent decline was inevitable. Point is given to this contention by the fact that the number of sheep in the State has not reached 50 millions in any year since 1894, and has exceeded 45 millions twice only.

By dividing the past sixty years into six periods of approximately equal length, the variations in the number of sheep depastured in New South Wales may be traced more clearly. The first thirty years comprised a period of continuous growth, which has been divided arbitrarily into three decades in order to indicate the nature of the expansion until 1891, when a period of fitful decline commenced, and reached its lowest point in 1902; then followed another period of growth, which lasted until 1909, and a further

period of decline ensued. The relative and absolute movements in each period are shown below.

Period.	Average Annual Rate, per cent.		'Average Annual Numerical Variations.	
	Of Increase.	Of Decrease.	Increase.	Decrease.
1861-71	11.2	...	1,066,360	...
1871-81	8.4	...	2,031,330	...
1881-91	5.4	...	2,523,950	...
1891-02	...	8.1	...	3,198,360
1902-09	8.2	...	2,793,300	...
1909-20	...	5.4	...	1,529,150

After allowing for the causes which naturally impede the increase, such as the demands of the local meat supply, the requirements of the neighbouring States and of countries oversea, and the losses occurring from causes other than drought, it is found that the rate of annual increase has been as high as 20 per cent., for instance, in 1904, and in several of the earlier periods. The effects of drought on the number of sheep in the State and the nature of the recovery will be seen from the following statements. After a drought in 1898-9, the number in 1899 when compared with the previous year, showed a decrease of 5 millions, or 12 per cent., but the loss was made up in two years. In the drought of 1902 the losses were more serious, amounting to 15 millions, or 36 per cent., but although the subsequent seasons were not altogether favourable, the losses were made good in less than four years.

Between 1906 and 1911 the number of sheep was at an almost constant level of about 44 millions, and this may be considered as the approximate carrying capacity of the State during ordinarily good seasons. The heavy decline which commenced with the drought of 1912 was accentuated by the recurrence of bad seasons at short intervals, culminating in the drought of 1919-20. As a consequence the number of sheep in the State was reduced nearly to the low level of 1902.

By June, 1920, when the drought broke, the number of sheep was 21.5 per cent. below the number of the previous year. The ravages of drought in 1919-20, however, were not nearly so severe as in 1902. This is shown by the following instructive comparison of the number of sheep and the factors which determined the situation in both years:—

Particulars.	Year ended 31st Dec., 1902.	Year ended 30th June, 1920.
Number of Sheep at beginning of Year	41,857,099	37,381,874
Lambs Marked during Year	2,902,491	4,532,836
Number of Sheep Imported during Year	360,306	1,465,250
Gross Total Sheep existent during Year	45,119,896	43,379,960
Number of Sheep—		
Slaughtered during Year... ..	4,635,850	5,523,312
Exported during Year	1,700,164	2,842,195
Lost through Drought, etc.	12,134,458	5,764,750
Total Deductions	18,470,472	14,130,257
Number of Sheep at end of Year	26,649,424	29,249,703
Decrease on Previous Year	15,207,675	8,132,171

In connection with the figures shown above, it is to be pointed out that the number of sheep exported consists principally of flocks driven across the border into other States, each in search of pastures or to other owners; and, although many of these sheep do not return to the State, it is probable that a fair proportion do. The most serious effect of drought, however, is the severe reduction caused in the lambing or natural increase, which, in both these years of drought, fell far below the totals of sheep exported and slaughtered; and this heavy falling-off is indicated in the following table:—

Year ended 30th June.	Number of Sheep at beginning of Year.	Number of Lambs Marked during Year.	Year ended 30th June.	Number of Sheep at beginning of Year.	Number of Lambs Marked during Year.
1916	33,009,038	7,362,000	1919	38,621,196	7,812,000
1917	32,600,729	9,150,000	1920	37,381,874	4,533,000
1918	36,196,383	9,262,000			

The average number of lambs marked during each of the five seasons preceding 1920 was 8 millions.

Size of Flocks.

The decrease in the total number of sheep after 1891 was accompanied by great changes in the size of individual flocks, showing the tendency among pastoralists to restrict their flocks to sizes where the risk of loss from drought was not so great. These changes may be traced in the following table, which gives an approximate classification of the flocks for various years, from 1891 to 1920:—

Size of Flocks.	Number of Flocks.				Number of Sheep.			
	1891.	1901.	1911.	1920.†	1891.	1901.	1911.	1920.†
1—1,000 ...	7,606	11,800	17,773	20,327	2,794,751	3,797,114	5,252,546	5,068,460
1,001—2,000 ..	1,954	2,351	3,510	3,148	2,979,168	3,560,849	5,149,618	4,385,438
2,001—5,000 ...	1,696	1,722	2,735	2,038	5,493,942	5,519,008	8,554,299	6,144,795
5,001—10,000 ..	686	729	847	634	4,943,231	5,210,117	5,977,233	4,330,834
10,001—20,000 ...	495	465	507	319	7,058,580	6,666,429	7,143,273	4,400,880
20,001—50,000 ..	491	344	236	113	15,553,774	10,552,373	8,737,927	3,118,019
50,001—100,000 ...	183	76	53	11	12,617,206	4,835,547	3,434,698	687,887
100,001 and over ...	73	12	6	1	10,392,774	1,538,103	607,693	122,940
Total ...	13,187	17,499	25,727	26,591	61,831,416	41,357,099*	44,947,287	29,249,253

* Includes 127,559 sheep in unclassified flocks.

† 30th June.

In 1891 there were only 13,187 holdings carrying sheep, but at 30th June, 1920, they numbered 26,591, although the sheep had decreased by over 32 millions. This development is due to the subdivision of large holdings, and to the combination of pastoral with agricultural pursuits.

It is significant that while in 1891 there were 73 holdings which each carried over 100,000 sheep, the number of such in 1901 was 12, and in 1920 only 1.

The sheep in flocks of over 20,000 comprised 62 per cent. of the total in 1891, but only 13·4 per cent. in 1920; while in 1891 the flocks under 2,000 comprised 9·3 per cent. of the total sheep compared with 35·4 per cent. in 1920. Of the 15,700,000 decrease in the number of sheep since 1911, 11,600,000 have occurred in the flocks of 10,000 and over. The greatest change has occurred since 1894, when a very large number of sheep perished, and pastoralists realised that the best method of meeting seasons of drought lay in the subdivision of their large flocks. The closer settlement policy pursued since 1904 has led to some further subdivision of flocks.

Part of the cause and perhaps part of the effect of this change has been a corresponding movement towards smaller holdings and the gradual disappearance of unwieldy pastoral areas, whereon, formerly, sheep were left to roam with little attention, because of the dearth of labour and of the vast unpeopled spaces which existed in the earlier years.

A comparison over a period of ten years shows how rapidly this movement has progressed in recent years—

Area Groups.	Number of Flocks.		Number of Sheep.		Proportion to total Flock.		Proportion to total Sheep.	
	1910.	1920.	1910.	1920.	1910.	1920.	1910.	1920.
					per cent.	per cent.	per cent.	per cent.
1 and under 51 acres ...	1,293	572	30,931	19,132	4·8	2·2	0·1	0·1
51 " " 101 " ...	842	637	46,560	40,497	3·4	2·4	0·1	0·1
101 " " 501 " ...	5,983	5,869	1,066,711	897,517	23·8	22·4	2·3	3·1
501 " " 1,001 " ...	5,128	6,007	2,251,199	1,898,434	20·4	22·9	5·0	6·5
1,001 " " 5,001 " ...	8,665	9,718	11,334,865	8,890,702	34·5	37·1	25·0	30·5
5,001 " " 10,001 " ...	1,566	1,743	5,933,495	4,364,587	6·2	6·7	13·0	14·9
10,001 " " 20,001 " ...	715	796	5,072,971	3,746,084	2·9	3·0	11·2	12·8
20,001 " " 50,001 " ...	548	507	7,085,264	3,793,641	2·2	1·9	15·6	13·0
50,001 " " 100,001 " ...	207	174	4,741,007	2,094,559	0·8	0·7	10·4	7·2
100,001 and upwards ...	241	174	7,847,568	3,432,183	1·0	0·7	17·3	11·8
Ill-defined areas ...	399	394	150,398	71,917	...	...	...	...
Total ...	25,497	26,501	45,560,969	29,249,253	100·0	100·0	100·0	100·0

In 1910, 43·5 per cent. of the sheep were depastured on holdings of 20,000 acres and upwards, while in 1920 only 32 per cent. were depastured. The holdings up to 20,000 acres carried 68 per cent. of the total number of sheep in 1910, having increased from 56 per cent. in 1910.

Breeds of Sheep.

The principal breed of sheep in New South Wales is the celebrated short-woolled merino strain. Crosses of long-woolled breeds mainly with the Merino are numerous and important, but the numbers of other breeds are small. English long-woolled sheep are represented chiefly by the Lincoln, Romney Marsh and Border Leicester breeds. Suffolk and Dorset Horn sheep have been introduced for the raising of early-maturing lambs.

At the close of 1919, the numbers of the various breeds were as shown below; the figures are based on returns collected for assessment purposes by the Chief Inspector of Stock, and are apparently below the actual number depastured.

Class of Sheep.	Rams.	Ewes.	Wethers.	Lambs.	Total.
Merino	379,250	12,638,464	6,511,288	3,641,098	23,170,100
Other Breeds—					
Lincoln	68,761	245,011	92,021	95,854	501,647
Border Leicester...	9,393	47,241	14,817	23,543	94,994
English Leicester	6,945	15,695	5,886	8,180	36,706
Romney Marsh ...	12,862	120,355	27,340	72,062	232,619
Shropshire	1,814	24,540	8,880	10,362	45,596
Corriedale	3,254	31,668	7,400	10,672	52,994
Southdown	773	6,169	3,263	4,060	14,265
Dorset Horn	291	376	123	179	969
Ideal	119	5,458	1,663	2,100	9,340
Rosecommon	1	...	...	...	1
Crosses	15,785	5,022,215	2,183,629	2,084,674	9,306,303
Total	499,248	18,157,192	8,856,310	5,952,784	33,465,534

Lincolns, and their crosses with merinos, constitute the largest proportionate number of coarse-woolled varieties. The proportion of English and cross-bred sheep has increased considerably during recent years. In 1893 the ratio of coarse-woolled and cross-bred sheep to the total was 4·3 per cent., but with the development of the meat-export trade it has since advanced to about 30 per cent.

On account of the mildness of the climate the necessity for housing stock during the winter months does not exist in New South Wales. The sheep are kept usually in paddocks.

Sheep Breeding.

The increased attention paid to cross-breeding in order to supply the demands of the frozen-mutton trade, and the increase in the number of settlers on small and moderate-sized holdings who combine grazing with agriculture, have together emphasised the necessity of conducting experimental breeding on a scientific basis, and of providing instruction for sheep-farmers. To meet this necessity a sheep and wool expert of the Department of Agriculture organises the class work conducted at State experiment farms, delivering lectures and giving demonstrations in country centres.

Cross-breeding experiments on a comprehensive scale were commenced in 1910 at the Wagga Wagga, Cowra, Bathurst, and Glen Innes Experiment Farms, the work being carried out specially in the interests of the farmer or small grazier, who has the facilities for breeding lambs for market. Both the long and the short woolled breeds were crossed with the Merino, with the object of obtaining the most desirable characteristics of each group, so that all these qualities could be incorporated in a single strain. In the first step in the evolution of a dual-purpose sheep for wool and for mutton, long-woolled rams were mated with Merino ewes. Then the early-maturing and exceptional mutton qualities of the short-woolled varieties—Southdowns, Shropshires, and Dorset Horns—were utilised by mating rams of these breeds with the cross-bred ewes, for the production of a lamb suitable both for local consumption and for shipping. The final results of the investigations form the subject of a special "Farmers' Bulletin," issued by the Department

of Agriculture in August, 1920, and the conclusion arrived at favoured the mating of merino ewes with sires of British breeds, in view of the adaptable-ness of the former to seasonal conditions.

The Border Leicester crosses showed a material increase in body-weight over the other crosses at practically all ages. In wool production the Lincoln crosses maintained superiority, but as the Border Leicester wool commanded a higher price per lb., there was a tendency to balance the discrepancy.

In proportion of dressed-weight to live-weight, the Border Leicester was consistently above the Lincoln. The Leicester surpassed it only once. In flesh value per lb. the Leicester showed to advantage, but taken into consideration with dressed weights, the results showed that at all ages the carcase value of the Border Leicester was greater than that of the other crosses.

World's Sheep Flocks.

Amongst the sheep flocks of the world those of Australia have pre-eminence in numbers, and a very large proportion of the world's supplies of wool and frozen mutton are derived from Australia. New South Wales is by far the largest sheep-raising State of the Commonwealth. A comparison of the sheep flocks of the leading sheep countries of the world is made below, and some indication is given of the expansion or decline in each country by including statistics for earlier years. Most of the information is taken from the Year Book of the United States Department of Agriculture (1919).

Country.	Date.	Number of Sheep (thousands.)	Date.	Number of Sheep (thousands.)
New South Wales ...	June, 1920	29,249	1891	61,831*
Victoria... ..	March, 1920	14,423*	1907	14,147
Queensland	Dec., 1919	17,379	1914	23,130*
Australia	1920	75,195	1891	106,420*
Russian Empire ...	1914	72,273	...	...
United States	Jan., 1920	48,615	1903	63,965*
Argentine	1917	44,850	1895	74,360*
South Africa	1918	28,492	1904	16,323
New Zealand	Census, 1916	25,828	1911	23,996
Uruguay	1908	26,286	...	...
Turkish Empire ...	1912	27,095	1905	23,614
India (British)... ..	1916-17	22,923	1904-05	17,562
Spain	1916	16,012	1906	13,481
Italy	April, 1918	11,752	1908	11,163
France	June, 1918	9,496	1900	20,180

* Greatest number recorded.

It is apparent that there has been a serious decline in the number of sheep in some of the leading producing countries in recent years, and that the increases shown in South Africa and New Zealand do not as yet go very far towards counterbalancing the diminution in the world's flocks.

WOOL.

The prosperity of New South Wales for many years has depended very largely on the condition of the wool market of the world, and the value of the wool-clip is still the most important factor of the year in the primary production of the State.

The introduction and careful improvement of high-strains of wool-bearing sheep in the early years of the colony did not lead at once to any large export trade in wool. The rise of the great and flourishing wool-trade had

a small beginning, and many difficulties were experienced before it became established. It is probable that the first wool exported was a small parcel of 245 lb. in 1807. The following table shows with what rapid strides the industry advanced in New South Wales from the year 1821, when official statistics of exports of wool first became available :—

Year.	Quantity of Wool Exported (Produce of N.S.W.) lb.	Year.	Quantity of Wool Exported (Produce of N.S.W.) lb.
1821	178,000	1871	65,612,000
1841	8,611,000	1881	139,602,000
1851	32,362,000	1891	331,807,000
1861	18,171,000	1901	273,141,019

The decline during the 'fifties was due to the neglect of the pastoral industry occasioned by the gold-rushes. This decline, however, was not so great as would appear from the above figures, because in 1851 and previous years the exports of the districts, which afterwards became Victoria and Queensland, are included. The development in recent years has been due to the rapidly expanding market for wool to supply raw material for the great textile industry, the rise of which had become possible through the mechanical inventions which precipitated the Industrial Revolution.

Prices of Wool.

On account of the very large number of varieties of wool, it is a matter of great difficulty to obtain price-quotations which will show accurately the fluctuations of values from year to year.

However, from such data as are available it appears that for the last thirty years of the last century the prices realised for wool in London continually moved downwards, and this is illustrated in the following comparison :—

Period.	Average price of Greasy Wool per lb., London. d.
1871-80	11.1
1881-90	9.4
1891-1900	8.6

The particulars required to continue this table for later years are not available, but the decline reached its lowest point early in 1902, when a revival began. The subsequent variations in wool-values are reflected with some degree of precision in the following table, which shows the average prices of wool, f.o.b. Sydney, as calculated from the Customs returns in each year since 1901 :—

Year.	Average Prices per lb.		Year.	Average Prices per lb.		Year.	Average Prices per lb.	
	Greasy.	Scoured.		Greasy.	Scoured.		Greasy.	Scoured.
	d.	d.		d.	d.		d.	d.
1901	7½	13½	1908	9½	16½	1915†	9	15
1902	8½	16½	1909	9½	14½	1916†	10½	16½
1903	9½	18	1910	9½	15½	1917†	15½	21½
1904	8½	18½	1911	9½	14½	1918†	10½	24½
1905	10½	18½	1912	9½	14½	1919†	16	21½
1906	10½	19½	1913	9½	16	1920†	16	24½
1907	11½	20½	1914*	9½	14½			

*Six months, January-June.

†Year ended 30th June.

Production of Wool.

The following table shows the production of wool in New South Wales in quinquennial periods since 1876, distinguishing the exports and the local consumption. The exports comprise both washed and greasy wool, but the actual weight of exports does not show the production clearly with regard to quantity. The proportion of washed and greasy wool varies each year, but is approximately 1 lb. of washed to 2 lb. or 3 lb. of greasy, and the washed wool is here stated as in grease.

It seldom happens that the wool of any particular season is exported during the year in which it is shorn, and this applies more particularly since 1914, because shipping facilities have been limited, markets have been deranged, and large quantities of wool have been held in store for several years awaiting opportunities of shipment and sale.

The values given in the table represent the export values free on board Sydney, and consequently differ from those on a later page, which show the values at the place of production.

Period.	New South Wales Wool—Quantity. (000 omitted.)			Value. (000 omitted.)		
	Exported, or available for Export.	Used Locally.	Total Production.	Exported, &c.	Used Locally.	Total Value (F.O.B., Sydney).
	lb.	lb.	lb.	£	£	£
1876-1880	713,519	4,878	718,397	31,076	222	31,298
1881-1885	939,606	4,208	943,814	40,381	182	40,563
1886-1890	1,290,920	3,861	1,294,781	44,642	131	44,773
1891-1895	1,808,008	5,622	1,813,630	48,893	132	49,025
1896-1900	1,401,170	7,070	1,408,240	42,783	201	42,984
1901-1905	1,297,118	5,467	1,302,585	46,529	190	46,719
1906-1910	1,811,746	5,416	1,817,162	73,437	173	73,610
1911-1915*	1,494,104	12,976	1,507,080	57,445	511	57,956
1916†	255,578	6,467	262,045	12,010	281	12,291
1917†	263,968	6,557	270,525	17,453	297	17,750
1918†	278,521	5,667	284,188	19,253	285	19,538
1919†	298,844	6,769	305,613	20,010	364	20,374
1920†	289,008	7,633	296,641	19,378	398	19,776

*½ years ended 30th June. †Year ended 30th June.

Prior to 1876 distinction was not made between washed and greasy wool, so that any attempt to estimate the production is surrounded with difficulty. From the information available, it would appear, however, that the production in 1861 was 19,254,800 lb., and, in 1871, 74,401,300 lb.

Through the very successful endeavours to increase the wool-bearing capacity of sheep, it is noteworthy that the year of greatest wool production, 1910, came much later than the year 1891, when the greatest number of sheep existed. The following table illustrates this fact:—

Year.	Number of Sheep at end of year.	Wool produced during year.	
		Quantity.	Value.
		lb.	£
1891	61,831,000	375,600,000	11,059,300
1910	45,561,000	415,338,000	15,708,000

It is apparent, therefore, that the pastoral wealth of the State does not depend so much on the number of sheep which it contains as on the quantity and quality of its wool. The average price realised for wool is also an important determining factor, but that in its turn is determined partly by quality, though the economic condition of the world causes its principal variations.

Wool Marketing.

For many years the whole of the wool grown in New South Wales was shipped to England, which was at first the only country where textile fabrics were manufactured on a large scale, and where sales were conducted. As the improvement of machinery for dealing with wool progressed, people in other parts of the world, especially on the Continent, were encouraged to acquire machinery and wool from England in order to manufacture for themselves. Hence, an increasing number of foreign buyers began to attend the wool sales in London, and, as competition intensified, a tendency developed to seek supplies of the raw material at its bases. This tendency happily harmonised with Australian interests, for, ever since the first attempt by Mr. T. S. Mort to inaugurate public wool sales in Sydney in 1843, efforts to market the wool clip locally had met with small success, and growers were subjected to the inconvenience, uncertainty, and delay, often amounting to a year, inseparable from the system of selling their products in markets on the other side of the world.

Sydney wool sales began to assume importance about the year 1885, and at the time of the initiation of the Imperial Wool Purchase Scheme in November, 1916, about 85 per cent. of the successive wool clips of New South Wales was sold annually in Sydney to representatives of firms in practically every foreign country where woollen goods were manufactured on an extensive scale. Between November, 1916, and 30th June, 1920, all local wool was acquired by the Imperial Government by appraisalment, and public wool sales were not resumed in Sydney until 5th October, 1920.

The Imperial Wool Purchase Scheme.

Particulars of the scheme under which the Imperial Government purchased Australian wool during 1916-17 were given in the 1916 issue of this Year Book; similar arrangements were made for the acquisition of the wool of the season 1917-18. Subsequently an offer of the Imperial Government to extend the purchase of the Australian wool-clip for the period of the war and for one wool-year thereafter was accepted, and the contract, therefore, expired on 30th June, 1920. Details of the development of the scheme were published in the 1919 issue of this Year Book.

The wool was purchased at rates designed by appraisalment to yield an average of 15½d. per lb. for each clip in the grease, and, in the later purchases, an arrangement was made whereby the growers should participate to the extent of 50 per cent. in profits made by the Imperial Government on sales of wool for civilian purposes.

Eventually Australian wool was graded for appraisalment purposes into 848 distinct types, for each of which a maximum price was fixed.

During the period of control from November, 1916, to June, 1920, the total quantity of wool appraised was 2,274,164,123 lb.; the local manufacturers purchased 82,157,481 lb., and the balance, 2,192,006,642 lb., was sold to the Imperial authorities. The sheepskins purchased on behalf of the Imperial Government amounted to 122,067,170 lb., and the value was £5,280,088;

of these 26,939,792 lb., valued at £1,155,314, were acquired in New South Wales. Particulars of each season are shown in the following statement:—

Season.	Wool.				Sheepskins.	
	Greasy.	Scoured.	Total Weight.	Value (Flat rate.)	Weight.	Value.
	lb	lb	lb	£	lb	£
1916-17	323,752,519	34,307,991	358,060,510	25,340,466	11,542,325	433,603
1917-18	569,612,721	47,340,301	616,953,022	42,902,277	24,241,856	1,031,414
1918-19	599,438,446	52,659,353	652,097,799	45,515,566	38,197,762	1,665,283
1919-20	579,709,381	67,343,411	647,052,792	46,138,088	48,085,227	2,149,788
Total	2,072,513,067	201,651,056	2,274,164,123	159,896,397	122,067,170	5,280,088

Accounts with the Imperial Government have not yet been settled.

The oversea shipments of wool from Australia consisted of 5,662,750 bales, their destinations being as follow:—

Country.	1916-17.	1917-18.	1918-19.	1919-20.	Total.
	bales.	bales.	bales.	bales.	bales.
United Kingdom	872,631	1,278,386	1,344,234	830,886	4,326,137
Belgium ... ..	...	...	115,307	129,739	245,046
France	20,133	47,300	61,063	37,901	166,397
Italy	69,331	109,737	92,440	15,514	287,022
Japan ... ..	...	24,597	2,424	41,648	68,669
United States	48,272	303,869	121,370	22,606	496,117
Other Countries... ..	40,963	27,241	4,908	250	73,362
Total ...	1,051,330	1,791,130	1,741,746	1,078,544	5,662,750

During the war period the shipments of wool consisted mainly of certain qualities of cross-bred wool, suitable for military and naval purposes, but when the armistice was signed the demand reverted to the merino and fine cross-bred wools for the manufacture of materials for civilian purposes. At 30th June, 1920, there remained in Australia 1,161,823 bales of wool which had been sold to the Imperial Government, viz., 498,246 bales of merino and 663,577 bales of cross-bred.

British-Australian Wool Realisation Association, Limited.

The existence of large quantities of wool in Australia—the “carry-over” of previous years—was not an isolated feature of the wool position on 30th June, 1920. Large stocks of Australian wool were held also in England, and similar stocks of New Zealand, South African, and other wools, which had not been consumed during the war, were known to exist, while a large Australian clip was about to be shorn.

It was expected that this unprecedented situation would hold buyers in check, in anticipation that big holdings would be placed on the market which would cause a drop in the high prices which ruled during the war. When sales to the Imperial Government ceased, that Government had huge stocks upon its hands and a new Australian clip was being shorn. The position of the market was perilous, and grave danger existed of a sudden and heavy fall in prices unless the situation was handled carefully. The first auction sale held in Sydney after the war commenced on 5th October, 1920. At this sale, although prices for superior wools showed a substantial improvement

on appraisement prices, the offerings were selected and small, and, throughout the ensuing sales, lower grades of merino wool and most cross-bred wools were practically unsaleable. Moreover, the European demand, except for some weak bidding from France, was absent. The market showed little sign of revival and offerings were carefully regulated. By December, 1920, of 120,000 bales submitted to auction in Sydney, 88,124 bales, or somewhat less than 20 per cent. of the clip, had been sold, and superfine wools had brought record prices. But, as the post-war demand for manufactured woollen goods began to fail toward the close of the year, many contracts were cancelled, and the prices of wool-tops abroad declined heavily. The Christmas recess was extended to February, 1921, and in that month sales opened with brightened prospects owing to a temporary stimulus in American demand and to the appearance of Japanese buyers. But prices soon receded even for the best wools, and values generally fell much below appraisement levels; that is, the prices obtainable in April, 1921, for what wools were saleable were such that even if all had been sold the average price for the clip would have been much less than 15½d. per lb. The position was clouded in uncertainty, and no sign of a revival of demand could be discerned, while large quantities of wool hung ominously over the market.

Amid these circumstances, after much discussion and several attempts to meet the difficulties, the British-Australian Wool Realisation Association, Limited ("Bawra"), was brought into being on 27th January, 1921, and the assets of the association were fixed at £22,000,000. Its objects were "to sell, in conjunction with the current clip, that portion of the carry-over wool acquired by the Association on account of the Australian growers, also, as agents, that portion owned by the British Government, as promptly as market conditions permit, and to the best advantage, while at the same time contributing to stabilise the wool market for the benefit of wool-growers and of the users of wool." In addition, the disposal of New Zealand and South African carry-over wool owned by the British Government was undertaken by the Association as agents, making a total of 2,700,000 bales of carry-over wool controlled by it.

The problem which confronted the Association was how to stabilise the wool-market in these difficult circumstances in order to prevent the demoralisation and chaos which must result to the whole of the wool-trade if prices fell below the cost of production. The difficulties were increased by the existence outside Australia of large quantities of "free" wool and the weak commercial position of the Continent, which, as a result of the war, was generally so impoverished as to be unable to supply and pay for its needs.

Evidence was submitted to the Commonwealth Parliament in April, 1921, to show that the cost of producing greasy wool in Australia exceeded 9d. per lb. amounting over a period of years to 9·44d. on leasehold properties, and 10·92d. on freehold properties, and suggesting a reserve limit for all sales of wool that would yield an average of 9d. per lb. for a full clip. As a result a motion was carried in the Commonwealth Parliament that (a) regulations should be issued under the Customs Act prohibiting the export of wool beyond Australia, unless it was sold at or above such a price as would return 8d. per lb. on an average Australian clip, and (b) that the official reserve for each type of wool should be determined by the British-Australian Wool Realisation Association, Limited, in accordance with the system of appraisement applied to the wool clip of 1919-20. This resolution was given effect by a proclamation on 9th May, 1921, to continue in force for six months. The Regulations under the Customs Act were amended accordingly, and exporters of wool are now required to furnish a declaration or guarantee that the prescribed conditions have been fulfilled.

CATTLE.

Cattle-raising, as connected with the dairying industry, is dealt with in later pages of this Year Book.

Other industries connected with cattle, such, for instance, as the export of beef, have never existed on a large scale in New South Wales. However, of recent years, an appreciable increase has been apparent in the number of cattle depastured, and the number existing in 1919 constituted a record for the State. Favoured by the rise of prices, the value of products derived from cattle increased rapidly during the war until, in 1919-20, it constituted nearly 20 per cent. of the total value of pastoral production.

The following table shows the number of cattle in the State, including dairy cattle, at the close of each quinquennial period from 1861 :—

Year.	Cattle.	Year.	Cattle.	Year.	Cattle.
1861	2,271,923	1886	1,367,844	1911	3,194,236
1866	1,771,809	1891	2,128,838	1916*	2,405,770
1871	2,014,888	1896	2,226,163	1918*	3,161,717
1876	3,131,013	1901	2,047,454	1919*	3,280,676
1881	2,597,348	1906	2,549,944	1920*	3,084,332

* At 30th June.

The principal breeds of cattle now in the State are the Durham or Shorthorn, Hereford, Jersey, Ayrshire, and Devon, besides crosses from these breeds. At the close of the year 1919 the number of each breed, so far as could be ascertained, was :—

Breed of Cattle.	Pure and Stud.	Ordinary.	Total.
Shorthorn, Milking	39,717	206,889	246,606
" Beef	77,451	362,258	439,709
Hereford	34,074	127,456	161,530
Devon... ..	7,363	32,303	39,666
Black-poll'd	2,731	8,901	11,632
Red-poll'd	1,245	3,182	4,427
Ayrshire	9,115	52,838	61,953
Guernsey and Alderney	2,152	15,377	17,529
Holstein	799	4,135	4,934
Jersey... ..	18,359	81,109	99,468
Kerry... ..	24	40	64
Highland	40	120	160
Crosses ... ..	...	1,764,368	1,764,368
	193,070	2,658,976	2,852,046

The above information was extracted from the report of the Chief Inspector of Stock. It does not take account of a considerable number of cattle situated in the Metropolitan centres and in the vicinity of towns.

The number of milch cows at 30th June, 1920, was 419,732, and there were 277,888 dry dairy cows, 72,311 heifers within 3 months of calving, and 133,092 other heifers.

During 1919-20 the number of calvings recorded was 726,670, and 479,521 or 66 per cent. were surviving at the end of the year.

In order to encourage and assist dairy farmers in improving their breeds, the Government imported high-class stud-bulls from England, and these and their progeny are either sold or kept for service at the State farms.

The exports of New South Wales cattle to countries oversea are unimportant.

HORSES.

Australian horses have acquired a high reputation. At an early period the stock of the country was enriched by the importation of some excellent thoroughbred Arabs, and it is constantly being improved by the importation of high class stock from Great Britain. The number of horses in the State steadily increased from 233,220 in the year 1861 to 518,181 in 1894; but the total had fallen in 1901 to 486,716; since that year there has been a substantial increase, and the number at the end of 1911 reached 689,004. There was a great advance in horse-breeding between 1910 and 1914, owing to the increased demand which arose as a consequence of widening settlement, prosperous seasons, and, more recently, defence requirements have provided a stimulus.

The following table shows the number of horses in New South Wales at the end of quinquennial periods since 1861 :—

Year.	Horses.	Year.	Horses.	Year.	Horses.
1861	233,220	1886	361,663	1911	689,004
1866	274,437	1891	469,647	1916*	719,542
1871	304,100	1896	510,636	1918*	742,247
1876	366,703	1901	486,716	1919*	722,723
1881	398,577	1906	537,762	1920*	662,264

* At 30th June.

The increase in the number of horses in the State since 1861 has been occasioned mainly by the growth of domestic needs. The fluctuations in the numbers are not very marked, but it is noteworthy that the droughts of 1902 and 1919-20 each caused a reduction in numbers of approximately 10 per cent.

For purposes of classification the horses have been divided into draught and light, and the number of each particular kind, at the 31st December, 1919, so far as could be ascertained from returns collected by the Stock Department, was as follows :—

Class.	Thoroughbred.	Ordinary.	Total.
Draught	31,307	244,174	275,481
Light	32,937	268,765	301,702
Total	64,244	512,939	577,183

New South Wales is specially suited to the breeding of saddle and light-harness stock, and it is doubtful whether, in these particular classes, the Australian horse can be surpassed anywhere. Thoroughbred sires are kept on many of the large holdings, and the progeny of these stallions combine speed with great powers of endurance. The possession of these qualities gives them great value as army remounts.

There is a regular export trade to India, where the horses are required as remounts for the Indian Army; this trade has shown a marked increase since 1914. In the year ended 30th June, 1920, 964 horses, valued at £23,000, were exported to India.

OTHER LIVE STOCK.

The number of goats in New South Wales in June, 1920, was 30,824, including 4,733 Angora goats, which are valued by pastoralists chiefly as effective scrub exterminators, although the dry climate of the western districts is eminently suited to the production of fine mohair. Under the provisions of the Dog and Goat Act, 1898, the use of dogs or goats for purposes of draught is prohibited.

Camels are used as carriers on the Western Plains, the number in June, 1920, being 1,172, compared with 1,792 at the close of the year 1913.

Donkeys and mules are not extensively used in New South Wales, the numbers in 1920 being 57 of the former and 192 of the latter. It is claimed that mules have many points of advantage over horses for farm work, especially in areas of limited rainfall—for instance, longer period of utility, smaller cost of maintenance, greater adaptability to untoward conditions of labour, and comparative freedom from disease.

The climate of certain portions of the State is considered specially suitable for ostrich farming, though it is not conducted on an extensive scale. The number of ostriches at the end of June, 1920, was 416, as compared with 662 at the close of the year 1913.

Comparison—Live Stock in the Commonwealth.

A comparison for 1919-20 of the numbers of horses, cattle, sheep and swine in New South Wales and in the other States of the Commonwealth, is shown in the following table. Except where otherwise stated the figures are as at 31st December, 1919.

State.	Horses.	Cattle.	Sheep.	Swine.
New South Wales	662,264†	3,084,332†	29,249,253†	253,910†
Victoria	513,500†	1,631,120†	14,422,745†	186,810†
Queensland	731,705	5,940,433	17,379,332	99,593
South Australia	264,901†	349,562†	6,014,562†	60,295†
Northern Territory	35,839	610,534	8,811	1,675
Western Australia	174,919	880,644	6,697,951	58,155
Tasmania	39,452†	214,442†	1,781,425†	35,530†
Australia	2,422,580	12,711,067	75,554,079	695,968

† 30th June, 1920.

† 1st March, 1920.

The above table shows that New South Wales contains the largest proportion in the Commonwealth of sheep, 38·7 per cent., and swine, 36·5 per cent.; whilst in Queensland there are 27·3 per cent. of the horses and 46·8 per cent. of the cattle. The number of stock, particularly of sheep, in New South Wales on 30th June, 1920, was abnormally low on account of the severe drought through which the State had passed; other states were affected similarly to a greater or less degree.

PRICES OF LIVE STOCK.

The governing factor in the price of meat is the price paid for live stock at the Metropolitan sale yards at Flemington, and that price is itself influenced by the world's market price for meat, hides, skins, &c., and by local climatic conditions.

The following statement shows the variations of the prices of fat stock during the years 1916 to 1920. Details of the monthly prices are published in the Statistical Register. Accurate quotations for lambs in 1916 are not

available, as they were sold in most cases with the grown sheep, owing to the abnormal conditions and limited supply :—

Stock.	1916.	1917.	1918.	1919.	1920.
Cattle.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Bullocks and Steers—					
Mean of Prime and Good	18 9 3	16 13 0	17 9 6	18 8 0	18 7 0
Cows and Heifers—					
Prime	14 16 0	15 0 0	15 6 0	17 4 0	20 3 0*
Good	3 17 3	4 7 6	4 10 0	4 11 3	4 7 6
Sheep.					
Cross-bred—					
Wethers—					
Mean of Prime and Good	1 13 3	1 14 3	1 13 3	1 10 9	1 16 0
Ewes—					
Mean of Prime and Good	1 8 6	1 15 9	1 15 6	1 9 0	1 12 9
Merino—					
Wethers—					
Mean of Prime and Good	1 11 0	1 11 3	1 11 0	1 9 3	1 15 9
Ewes—					
Mean of Prime and Good	1 6 6	1 5 9	1 4 0	1 3 0	1 8 9
Lambs, Woolly—					
Mean of Prime and Good	...	1 6 3	1 5 3	1 2 0	1 7 3
Pigs.					
Porkers—					
Good	2 9 0	2 17 6	2 10 6	3 7 3	4 4 0
Baconers—					
Good	4 15 6	4 6 3	4 3 3	4 17 6	6 18 6

* Extra Prime and Prime.

Subject to the operation of other factors, the prices of stock in local markets are influenced largely by the nature of the seasons, it being found generally that, during bad seasons, stock are hastened to market and prices are low; but, when the dry weather breaks, efforts to re-stock cause a decrease in yardings, and prices for a time rise abnormally high.

The figures in the foregoing table show the mean prices of the grades which are most frequently marketed at the sale yards, and the variations in prices of the various classes were briefly as follows :—

The highest monthly average price in 1920 for extra prime weighty bullocks prevailed in September, when £44 10s. was obtained. In June for the inferior grade £4 4s. only was realised.

The monthly averages of cows ranged from £25 12s. in August to £3 6s. in April and May. For merino wethers and hoggets £3 7s. in August was the maximum average, while 17s. 9d. in January was the minimum. Ewes reached the extreme averages in the same months, when prices of £2 9s. and 12s. 9d. respectively were realised.

Crossbred wethers and hoggets attained their maximum average in August at £3, and their lowest in April at 19s.

Crossbred ewes ranged from £3 6s. 3d. for the month of August to 16s. for April. Lambs, suckers, and woolly showed a monthly variation between £2 6s. 9d. in June and 13s. 6d. in February, March, and April.

VALUE OF PASTORAL PRODUCTION.

It is difficult, from the nature of the industry, to estimate the return from pastoral pursuits as at the base of production; but, taking the Sydney prices as a standard, and making due allowance for incidental charges, such as agistment, railway carriage or freight, and commission, the value during the season 1919-20 would appear as £33,972,000. The returns received from

the different kinds of stock during the past twenty years are shown in the following table :—

Year.	Annual Value of Pastoral Production (000 omitted).					
	Wool.	Sheep for Food.	Cattle.	Horses.	Total.	Per Head of Population.
	£	£	£	£	£	£ s. d.
1901	8,425	2,071	1,229	722	12,447	9 2 0
1902	7,152	1,446	1,187	851	10,636	7 12 10
1903	8,361	2,327	1,204	790	12,682	8 19 4
1904	9,133	2,206	1,160	727	13,226	9 5 2
1905	12,103	2,753	1,322	764	16,942	11 12 11
1906	13,792	3,514	1,520	885	19,711	13 5 6
1907	16,459	3,222	1,574	1,026	22,281	14 13 7
1908	12,680	3,034	2,032	1,100	18,846	12 3 10
1909	13,128	2,743	1,877	1,292	19,040	12 1 3
1910	14,727	2,704	1,704	1,893	21,028	13 0 3
1911	12,933	2,811	1,689	2,001	19,434	11 13 6
1912	12,497	3,127	1,754	2,062	19,440	11 3 8
1913	13,620	2,885	2,041	2,192	20,738	11 9 3
1914-15	11,250	3,004	2,498	2,096	18,848	10 2 3
1915-16	11,380	4,295	3,729	2,172	21,576	11 10 10
1916-17	16,435	4,616	4,026	1,765	26,842	14 7 10
1917-18	18,091	3,978	4,702	1,664	28,435	15 0 8
1918-19	18,865	4,728	4,633	1,639	29,865	15 9 3
1919-20	18,311	7,450	6,192	2,019	33,972	16 19 11

The value of the pastoral production depends mainly upon the prices obtainable for wool in the world's markets; but it is, of course, largely determined by the volume of production, which is dependent upon the seasons experienced in the State. The prices of wool have risen considerably since 1914, so that, while the quantity produced in 1919-20 was 7 per cent. less than in 1914-15, the total value was 62 per cent. higher.

The prices of live stock generally decline in a dry season, as graziers are forced to sell, owing to scarcity of pasturage; but, with an improvement in climatic conditions, the prices generally rise again, owing to the demand for re-stocking. The export prices of frozen meat began to rise steadily in 1911, and advanced at a rapid rate after the outbreak of war, to their highest level in 1918.

In the following table are given for seven years the Sydney average f.o.b. prices of the principal pastoral products; leather is included as a pastoral product, although it might be regarded as a manufactured article :—

Pastoral Produce.	1913.	1915.	1916.	1917.	1918.	1919.	1920.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Beef ... lb.	0 0 3 ¹ / ₄	0 0 5 ¹ / ₂	0 0 6 ¹ / ₂	0 0 6	0 0 6 ¹ / ₄	0 0 5 ³ / ₄	0 0 5 ³ / ₄
Mutton ... „	0 0 3	0 0 4 ³ / ₈	0 0 5 ¹ / ₂	0 0 5 ³ / ₈	0 0 6 ¹ / ₄	0 0 5 ¹ / ₂	0 0 5
Wool—							
Greasy „	0 0 9 ³ / ₄	0 0 9 ⁷ / ₈	0 1 1	0 1 3 ³ / ₈	0 1 4 ¹ / ₄	0 1 4	0 1 4
Scoured „	0 1 5	0 1 4 ¹ / ₈	0 1 8 ³ / ₈	0 1 10 ¹ / ₂	0 1 10 ³ / ₈	0 1 9 ³ / ₈	0 2 0 ³ / ₈
Sheepskins with Wool							
bale	22 17 0	21 4 7	25 16 2	28 18 9	31 13 0	*	*
Hides ... each	1 9 4	1 12 0	1 9 3	2 13 0	2 9 3	2 5 0	2 15 9
Leather ... bale	39 19 9	50 2 0	55 5 8	56 9 6	*	*	*
Tallow ... cwt.	1 10 3	1 12 5	1 16 6	2 1 6	2 0 3	2 5 3	4 3 7

*Not available.

In 1913 the prices of meat and leather were the highest throughout the period 1907-13. In 1914 the export trade was affected adversely by the war. Though the price of meat rose considerably, and that of leather was maintained at a high level, trade dislocations resulted in a decline in the prices of wool, skins, hides and tallow; but towards the close of the year there was a marked improvement. During the next four years, the heavy demand for raw materials occasioned by the war led to marked increases in the prices realised for these products. On the termination of the war a slight fall occurred in most of the items shown, but, in the outburst of post-war speculation, prices were maintained at their war-time level, and further large increases were shown in hides and tallow.

PASTORAL IMPLEMENTS AND MACHINERY.

A list of the implements and machinery in use on pastoral holdings appears in the 1912 edition of this Year Book. The aggregate value of the implements and machinery in use on the 30th June, 1920, was £3,016,000. The carts and waggons used on all rural holdings are included as farming machinery.

Machine-shearing plants have been installed on all the large holdings devoted to wool-growing. In addition to shearing their own sheep, many owners of machines contract to shear small flocks in the vicinity.

MEAT TRADE.

The meat trade commenced to assume importance in New South Wales about the year 1900, when an export trade in frozen and chilled meat became possible through the provision of refrigerated space in ocean freights.

Whereas, in the earlier years, surplus stock frequently found no better outlet than boiling-down works, and were, therefore, of no greater value than that of the hides or skins and tallow produced from them, an attractive oversea market both for frozen and canned meats now opened. Boiling-down operations practically ceased, and the export trade grew steadily until it benefited from a sudden and strong impetus during the war period.

These developments were not without their effects on the local meat supply, and the opening, the expansion, and the boom of oversea trade, which occurred respectively about 1900, 1911, and from 1914 onwards, caused substantial rises in the local prices of both beef and mutton. In the latter part of 1920, however, as a consequence of a glut of meat in cold storage, values fell in the United Kingdom and a substantial reduction occurred in local meat prices.

Slaughtering.

The slaughter of live stock for sale as food, either for local consumption or for export, is permitted only in places licensed for the purpose, in accordance with the Cattle Slaughtering Act, 1902. Of such establishments there are in the Metropolitan area 43, and in the country districts 857.

The following table shows the number of stock slaughtered during the year ended 30th June, 1920:—

Stock.	Metropolis.	Country.	Total.
Sheep	3,191,495	1,806,892	4,998,387
Lambs	439,581	85,344	524,925
Bullocks	188,062	132,333	320,395
Cows	99,794	91,239	191,033
Calves	68,489	8,322	76,811
Swine	141,716	138,627	280,343

These figures represent the stock killed for all purposes. Of the sheep and lambs, 3,514,186, including 1,063,463 killed on stations and farms, represent the local consumption; 551,996 were required by meat-preserving establishments; 1,419,569 for freezing for export; 22,887 were boiled down for tallow; and 14,674 carcasses were exported to Victoria. All the cattle killed were required for local consumption, except the equivalent of 11,680 carcasses treated in the meat-preserving works, 21,518 (including 1,771 calves) exported frozen, 854 exported to Victoria, and 5,844 boiled down.

The following table shows the stock slaughtered in the various establishments at intervals since 1901. Prior to 1920 the figures relating to the establishments and employees are somewhat in excess of the actual number, as they include a number of butchers' shops in country districts and the shop hands employed therein.

Year.	Establishments.	Employees.	Stock Slaughtered.					
			Sheep.	Lambs.	Bullocks. †	Cows.	Calves.	Swine.
1901	1,642	4,675	4,372,016	147,117	202,795	113,374	19,654	248,311
1906	1,522	4,391	4,229,407	252,948	237,722	94,955	26,200	281,650
1911	1,287	4,343	6,146,739	400,186	306,773	182,178	59,969	316,331
1916*	1,071	3,722	3,815,477	361,831	187,882	165,134	31,986	219,806
1920*	900	1,892	4,998,387	524,925	320,395	191,033	76,811	280,343

* Year ended 30th June. † Includes a small number of bulls.

Local Meat Supply.

In country towns licensed slaughter-houses are inspected by a local officer appointed and controlled by the Local Government authorities.

In Newcastle public abattoirs were established in 1912 under control of a local board, on similar lines to that already existent in Sydney.

The stock for the supply of meat for Sydney and suburbs is for the most part sold at the Flemington saleyards, near Sydney, and slaughtered in abattoirs at Homebush Bay. Animals sold at Flemington are inspected *ante mortem*, and the diseased are destroyed, while "doubtful" beasts are marked for further special attention at the abattoirs. The Inspecting Staff at the State Abattoir consists of a Chief Inspector, nineteen assistants, and two branders. Inspectors are stationed also at private slaughtering premises throughout the County of Cumberland. The operations of the inspectorial staff are supervised by the veterinary officers of the Metropolitan Meat Industry Board, who pay regular visits to the different establishments.

The carcass meat for food is conveyed from the slaughtering premises in covered louvred vans for distribution to retail shops, which are regulated by the municipal authorities.

The following table shows the number of stock yarded annually during the last ten years at Flemington sale-yards.

Year ended 30th June.	Sheep.	Cattle.	Year ended 30th June.	Sheep.	Cattle.
1911*	3,407,835	193,953	1916	2,317,602	158,453
1912	3,648,138	211,705	1917	1,711,246	149,604
1913	2,721,356	265,126	1918	1,756,301	146,630
1914	2,805,207	276,440	1919	2,684,652	178,140
1915	3,381,937	255,876	1920	2,792,879	260,306

* Year ended 31st December.

The particulars of operations at the State Abattoir, Homebush Bay, during the years ended 30th June, 1919, and 1920, are shown in the following statement :—

Animals.	Year ended 30th June, 1919.			Year ended 30th June, 1920.		
	Slaughtered.	Condemned.		Slaughtered.	Condemned.	
		Number.	Per cent.		Number.	Per cent.
Cattle	130,373	977	0·75	209,649	1,455	0·69
Calves	42,635	896	2·10	65,824	2,012	3·06
Sheep and lambs ...	1,838,243	1,514	0·08	2,542,348	2,953	0·11
Pigs	132,065	1,142	0·86	94,595	771	0·81

Further particulars relating to the operations of the Metropolitan Meat Industry Board have been shown in the chapter "Food and Prices," also a comparative review of the prices of meat.

The average wholesale prices of the best beef during 1919 ranged from 57s. 2d. per cential in February and July to 66s. 9d. in December. During 1920 the prices quoted were, for good trade quality beef, and for the best, ranged from 40s. 6d. in May to 91s. 1d. in September.

Meat Export Trade.

It has been found by experience that a great expanse of country is suited to the breeding of large-carcase sheep, and many pastoralists have turned their attention in this direction with a view to securing a greater share in the meat trade of the oversea countries. The expansion of the agricultural industry led to mixed farming ventures among primary producers, and the raising of sheep for the meat markets was combined frequently with wheat-growing. In connection with this matter the account of experiments in cross-breeding conducted by the Stock Department should be read.

The quantity of frozen meat exported oversea in 1889 amounted to 37,868 cwt., valued at £33,426; two years later it had increased to 105,013 cwt., valued at £101,828; its subsequent development may be seen in the following table. The quantity of preserved meat exported was first recorded in 1887, when 9,701,812 lb., valued at £149,287 were exported; the trade in preserved meat is subject to considerable fluctuation.

Year.	Frozen or Chilled.				Preserved.	
	Beef.	Mutton and Lamb.	Total Weight.	Total Value.	Weight.	Value.
	cwt.	cwt.	cwt.	£	lb.	£
1891	*	*	105,013	101,828	6,509,928	85,629
1896	26,529	559,507	586,036	294,596	14,365,390	187,957
1901	115,050	351,516	466,566	541,525	10,086,940	209,697
1906	32,640	455,165	487,805	579,294	3,121,933	62,307
1911	65,097	535,259	600,356	758,155	20,783,779	401,384
1915-16	7,000	236,099	243,099	562,262	4,087,618	159,711
1917-18	36,464	77,864	114,328	302,846	21,522,696	1,230,085
1918-19	21,363	173,122	194,485	497,784	33,836,189	2,000,846
1919-20	55,460	476,491	531,951	1,341,004	20,687,722	1,305,126

* Not available.

In the foregoing table, ships' stores, amounting annually to several millions of pounds in weight, are not included.

There was, prior to the war, an encouraging development in the meat export trade, and the prospects of its establishment on a stable foundation appeared highly favourable. European countries were gradually opening their ports to frozen meat, and the trade in the East was increasing. The war, however, closed many markets, and through inability to secure freight space for commercial purposes, it hampered exports seriously. Early in 1915 arrangements were made in terms of the Meat Supply for Imperial Uses Act, for the purchase by the Imperial Government of all the beef and mutton available for export during the period of the war; the arrangements ceased on 31st October, 1920. Details of the transactions are given in the chapter relating to "Food and Prices." With the restoration of normal peace conditions the trade will doubtless experience a great revival, because the demand for foodstuffs will be considerable. Signs of this revival manifested themselves early in 1920, but the derangement caused by the bad season, the existence of abnormally large stocks of frozen meat throughout the world, the termination of the Imperial meat contract toward the end of 1920, and the abolition of Government control in England, caused a heavy decline in prices in October, 1920. Prices were still low in July, 1921, and export operations were suspended partially in the many meat works.

In order to establish a high reputation for meat sent oversea, it is necessary for exporters to exercise the greatest care in preparation and transport. Stringent regulations have been issued by the Department of Trade and Customs regarding inspection and shipment of meat exported. The work is carried out by the Commonwealth authorities. All stock killed for export are examined in a manner similar to that for local consumption, and carcasses which have been in cold storage are re-examined immediately before shipment. In all the large modern steamers visiting the ports of New South Wales refrigerated space has been provided.

The following statement, compiled from the British trade returns, shows the imports of frozen mutton into the United Kingdom during the last ten years for which information is available, and the quantity imported from New South Wales.

Year.	Total Imports.	Imports into the United Kingdom from New South Wales.	Year.	Total Imports.	Imports into the United Kingdom from New South Wales.
	cwt.	cwt.		cwt.	cwt.
1910	5,405,923	776,084	1915	4,658,918	550,820
1911	5,330,070	612,620	1916	3,620,637	208,973
1912	5,021,529	342,422	1917	2,542,446	220,443
1913	5,204,257	695,955	1918	2,086,148	18,057
1914	5,049,236	603,435	1919	4,074,956	273,312

After the outbreak of the war the operations of the frozen-meat trade in the United Kingdom became abnormal, as practically the whole trade was taken out of commercial hands and placed under official control. In this way the British Government was able to deal effectively with the shipping and other difficulties affecting the maintenance of supplies. The annual importations into the United Kingdom, subsequent to 1913, were less than formerly, but large quantities of frozen meat were diverted to the continent of Europe and elsewhere for the use of the British forces engaged in the different theatres of the war.

The following statement shows the average wholesale prices per pound obtained during the past ten years for Scottish and frozen mutton sold in London.

Year.	Best Scottish.	New Zealand.	Australian.	River Plate.	Year.	Best Scottish.	New Zealand.	Australian.	River Plate.
	d.	d.	d.	d.		d.	d.	d.	d.
1911	6 $\frac{7}{8}$	4 $\frac{1}{8}$	3 $\frac{1}{2}$	3 $\frac{1}{2}$	1916	12 $\frac{1}{8}$	8 $\frac{1}{4}$	7 $\frac{7}{8}$	9
1912	7 $\frac{5}{8}$	4 $\frac{3}{8}$	3 $\frac{3}{4}$	3 $\frac{3}{4}$	1917	14 $\frac{1}{8}$	8 $\frac{7}{8}$	8 $\frac{7}{8}$	10 $\frac{3}{4}$
1913	7 $\frac{7}{8}$	4 $\frac{3}{4}$	4	4 $\frac{1}{8}$	1918	13 $\frac{5}{8}$	9	9	13 $\frac{1}{4}$
1914	8 $\frac{1}{4}$	5 $\frac{1}{4}$	4 $\frac{1}{2}$	4 $\frac{5}{8}$	1919	14 $\frac{1}{4}$	12	12	12
1915	9 $\frac{5}{8}$	6 $\frac{3}{4}$	5 $\frac{3}{4}$	6 $\frac{1}{4}$	1920	19 $\frac{1}{4}$	9 $\frac{1}{2}$	9 $\frac{1}{4}$	9 $\frac{1}{2}$

The frozen beef imported into England from New South Wales in 1919 amounted to 96,475 cwt., valued at £395,670. The value of rabbits imported in the same year was £361,897, while preserved meat, other than salted, was valued at £2,306,614.

OTHER PASTORAL PRODUCTS AND BY-PRODUCTS.

The minor products accruing from pastoral occupations include skins and hides, tallow, lard and fat, furs, hoofs, horns, bones, bone-dust, glue pieces and hair. Some of these are discussed in the chapter relating to the Manufacturing Industry, and will be given only brief mention here.

The overseas trade in these products is considerable, and though there has been a marked decline in the volume of exports of many of the commodities owing to restrictions arising from war conditions, there has been an increase in the total value, as higher prices were obtainable.

The following table shows the overseas exports of various pastoral products at intervals since 1901:—

Products.	Oversea Exports.				
	1901.	1906.	1911.	1915-16.	1919-20.
Skins and Hides—					
Cattle No.	91,084	72,743	263,306	431,731	635,874
Horse No.	473	722	1,392	706	4,074
Rabbit and Hare ... lb.	*	7,380,455	5,795,839	4,352,640	9,927,240
Sheep No.	*	2,706,027	2,410,543	3,447,212	2,473,321
Other £	184,522	140,050	296,672	272,622	2,425,394
Bonedust cwt.	66,473	56,415	116,733	71,795	99,420
Bones cwt.	3,207	2,431	6,807	6,963	15,775
Furs (dressed and hatters, not on the skin). ... £	767	180	117	...	136,344
Glue-pieces and Sinews cwt.	12,862	11,003	20,580	13,276	2,936
Glycerine and Lanoline... lb.	*	336,586	138,347	218,673	130,974
Hair (other than human) lb.	165,562	142,636	255,819	336,765	396,429
Hoofs cwt.	2,215	2,839	3,733	4,518	5,301
Horns £	12,532	11,979	13,475	3,455	31,072
Lard and Refined Animal Fats lb.	13,633	56,737	227,000	73,461	4,669,199
Leather £	374,541	411,030	334,996	551,026	1,320,679
Sausage-casings £	2,567	17,033	52,562	31,595	150,799
Tallow (unrefined) ... cwt.	305,227	357,031	612,911	128,290	307,187

* Not available.

The classification adopted is that used by the Customs authorities for the year 1919-20, the large increase in the export of rabbit skins being due to the prevalence of phenomenal prices in foreign markets.

The total values of the above-named exports for the various years were as follows:—Year 1901, £1,223,738; year 1906, £1,780,466; year 1911, £2,486,492; year 1915-16, £2,176,838; and year 1919-20, £9,827,842.

NOXIOUS ANIMALS.

The only large carnivorous animals dangerous to stock in Australia are dingoes or so-called native dogs, and foxes; but graminivorous animals, such as kangaroos, wallabies, hares, and rabbits, particularly the last-named, are deemed by the settlers even more noxious. In the latter part of 1920, however, native dogs became an increasing menace to flocks in the Western Division, and added considerably to the difficulties experienced by graziers in that region.

The estimated losses in sheep by native or other dogs and foxes during the year ended 30th June, 1920, were 224,000.

Rabbit Pest.

Rabbits, which are the greatest pest to the pastoralists, found their way into this State from Victoria; their presence first attracted serious attention in 1881, and they multiplied so rapidly, that, in 1882, they were to be met on most of the holdings having frontages on the Murray River. Attempts to cope with them under the Pastures and Stock Protection Act proved ineffectual, and the Rabbit Nuisance Act was passed, which provided for the compulsory destruction of rabbits by the occupiers of the land, who were to receive a subsidy from a fund raised by an income tax upon stock-owners, but the fund soon proved inadequate, and from the 1st May, 1883, to the 30th June, 1890, when the Act was repealed, it was supplemented by £503,786 from the Consolidated Revenue. The tax upon stockowners yielded £831,457, and landowners and occupiers contributed £207,864, so that the total cost during the whole period exceeded £1,543,000.

The Rabbit Act of 1890 repealed the 1883 Act, and those provisions of the Pastures and Stock Protection Act relating to rabbits. It provided moreover, as occasion required, for the proclamation of land districts as "infested," and for the construction of rabbit-proof fences. From the 1st July, 1890, to the 30th April, 1902, the State expenditure under this Act was £41,620, nearly all of which was devoted to the erection of rabbit-proof netting. From May, 1902, to December, 1903, the expenditure amounted to £10,548.

Under the Pastures Protection Act of 1902 the State was divided into districts, the protection of the pastures being supervised by a board in each district elected by the stockowners. The pastures protection boards were empowered to levy a rate upon the stock, and to erect rabbit-proof fences on any land, to take measures to ensure the destruction of all noxious animals and to pay rewards for such destruction. The State expenditure on rabbit extermination after the establishment of the boards, consisted mainly of payments to the Railway Commissioners for the maintenance of rabbit-proof fences, and amounted to £13,414 to the end of June, 1918. Since that date no further payments have been made.

In order to prevent the spread of this pest the Government has erected rabbit-proof fences at numerous places. The longest of these traverses the western side of the railway line from Bourke, *via* Blayney and Murrumburrah, to Corowa, in the extreme south of the State, a distance of 612 miles and the Railway Commissioners have undertaken the work of its maintenance. A fence extends from the Murray River northwards, 350 miles along the border between New South Wales and South Australia. On the Queensland border a fence has been erected between Barrington and the river Darling, at Bourke, 84 miles; another, built at the joint expense of the Governments of Queensland and New South Wales, extends from Mungindi to the Namoi River, about 115 miles. The total approximate length of rabbit-proof fences erected by the State up to the 30th June, 1920, was 1,332 miles, at a cost of £69,888 by private persons, 106,318 miles, at a cost of £6,166,466 and by pastures protection boards, 683 miles, at a cost of £26,894.

The evil wrought by the rabbit pest is, of course, incapable of measurement, but some amazingly large estimates of the losses due to the pest have been made. It is contended that the sheep-carrying capacity of the State has been reduced heavily as a consequence of the damage they cause to pastures, and this suggestion is supported by the facts that the number of sheep in the State has declined since their appearance, and every bad season presents the spectacle of heavy losses in sheep through lack of natural fodder. Such losses were not experienced prior to the appearance of rabbits.

Although the damage caused by rabbits is considerable it is compensated to some extent by their local use for food, and their value for export as frozen meat, and skins.

Within the State these animals form a common article of diet, both in the metropolis and in the country, especially during the winter months, when large numbers of men are engaged in their capture and treatment. The consumption is estimated at 60,000 to 80,000 pairs per week. The fur of rabbits and hares is used largely in the manufacture of hats, and of ladies' furs.

The following table shows the exports of frozen rabbits and hares, and of rabbit and hare skins, from New South Wales to countries outside Australia:—

Year.	Exports Oversea.				
	Frozen Rabbits and Hares.		Rabbit and Hare Skins.		Total.
	Quantity.	Value	Quantity.	Value.	
	pairs.	£	lb.	£	£
1901	*	6,158	*	9,379	15,537
1906	5,938,518	246,803	7,380,455	293,260	540,063
1911	6,806,246	330,741	5,795,839	295,476	626,217
1915-16	9,487,687	607,711	4,352,640	210,935	818,646
1917-18	8,978,377	670,269	6,986,837	1,036,188	1,706,457
1918-19	3,956,877	221,632	10,110,540	1,103,575	1,325,207
1919-20	6,890,636	537,877	9,927,240	2,702,652	3,240,529

* Not available.

The figures show the importance of the export trade in rabbits and hares. There was a considerable rise in the prices obtainable for skins in 1917, and the value of skins exported in 1917-18 was more than three times greater than in 1906, though a smaller quantity was exported. Between 1918 and 1920 the prices of rabbit skins rose to phenomenal heights, and the resultant export of skins made a valuable addition to the export trade of the State. Quotations for all grades of Australian rabbit skins on London market ranged from 3½d. to 27d. per pound in July, 1914, but in February, 1920, the range was from 34d. to 315d. per pound. This was the highest level reached, and in May, 1921, it had fallen to a range from 5d. to 58d. per pound.

DROUGHT INSURANCE.

For the past thirty years recurrent bad seasons have constituted the most serious obstacle to the steady progress of the pastoral industry, and have been the cause of frequent severe losses in this and other industries, thereby greatly reducing the power of the State to produce wealth. The difficulties encountered in the problem of combating the evil effects of drought are two-fold—the transport or conservation of water and the conservation of fodder. The supply of water to stock is usually provided by supplementing natural sources with underground tanks or dams, while in some districts artesian and shallow bores are of great utility. Natural pastures are usually abundant, but little effort has been made as yet to conserve fodder for use in bad seasons.

The bitter experiences of the State during the drought of 1919-20 led to the appointment of a committee of experts, to consider means of effecting drought insurance by a process of fodder conservation. It is hoped that this committee will be able to evolve some practicable scheme for the better conduct of the industry. It is anticipated that any adequate scheme will require a sum of £5,000,000 to finance it in the first five years; this amount would then be repaid, and the scheme would become self-supporting. The control might be vested in a central board, with local committees in ten or more districts of the State. One practical proposal is that large storage bins should be erected for the reception of chaff in suitable localities, and that this should be stored until its use is necessitated by drought.

DAIRYING INDUSTRY.

THE natural conditions in New South Wales are highly favourable to the development of the dairying industry. The soil and climate in a large portion of the State are suitable for the maintenance of the dairy herds with a minimum of expense and labour, as the animals require neither housing nor hand-feeding during a long winter, as in cold countries, and natural pasture is available throughout the year.

The development of dairying as a national industry is, however, comparatively recent, as its progress was retarded until the introduction of refrigeration enabled producers to overcome disabilities in manufacturing and in distributing the perishable dairy products in a warm climate. The application of machinery to the treatment of milk and the manufacture of butter, the development of the factory system, and improvements in regard to ocean transport have enabled production to expand beyond the limits of local requirements, and butter has become an important item of the export trade.

Where conditions are favourable, sheep are generally more profitable than cattle, so that dairying is conducted mainly in the coastal belt where, with an annual rainfall ranging up to 70 inches, the climate is too moist for sheep or wheat.

In the drier inland divisions, on the other hand, the area devoted to dairying is not extensive, sheep and wheat farming being the main rural industries. In proximity to the centres of population dairy farming is undertaken to supply local wants, and well-equipped factories have been established; dairying is also an important industry on the Murrumbidgee and Hay irrigation areas.

In the coastal division many holdings are used exclusively for dairying; in other parts of the State, where fodder must be grown to carry the stock throughout the winter, the industry is conducted usually in conjunction with wheat-farming and sheep-breeding. Herds of high-class dairy cattle are maintained on many of the large pastoral holdings.

Difficulty in obtaining an adequate supply of farm labour is a drawback to the dairying industry, and has led to the introduction of a system of share-farming, chiefly in the northern coastal divisions. As a general rule, one party supplies the land, stock and implements and the other conducts the farm work. In 1919-20 there were 95,424 acres under this system, 29,233 being in the North Coast division and 42,282 in the Hunter and Manning division.

Most of the native grasses of the State are particularly suitable for dairy cattle, as they possess milk-producing as well as fattening qualities. In the winter the natural herbage is supplemented by fodder, such as maize, barley, oats, rye, lucerne, and the brown variety of sorghum, or the planter's friend. Ensilage also is made for fodder, but not so generally as it should be, and the quantity made in each year varies considerably. The area of land devoted to sown grasses has been extended largely during recent years, and in June, 1920, amounted to 1,543,317 acres; the produce of this land is used mainly as food for dairy cattle.

SUPERVISION OF DAIRY PRODUCTS.

The manufacture, sale and export of dairy products, *i.e.*, milk, condensed milk, butter, cheese and margarine, are subject to supervision in terms of the Dairy Industry Act passed in December, 1915.

Dairy factories and stores must be registered, and are subject to inspection by Government inspectors. Cream supplied to a dairy factory must be tested and graded at the factory, and the farmer is paid on the basis of the butter-fat results, or on the amount of butter obtained from his cream. Butter must be graded and packed in boxes bearing registered brands indicating the quality of the product and the factory where it was produced. The testing and grading at the factory may be done only by persons holding certificates of qualification. The Act provides also for the compulsory grading, on a uniform basis, of butter for local consumption and for exportation.

An experienced dairy inspector is appointed in each dairying district and is entrusted with the administration of the Act and regulations thereunder. He acts as inspector and instructs the factory managers and cream graders in matters connected with the industry.

Since the Dairy Industry Act came into force the quality of factory butter has shown a marked improvement, and in the year ended 30th June, 1920, 96 per cent. of the total output was classed as choicest or first-grade, whereas, formerly, only 50 per cent. of the quantity exported reached this standard.

Particulars regarding the supervision of dairies supplying milk for consumption as fresh milk, are shown in the chapter, "Food and Prices."

The supervision of dairy products for the oversea export trade is conducted by officers appointed by the Federal Government, under the Commerce (Trade Descriptions) Act of 1905.

DAIRY INSTRUCTION.

Educational and experiment work relating to dairying is conducted by the Department of Agriculture at several of the State experiment farms, and at the Hawkesbury Agricultural College, while stud farms are maintained at Wollongbar and Berry.

The breeds of cattle kept at the various farms are as follows:—At Cowra and at Berry, Shorthorn milking stock; at Wollongbar, Guernseys; at Grafton, Glen Innes and Yanco, Ayrshires; at Wagga Wagga and Bathurst, Jerseys. At the Hawkesbury Agricultural College, Jerseys hold a prominent place, and there are a number of Red Polls.

In order to enable factory managers and butter-makers to improve their scientific knowledge, dairy-science schools are held for short terms at different dairying centres, and certificates are given to those who pass successfully examinations in the grading of cream, and in the testing of milk and cream.

During the year 1919-20 three dairy science schools were held and 148 students attended.

HERD-TESTING.

The extension of the practice of herd-testing is of great importance to the future development of the dairying industry in New South Wales. For many years prior to 1888 the importation of cattle from over-seas was prohibited, and in the period of rapid expansion, which began about 1900, there was a shortage of high-class stock, with the result that many dairy farmers used inferior animals for breeding. The lifting of the embargo and subsequent importations by the Government and by private breeders, have given the farmers an opportunity of obtaining a better class of dairy stock, and they are encouraged to improve their herds and to cull all unprofitable animals.

Farmers who supply cream to factories are paid according to the results of the testing and grading of their consignments, but these results, representing averages, do not disclose the necessary records of individual animals. Therefore efforts are being made by the dairy inspectors to organise in each dairying centre a herd-testing association on co-operative lines.

The testing of stud dairy herds is undertaken by the Department of Agriculture. The number of completed tests from the inception of the scheme in 1913, to 1st March, 1920, was 2,145, and there were 473 cows under test at that date. The herd-testing associations had made records of 55,000 cows up to March, 1918; in 1918-19 about 4,000 were tested, and in the following year 7,500.

DAIRY PRODUCTION.

The following figures show the dairy production in each Division of the State during the year ended the 30th June, 1920 :—

Division.	Average No. of Dairy Cows in Milk during year.	Total yield of Milk.	Butter made.	Cheese made.
Coastal—	No.	gallons.	lb.	lb.
North Coast	226,563	89,772,000	34,926,496	1,064,342
Hunter and Manning	102,753	43,059,000	12,563,303	1,267,168
County of Cumberland	20,309	10,277,000	719,068	8,052
South Coast	73,549	32,824,000	8,764,925	3,772,676
Total	423,174	175,932,000	56,973,792	6,112,238
Tableland—				
Northern	14,622	4,683,000	1,132,541	243,469
Central	13,251	4,250,000	759,107	70,300
Southern	9,917	3,652,000	834,647	450
Total	37,790	12,591,000	2,726,295	314,219
Western Slopes—				
North	8,351	2,430,000	493,787	51,909
Central	5,967	1,854,000	301,072	20
South	15,165	4,259,000	1,664,406	89,690
Total	29,483	8,543,000	2,459,265	141,619
Central Plains—				
North	1,266	343,000	31,684	...
Central	3,289	874,000	92,385	...
Total	4,555	1,217,000	124,069	...
Riverina	14,904	5,179,000	842,146	194,391
Western Division	1,158	335,000	9,433	...
Total, New South Wales...	511,064	203,797,000	63,135,000	6,762,467

This statement illustrates the importance of the dairying activities in the coastal divisions as compared with the remainder of the State. In this area 83 per cent. of the cows are depastured, and about 90 per cent. of the total output of milk, butter, and cheese, is produced. The North Coast Division surpasses any other division, except in regard to cheese-making, of which the bulk is made in the South Coast districts. The Hunter and Manning division is next in importance, then the South Coast. Twenty years ago

the last-mentioned division was the principal dairying region, but the industry has since made more rapid progress in the northern districts, where many large estates, used previously for raising cattle for beef, have been subdivided into dairy farms.

DAIRY CATTLE.

Particulars as to the breeds of the cattle in New South Wales have been shown on page 433. In the dairy herds the Shorthorn preponderates; this breed was introduced into the Illawarra or South Coast districts in the early period of dairying, before the Shorthorn had been developed by English breeders into a beef-producing type. By an admixture with other strains, a useful type of dairy cattle known as the Illawarra has been developed, and an association has been formed to establish the breed. There is also a large number of Jersey cattle, and the popularity of this breed for the production of butter is increasing. The Ayrshire is well represented in the dairy herds; it is noted for hardiness, but is considered as better suited for producing a large quantity of milk for human consumption as fresh milk, than for the purposes of butter-making.

The State Government, as well as private breeders, have imported a number of stud dairy stock for the purpose of improving the local herds. In 1898 the Government imported 24 bulls and 38 cows, including Shorthorns, Guernseys, Jerseys, Ayrshires, Kerry, Red Polls, and Holstein; additional Guernsey cattle were introduced later, viz., 22 cows in 1907, and 10 bulls and 15 cows in 1911. The importations by the State and by private breeders during the last twenty years included Jerseys, 28 bulls and 95 cows; Guernseys, 25 bulls and 81 cows; Ayrshires, 25 bulls and 29 cows; and, in 1920, Friesians, 6 bulls and 25 cows.

The number of dairy cows in the State in various years since 1901 are shown below:—

As at 30th June.	In Milk.	Dry.	Heifers.		Total.
			Springing.	Other, over one Year.	
	No.	No.	No.	No.	No.
1901†	*	*	*	*	417,835
1906†	494,820	172,888	45,341	*	713,049
1911†	638,525	218,593	37,626	*	894,744
1916	426,227	317,368	92,124	207,999	1,043,718
1917	424,033	319,230	111,369	167,665	1,022,297
1918	429,556	347,834	110,827	177,872	1,066,089
1919	445,354	273,154	78,839	173,101	970,448
1920	419,732	277,888	72,311	133,092	903,023

* Not available. † As at 31st December.

Between 1901 and 1911 the number of dairy cows increased from 418,000 to 895,000, and the number increased rapidly until 1918, when there were 1,666,000 cows, or nearly four times as many as in 1901. In the following years drought affected the industry, a number of cows were slaughtered for beef, and breeding was restricted, so that in 1920 the number had decreased to 903,000.

MILK.

Under normal conditions the milking capabilities of the dairy cows of New South Wales may be estimated at 450 gallons annually per cow.

The average as shown below for each of the last ten years does not reach this quantity, but the number of cows milked includes a very large number,

which cannot be classed as dairy cows in the commercial acceptance of the term; they are milked for home supply on farms situated in districts where there are no butter or cheese factories, and their production of milk is much below the yield of an average cow on a dairy farm.

The average annual yield of milk per cow in the dairying districts varies considerably under the influence of the seasons. In the year 1919-20, when a drought adversely affected the North Coast district, the average yields were:—North Coast district 399 gallons, Hunter and Manning district 419 gallons, and South Coast district 446 gallons.

Year.	Average Number of Dairy Cows in Milk during Year.	Total Yield of Milk. (000 omitted.)	Average Yield of Milk per Cow.	Year.	Average Number of Dairy Cows in Milk during Year.	Total Yield of Milk. (000 omitted.)	Average Yield of Milk per Cow.
	No.	gallons.	gallons.		No.	gallons.	gallons.
1910	632,786*	235,578	372	1916	465,044	184,014	396
1911	638,525*	237,623	372	1917	551,623	226,004	410
1912	620,730*	225,446	363	1918	634,000	247,529	390
1913	600,420*	231,592	386	1919	536,200	207,095	386
1915	513,420	237,930	442	1920	511,064	203,797	399

* Number as at 31st December.

The total yield of milk, as shown above, is not absolutely accurate, but it is the best available estimate. Few, if any, dairy farmers actually measure the yield obtained from their cows, because they are concerned principally in producing cream. A large part of the yield of milk, therefore, is estimated from its cream content.

The yield of milk was lowest in 1916 when, owing to unfavourable weather, it fell below 200,000,000 gallons; it was highest in 1918—viz., 247,529,000 gallons—but during the last two years there was a decline of about 40,000,000 gallons. The yield per cow, as shown in the table, was apparently low in the years 1910 to 1913, but the averages are understated as they were computed on the basis of the number of cows in milk at 31st December when the number is generally at a maximum for the year. In 1915 a satisfactory average yield of 442 gallons was obtained, but in the following years there was a marked decline; in 1920 there was a slight improvement notwithstanding the unfavourable season.

The following statement shows the purposes for which the milk was used during the years 1914-15 and 1919-20:—

	1914-15.	1919-20.
	gallons.	gallons.
Used for butter made on farms ...	11,272,000	10,178,000
" " " " in factories ...	181,194,000	137,194,000
	<u>192,466,000</u>	<u>147,372,000</u>
Used for cheese made on farms ...	1,068,000	558,000
" " " " in factories ...	5,452,000	6,396,000
	<u>6,520,000</u>	<u>6,954,000</u>
Used for sweet cream ...	518,000	498,000
" " condensing ...	1,601,000	3,619,000
Pasteurised for metropolitan market...	10,287,000	12,712,000
Balance sold or used otherwise ...	26,538,000	32,642,000
	<u>47,866,000</u>	<u>50,571,000</u>
Total ...	<u>237,930,000</u>	<u>203,797,000</u>

The milk used for making butter represents 72 per cent. of the total production; 3 per cent. was used for cheese; about 2 per cent. for condensed milk; and the balance was consumed as fresh milk or sweet cream.

The quality of the milk as indicated by the percentage of butter fat is even more important than the average yield of milk per cow, and it is satisfactory to note that, in spite of adverse seasons, the quality has been fairly well maintained. The following statement shows the quantity of butter per 100 gallons of milk treated on farms and in factories during each of the last ten years:—

Year.	Quantity of Butter per 100 gallons of Milk treated.		
	On Farms.	In Factories.	On Farms and in Factories.
	lb.	lb.	lb.
1910	32.5	39.8	39.2
1911	33.0	42.9	42.2
1912	33.1	42.4	41.8
1913	33.6	42.5	41.9
1915*	33.8	44.3	43.7
1916*	33.9	43.5	42.6
1917*	34.0	45.2	44.4
1918*	35.2	44.5	43.8
1919*	35.3	44.5	43.8
1920*	34.2	43.5	42.8

* Year ended 30th June.

During the period under review the quantity of butter per 100 gallons of milk increased by 3.6 lb.; the average in factories was about 9 lb. higher than in the case of milk treated on farms. Doubtless this is due to improved methods of treatment and to the fact that the farmer is paid for his cream in accordance with the quantity of butter obtained from it.

As already stated the manufacture of butter by machinery and the establishment of factories in dairying centres were important factors in the development of the industry. When the machinery for separating cream from the milk was first introduced it was the practice for the farmer to take the milk once or twice a day to the factory where the cream was separated by means of power-driven separators, and the separated milk was carried back to the farms for feeding calves and pigs. The difficulty in keeping milk sweet when carried long distances, especially in summer time, led to the establishment of public separating stations or "creameries" for the treatment of milk, the cream only being sent to the factories. In recent years this arrangement has been discontinued and it has become the practice to instal hand or small power separators on each farm. Thus the farmers have been able to effect great economy of time and labour, as the cream need not be taken to the factory at such frequent intervals, while an additional advantage is derived by the supply of freshly separated milk for the farm stock.

The following table shows, the quantity of milk separated at the public separating stations has decreased to a negligible quantity:—

Year.	Milk Separated for making Butter.			
	On Farms. (000 omitted.)		In Public Separating Stations. (000 omitted.)	Total. (000 omitted.)
	By hand,	By steam, etc.		
	gallons.	gallons.	gallons.	gallons.
1910	181,281	11,590	2,716	195,587
1911	176,983	17,835	2,163	196,981
1912	165,342	16,812	1,175	183,329
1913	165,898	18,722	1,109	185,729
1915*	176,716	14,957	793	192,466
1916*	125,759	13,652	505	139,916
1917*	161,301	17,014	420	178,735
1918*	163,139	20,035	446	183,620
1919*	132,679	18,033	96	150,808
1920*	129,896	17,466	10	147,372

* Year ended 30th June.

Preserved Milk.

Three kinds of preserved milk are produced in New South Wales, viz., sweetened condensed milk, unsweetened condensed milk, and concentrated milk.

Sweetened condensed milk is manufactured by the evaporation of a certain percentage of water from fresh milk, and by the addition of about 40 per cent. of cane sugar; in this form the preserved milk should keep for an indefinite period. Unsweetened condensed milk is treated at a much higher temperature in order to render it sterile without the aid of sugar. In the manufacture of concentrated milk, the degree of concentration is greater, but as the milk is not heated to a sufficiently high temperature to render it sterile, and a small quantity of chemical preservative is added. Concentrated milk is used principally on the ocean-going steamers; it is considered to be more digestible than unsweetened condensed milk.

Since 1913 there has been great progress in the manufacture of preserved milk; in that year there were two factories, employing 42 hands, and the value of land, buildings and plant amounted to £16,300; in the year ended June, 1920, there were four factories, with 166 hands, and the value of land, and plant had increased to £59,482.

The increase in the output since 1913 is shown below:—

Year ended 30th June.	Milk treated. (000 omitted.)	Condensed and concentrated milk produced.	
		Quantity.	Value.
	gal.	lb.	£
1913	1,062	3,682,800	52,734
1915	1,601	6,002,600	99,630
1916	1,400	4,918,100	91,700
1917	1,693	5,830,000	125,120
1918	2,366	8,973,900	206,250
1919	3,119	11,267,400	280,130
1920	3,619	12,969,700	383,840

The output in 1919-20 consisted of condensed milk, sweetened 11,573,273 lb., unsweetened 365,405 lb., concentrated milk 855,384 lb., and sterilised milk 175,617 lb.

Recently there has been an amalgamation of the companies engaged in the manufacture of these milk products in Australasia.

Details regarding the supply and distribution of fresh milk in the Metropolitan area are shown in the chapter relating to Food and Prices.

BUTTER.

The following statement shows the quantity of butter made, and the milk used for that purpose, at intervals since 1901. In distinguishing between the milk treated on farms and in factories, the quantity used in farm-factories, whether worked by a separate staff or by farm employees, has been included in the statistics relating to factories.

Year.	On Farms. (000 omitted.)			In Factories. (000 omitted.)			Total. (000 omitted.)		
	Milk used.	Butter made.	Milk used per lb. of butter.	Milk used.	Butter made.	Milk used per lb. of butter.	Milk used.	Butter made.	Milk used per lb. of Butter.
	gallons.	lb.	gal.	gallons.	lb.	gal.	gallons.	lb.	gal.
1901	14,168	4,775	2-97	82,304	34,282	2-40	96,472	39,057	2-47
1906	14,288	4,637	3-08	141,761	54,304	2-61	156,049	58,941	2-65
1911	14,034	4,632	3-03	182,947	78,573	2-33	196,981	83,205	2-37
1913	13,342	4,474	2-98	172,387	73,305	2-35	185,729	77,779	2-39
1915*	11,272	3,805	2-96	181,194	80,329	2-26	192,466	84,134	2-29
1916*	12,593	4,258	2-96	127,323	55,374	2-30	139,916	59,632	2-35
1917*	12,627	4,294	2-94	166,108	75,070	2-21	178,735	79,364	2-25
1918*	12,947	4,580	2-83	170,673	75,888	2-25	183,620	80,468	2-28
1919*	11,461	4,043	2-83	139,347	61,966	2-25	150,808	66,009	2-28
1920*	10,178	3,478	2-93	137,194	59,657	2-30	147,372	63,135	2-33

* Year ended 30th June.

The proportion of factory-made butter in the total production has increased from 72 per cent. in 1895 to 94 per cent. during 1919-20, a result of the decrease in the cost of production in factories as compared with farms. On the average nearly 3 gallons of milk were required to make a pound of butter on the farms, as compared with 2½ gallons in the factories. Nearly all the factories dealing with dairy produce are established on the co-operative system.

The combined effects of drought conditions and scarcity of shipping-space for export trade caused a marked decrease in the butter produced in 1916. In the following year a most successful season was experienced, and the output rose to 79,364,471 lb., or 33 per cent. higher than in 1916. The improvement was maintained in 1918 when the production amounted to 80,468,007 lb., or only 4 per cent. below the production in 1915, which was the highest on record. The reduced output in 1919 and 1920 was largely due to drought conditions prevailing in the Coastal districts during the year.

Further particulars regarding dairy factories are given in the chapter relating to Manufacturing Industry.

CHEESE.

Excellent conditions exist in New South Wales for the production of cheese, but cheese-making has not advanced to the same extent as the manufacture of butter, the latter being more profitable.

The industry is retarded by the great disadvantages of cheese as an article of export. It matures quickly, and, unlike butter, cannot be frozen, and after a certain period it decreases in value. Moreover, cheese represents only half the money value of butter, while the cost of freight is practically the same.

From a previous table showing the cheese made in the various divisions of the State, it will be seen more than half of the total production during the 1919-20 season was made in the South Coast Division.

The following table shows the production of cheese in factories and on farms at intervals since 1901 :—

Year.	Production of Cheese.		
	In Factories.	On Farms.	Total.
	lb.	lb.	lb.
1901	2,428,599	1,410,236	3,838,835
1906	3,459,641	1,999,004	5,458,645
1911	4,617,387	843,265	5,460,652
1913	4,872,165	1,748,483	6,620,648
1915*	5,314,494	1,042,133	6,356,627
1916*	4,969,374	1,010,262	5,979,636
1917*	6,946,956	883,283	7,830,239
1918*	7,120,770	678,906	7,799,676
1919*	5,500,298	481,822	5,982,120
1920*	6,230,350	532,117	6,762,467

* Year ended 30th June.

During the five years, 1901-06, the production increased from less than 4 million pounds to nearly 5½ millions; the output was not increased until 1913, then it declined in the two succeeding seasons. In 1916-17 purchases by the Imperial Government for the use of troops led to increased production, and the output of 7,830,239 lb. was the highest on record. In 1919 the production declined to the former level, but an improvement occurred in 1920.

SWINE.

The breeding of swine is conducted usually on dairy farms, where a large supply of separated milk is available for fattening the stock; pigs are reared also in agricultural districts, where special crops of maize, peas, etc., are grown for them. Pigs increase rapidly, so that there is a danger of an over-supply on the market unless a steady export trade is developed; for this reason pig-raising has not progressed to the same extent as the dairy industry.

The principal breeds of swine are the Berkshire, prized because it is fattened readily; the Poland China, which thrives in the North Coastal districts; the Tamworth, which is useful for crossing with fat breeds to secure a good bacon pig; and a type called the Middle Yorkshire, which has been fixed by crossing the Large and Small Yorkshires. Stock of high-class strains may be purchased at the Government experiment farms and other institutions.

The following table shows the number of pigs in New South Wales at intervals since 1891 :—

Year.	Swine.	Year.	Swine.
	No.		No.
1891	253,189	1916*	281,158
1896	214,581	1917*	359,763
1901	265,730	1918*	396,157
1906	243,370	1919*	294,648
1911	371,093	1920*	253,910

* As at 30th June, previously as at 31st December.

The figures show remarkable fluctuations, but, since 1901, there has been a tendency to increase; in 1918 the number, 396,157, was the highest on record, but it has since declined to 253,910, owing to adverse seasons. At 30th June, 1920, the pigs less than one-year old included 4,073 boars, 41,584 sows, 47,831 barrows, and 94,854 suckers; and the pigs aged one year and over included 9,229 boars, 39,704 sows, and 16,635 barrows.

The following statement shows the number of pigs in various divisions of the State and the production of bacon and ham at intervals since 1901 :—

Division.	1901.		1911.		1920.*	
	Swine.	Bacon and Ham cured.	Swine.	Bacon and Ham cured.	Swine.	Bacon and Ham cured.
	No.	lb.	No.	lb.	No.	lb.
Coastal	146,011	8,297,480	255,361	13,845,520	183,291	14,976,709
Tableland	72,277	1,860,852	45,578	1,124,091	24,071	752,610
Western Slopes	32,401	681,944	42,258	666,173	26,552	425,199
Remainder of State	15,041	240,615	27,896	467,043	19,996	515,080
Whole State	265,730	11,080,891	371,093	16,102,827	253,910	16,669,598

* Year ended 30th June.

This table shows that the pig-raising and bacon industries have made considerable progress since 1901 in the dairying districts of the coastal division, and 90 per cent. of the total production of bacon in 1919-20 was cured in these districts. In the tableland and western slopes divisions there has been a marked decline, especially in the tableland districts.

Bacon and Hams.

The number of bacon factories has increased considerably since 1906, but the production of bacon in New South Wales is not usually sufficient for local requirements, and quantities are imported from other States.

The output of bacon and hams from factories and farms at intervals since 1891 is shown hereunder :—

Year.	Production of Bacon and Ham.		
	Factory.	Farm.	Total Production.
	lb.	lb.	lb.
1891	2,120,300	3,889,300	6,009,600
1901	7,392,100	3,688,800	11,080,900
1911	13,393,500	2,709,300	16,102,800
1913	12,874,700	2,317,600	15,192,300
1916*	11,637,900	1,938,700	13,576,600
1917*	13,560,400	2,227,800	15,788,200
1918*	15,602,900	2,952,200	18,555,100
1919*	13,935,700	2,866,000	16,801,700
1920*	14,938,300	1,731,300	16,669,600

* Year ended 30th June.

During the first decade of the period under review the production of bacon showed a substantial increase, but during the drought of 1902-03 there was a decline, and the industry did not recover from the effects for some years. During the ten years, 1901 to 1911, the output increased from 11,000,000 lb. to over 16,000,000 lb.; in 1915-16 the production declined again, but in 1918 it rose to 18,555,000 lb., the highest on record; the subsequent seasons were not so favourable.

Lard.

Statistics showing the total production of lard are not available. During the year ended 30th June, 1920, the quantity extracted in bacon factories amounted to 593,864 lb., valued at £34,623; but as the manufacture of this product is conducted in many other establishments as well as on farms, this quantity represents only a portion of the total output.

During the twelve months ended 30th June, 1920, the oversea exports of lard and refined animal fats amounted to 4,669,199 lb., valued at £215,552, as compared with the direct imports from oversea countries amounting to 9,014 lb., valued at £558.

LOCAL CONSUMPTION OF DAIRY PRODUCTS.

The local consumption of milk and butter in New South Wales is comparatively high; the average consumption per head in 1919-20 was as follows :—Fresh milk 20·7 gallons, preserved milk 6 lb., butter 29·9 lb., cheese 3·9 lb., bacon and ham 8·8 lb. With a population of about 2 millions the local requirements amount to 41,500,000 gallons of fresh milk per annum, 12,000,000 lb. of preserved milk, 60,000,000 lb. of butter, 8,000,000 lb. of cheese, and 17,500,000 lb. of bacon and ham. Comparison with the figures on the foregoing pages show that the State is self-supporting in regard to milk and butter and that a small proportion of the bacon and cheese supply is imported—generally from the other States of the Commonwealth. During the summer months, when production is at a maximum, a quantity of butter is placed in cold storage in order to ensure an adequate supply during the winter.

EXPORTS OF DAIRY PRODUCTS.

Dairy products for export beyond the Commonwealth are subject to inspection by Federal Government officials under the provisions of the

Commerce Act, 1905, and the exportation of inferior products is prohibited unless the goods are labelled as below standard. Upon the request of the exporters, butter and cheese are graded and certificates as to quality are issued.

The following table shows the oversea exports of dairy products from New South Wales, inclusive of ships' stores, at intervals since 1891. The particulars for 1906 and earlier years relate to New South Wales produce only, but in later years the figures include a small quantity of the produce of other Australian States.

Year.	Oversea Exports.							
	Butter. (000 omitted.)		Cheese. (000 omitted.)		Milk—Preserved, Condensed, etc. (000 omitted.)		Bacon and Ham. (000 omitted.)	
	Quantity. lb.	Value. £	Quantity. lb.	Value. £	Quantity. lb.	Value. £	Quantity. lb.	Value. £
1891	11	478	18	411	...	...	9	380
1896	1,912	75,994	45	821	8	156	40	994
1901	8,700	379,342	174	4,359	196	2,525	96	3,007
1906	23,362	978,725	123	3,268	258	4,906	141	4,996
1911	33,044	1,518,993	127	3,723	1,127	17,471	618	17,561
1913	22,396	1,009,169	131	4,210	1,144	24,176	467	18,117
1916*	4,306	259,834	191	9,767	947	22,040	224	11,279
1917*	25,280	1,761,300	2,153	84,986	4,225	135,634	476	22,009
1918*	25,715	1,738,206	1,659	72,341	8,692	332,483	2,809	173,064
1919*	8,530	667,624	508	34,214	19,989	739,142	4,078	262,554
1920*	7,059	596,414	1,179	76,582	14,078	612,998	1,639	125,849

* Year ended 30th June.

The decline in the exports in 1915-16 was due to shortage of shipping space; during the next two years large quantities were exported for war purposes. In 1918-19 large shipments of bacon were sent to India, Egypt, and Java. The export trade in butter is almost entirely with the United Kingdom, but during the last two years the quantity available for export was considerably reduced. The exports of condensed milk increased rapidly during the war period.

The imports of butter, the production of New South Wales, into the United Kingdom during the last ten years are shown hereunder, and the proportion it bears to the total imports of butter.

Year.	Imports of Butter from New South Wales.	Proportion to Total Butter imported into United Kingdom.	Year.	Imports of Butter from New South Wales.	Proportion to Total Butter imported into United Kingdom.
	cwt.	per cent.		cwt.	per cent.
1910	217,780	5.03	1915	158,222	4.16
1911	281,588	6.54	1916	32,575	1.50
1912	186,695	4.61	1917	169,024	9.36
1913	155,936	3.77	1918	198,751	12.59
1914	122,528	3.08	1919	118,974	7.63

The freight on butter forwarded from Sydney to London during the 1919-20 season was 5s. 3d. to 5s. 4d. per box of 56 lb., plus 5 per cent. primage; the rate has increased considerably since June, 1914, when it ranged from 2s. to 2s. 6d. per box.

The price of Australian butter in London was fixed by Government proclamation in September, 1917, at £10 6s. per cwt., in November of that year the price was raised to £11. In January, 1918, the flat rate of £12 12s. per cwt. was fixed for all imported butter; in January, 1920, this rate was increased to £13 10s. 8d. per cwt., and in the following month to £15 13s. 4d.

POULTRY-FARMING.

Poultry-farming was conducted formerly in conjunction with dairying; but the interests involved have become so important commercially in the past ten years that a distinct industry dealing with poultry alone has been developed. Every effort is made to obtain the benefits of modern methods of poultry-farm management, and to secure the best egg-laying and table breeds. To assist poultry farmers, the Department of Agriculture issues various publications on poultry culture and employs a Poultry Expert, whose advice is always available. Accurate statistics of production are not available, but a general estimate based on accessible returns shows that the value of production during 1919-20 was approximately £2,814,000.

The following statement contains particulars for five years regarding poultry of all descriptions on farms or holdings of one acre and upwards. The absence of information as to the poultry kept on areas of less than one acre detracts, however, considerably from the value of the statement, which, therefore, does not include particulars of poultry kept for domestic purposes.

As at 30th June.	Fowls, Chickens, &c.	Ducks, &c.	Geese, &c.	Turkeys, &c.	Guinea Fowls.	Eggs obtained during year. All kinds.
	No.	No.	No.	No.	No.	dozen.
1916	3,208,000	159,500	17,200	146,700	5,410	13,628,000
1917	3,729,000	197,600	19,500	182,800	6,180	14,314,000
1918	3,732,000	213,500	20,200	148,000	5,200	15,122,000
1919	3,667,000	166,700	18,800	106,600	5,170	13,702,000
1920	3,168,000	134,900	16,800	85,300	3,980	12,062,000

The number of poultry in the above table is given as at 30th June. On that date the number is at its lowest point, and on the 31st December would be probably twice as great.

Special attention is devoted to improving the laying qualities of the different breeds, and egg-laying competitions, organised originally by private subscription, have been conducted since 1901 at the Hawkesbury Agricultural College, with the object of stimulating the poultry industry. These competitions have attracted widespread interest, and birds for competition are sent from all parts of New South Wales, from the other Australian States, from New Zealand, and some from America.

By this means much valuable information has been gained from practical experiment and research; tests are arranged and records are kept of the cost of feeding, and of the results obtained from the various breeds of poultry, and by different methods of treatment. The expansion of poultry-raising in recent years has received a great impetus from this source, inasmuch as it produced data, previously unobtainable, as to the possibilities of poultry-farming as a business, and stimulated the idea of breeding for high egg production.

An annual report in bulletin form, giving particulars and tabulated results of these competitions is issued by the Department of Agriculture.

BEE-KEEPING.

The bee-keeping industry is at the present time of small importance, though there is ample inducement for further expansion.

The production of honey and of beeswax varies considerably from year to year, as shown in the following table, which relates to the last ten years.

Season.	Bee Hives.			Honey.	Average Yield of Honey per productive Hive.	Beeswax.
	Productive.	Un-productive.	Total.			
	No.	No.	No.	lb.	lb.	lb.
1910-11	55,958	14,308	70,266	2,765,618	49.4	72,617
1915-16	31,974	5,803	37,777	1,590,384	49.7	29,919
1916-17	33,317	7,454	40,771	1,665,293	50.0	29,434
1917-18	50,668	10,314	60,982	3,875,511	76.4	53,342
1918-19	27,629	16,230	43,859	879,776	31.8	19,231
1919-20	17,534	10,384	27,918	472,340	26.9	12,195

The low average yields in the early portion of the period under review were attributed to dry conditions and to the use of box-hives. The improvements in the years 1915-16 to 1917-18 synchronised with the extension of the provisions of the Apiaries Act, and the yield per productive hive during 1917-18, 76.4 lb., constituted a record and was 56 per cent. above the experience of the previous ten years. The year 1918-19 and 1919-20 were disastrous for the bee-keeping industry, owing to prolonged dry weather and absence of flowers. There was high mortality amongst the bees, the total number of hives decreased in these two years by 54 per cent. and bee-keeping as an industry was in a worse position than at any time during the previous ten years. The production in 1919 and 1920 was the lowest in the period under review, and the decrease in the number of productive hives, as compared with the previous year, represents 66 per cent.

Frame hives are now in general use, as the box-hive has been condemned. Special legislation which has been passed with reference to apiculture, is more fully detailed in the chapter relating to Agriculture, in earlier issues of this Year Book.

The estimated value of the production in 1919-20 of honey was £13,284, and of beeswax £1,220, the production for each division being as follows:—

Division.	Honey.	Beeswax.
	lb.	lb.
Coastal	178,429	5,041
Tableland	116,792	2,931
Western Slopes	154,829	3,826
Central Plains and Riverina	18,030	371
Western Division	4,260	26
Total	472,340	12,195

VALUE OF DAIRY AND FARMYARD PRODUCTION.

It is evident from the foregoing that the dairying and farmyard industries are important factors in the rural production of New South Wales. The value of production in 1919-20 amounted to £11,793,000, or £5 18s. per head of population; the dairying industry yielded £7,843,000, swine £1,121,000,

poultry £2,814,000, and bees £15,000. The value of production in each year since 1901 has been as follows :—

Year.	Butter.	Cheese.	Milk (not used for Butter or Cheese).	Milch Cows.	Swine.	Poultry and Eggs.	Bees.	Total.
	(000) £	(000) £	(000) £	(000) £	(000) £	(000) £	(000) £	(000) £
1901	1,682	86	312	145	266	671	26	3,188
1902	1,789	136	413	135	372	732	24	3,601
1903	1,872	135	430	135	254	821	29	3,676
1904	1,954	84	347	187	242	609	35	3,468
1905	2,289	102	408	211	324	899	22	4,255
1906	2,477	123	332	243	300	1,008	23	4,506
1907	2,503	117	418	256	227	1,035	30	4,586
1908	2,913	152	465	332	202	1,202	35	5,301
1909	2,770	125	561	305	222	1,309	29	5,321
1910	3,370	122	615	355	334	1,170	41	6,007
1911	3,631	129	619	389	447	1,280	39	6,534
1912	3,895	168	750	406	539	1,401	33	7,192
1913	3,450	170	950	385	500	1,578	30	7,063
1914-15	4,038	170	962	523	538	1,597	18	7,846
1915-16	3,198	167	1,084	419	605	2,144	32	7,649
1916-17	4,740	227	1,059	657	795	1,908	33	9,419
1917-18	4,954	250	1,618	668	990	2,082	73	10,635
1918-19	4,537	204	1,949	709	1,153	2,501	20	11,073
1919-20	4,712	278	2,132	721	1,121	2,814	15	11,793

The value of production from these industries increased during the period under review from £3,188,000 to £11,793,000, and the increase was fairly steady throughout the period. The bulk of these commodities is produced for home consumption, and prices rise and fall in accordance with local seasonal conditions. For this reason the annual value of production does not reflect a decrease in the quantity produced in adverse seasons to the same extent as agricultural and pastoral products produced for the oversea market.

Butter is the principal item of dairy produce; the value of the butter produced in 1919-20 was £4,712,000 as compared with £1,682,000 in 1901. The return from poultry farming, which is next in importance, has increased considerably during the last two years; the production from the industry is somewhat understated, because records are not obtainable of the production on areas of less than one acre.

WHOLESALE PRICES.

The average wholesale prices obtained during the last seven years in the Sydney markets for the principal kinds of dairy and poultry farm produce are shown in the following table. The average quoted for the year represents the mean of the prices ruling each month, and does not take into account the quantity sold during the month.

Dairy and Poultry Farm Produce.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Milk ... gal.	0 0 11 ³ / ₄	0 1 0	0 1 2	0 1 2 ¹ / ₄	0 1 2 ³ / ₄	0 1 6 ³ / ₄	0 1 9
Butter ... lb.	0 0 11 ³ / ₄	0 1 2 ³ / ₄	0 1 3	0 1 4 ¹ / ₄	0 1 4 ³ / ₄	0 1 7 ¹ / ₄	0 2 1
Cheese ... „	0 0 7 ¹ / ₂	0 0 9	0 0 9 ¹ / ₂	0 0 9 ³ / ₄	0 0 10	0 1 0 ³ / ₄	0 1 3 ¹ / ₄
Bacon ... „	0 0 9 ³ / ₄	0 0 10 ¹ / ₂	0 0 11 ¹ / ₂	0 0 11 ¹ / ₂	0 1 0	0 1 1 ¹ / ₂	0 1 6
Eggs ... doz.	0 1 1	0 1 4 ¹ / ₄	0 1 3	0 1 0	0 1 2	0 1 9 ¹ / ₂	0 1 11
Poultry—							
Fowls							
(Roosters)pr.	0 5 5	0 5 6	0 5 9	0 5 9	0 5 9	0 7 0	0 7 9
Ducks							
(English) „	0 4 5	0 3 11	0 4 11	0 4 9	0 4 9	0 5 10	0 7 4
Geese „	0 6 8	0 6 4	0 8 0	0 9 9	0 9 9	0 10 5	0 11 9
Turkeys							
(Cocks) „	0 11 2	0 13 3	0 14 3	0 15 6	0 17 6	1 5 8	1 15 8
Bee produce—							
Honey lb.	0 0 3 ³ / ₄	0 0 4 ¹ / ₄	0 0 4 ³ / ₄	0 0 4 ¹ / ₂	0 0 4 ¹ / ₂	0 0 6 ¹ / ₂	0 0 8
Wax „	0 1 2 ¹ / ₂	0 1 4	0 1 4 ¹ / ₂	0 1 6 ¹ / ₄	0 1 10 ¹ / ₄	0 2 0	0 2 0 ¹ / ₂

Almost without exception prices increased each year, the greatest rises occurring in 1919 and 1920. In 1920 butter was 118 per cent. dearer than in 1914, bacon 108 per cent., eggs 77 per cent., and milk 78 per cent.

FORESTRY.

THE forest lands of the State containing timber of commercial value consist of about 11 million acres, of which about 8 million acres are Crown lands. Nearly 7 million acres of State lands have been either dedicated or reserved for the preservation and growth of timber.

The total forest area, although not large, contains a great variety of useful timbers, which in hardwoods number about twenty different kinds of good commercial value, including such renowned constructional woods as iron-bark, tallow-wood, and turpentine, whilst in other timbers there are about twenty-five varieties, including such valuable timbers as cedar, beech, pine, and teak. It is estimated that, approximately, five-sixths of the timber supply consists of mixed hardwoods and one-sixth of soft and brush woods.

Following the report of a Royal Commission appointed in 1907, a Forestry Department was established under the Forestry Act, 1909. This Act was repealed by the Forestry Act, 1916, which became law on the 1st November, 1916, and provided for the constitution of a Forestry Commission, consisting of three members, one being Chief Commissioner.

The Commission is charged with the administration of the Forestry Act, 1916, which provides for the control and management of the State forests and timber reserves, for the training of forest officers, for the conduct of research work, and for the collection of statistics in connection with forestry.

The Commission may dispose of timber and products of any State forest or timber reserve, and—

- (a) take and sell such timber and products;
- (b) convert any such timber into logs, sawn timber, or any other merchantable article, and sell the same;
- (c) convert any such products into merchantable articles, and sell the same;
- (d) construct roads, railways, and tram-lines and other works for the transport of timber; and purchase, rent, or charter and use vehicles and vessels, with the necessary motive power;
- (e) construct, purchase, or rent sawmills and other mills, with all the necessary machinery and plant for converting timber, and manufacturing articles from timber, and use such mills for those purposes.

One-half of the gross amount received from royalties, licenses, and permits, and from the sale of timber, other than the output of the mills as indicated in (e) above, is to be set apart for afforestation, reafforestation, survey and improvement of State forests and timber reserves, and for purposes incidental thereto, except that the expenditure of an amount exceeding £5,000 on any particular work is subject to the approval of the Minister.

The Government may purchase, resume, or appropriate land for the purpose of a State forest, and may dedicate Crown lands as State forests or timber reserves.

Timber-getters' and other licenses may be issued by the Commission, and exclusive rights to take timber products from specified areas of State forest or timber reserves may also be granted.

Every person conducting a sawmill for the treatment of timber must obtain a license, keep books and records, and make prescribed returns.

Royalty must be paid on all timber felled and on all products taken from any State forest, timber reserve, Crown lands, or lands held under any tenure from the Crown which require the payment of royalty; but such royalty is not payable on timber exempted by terms of the license or by the regulations, or on timber required for use on any holding not comprised within a timber or forest reserve; allowance may be made also for any timber which is not marketable. Trees on any State forest, timber reserve, or Crown lands, with the exception of lands held under conditional lease granted before the passing of the Act, must not be ringbarked except under permit.

The Act provides for regulations on the following matters:—Licenses, etc., and the fees and royalties payable; the periods and the conditions under which licenses, etc., may be granted; the protection and preservation of timber; the inspection, cutting, marking, and removal of timber; the kinds, sizes, and quantities which may be cut or removed; the conditions under which fires may be lighted in State forests; and the organisation of a system of education in scientific forestry.

The Act provides also for the classification of forest lands and for proclamation of State forests; and survey work is in progress for this purpose.

“The Australian Forestry Journal” is issued monthly by the Commission with the object of interesting the public in forestry, and it is distributed gratis among a large number of public bodies.

As an aid to forest management a Training School in Forestry was opened in March, 1920, under the instruction of a Bachelor of Science in Forestry, and seven students entered for the course. This school serves the purpose of training men for the service of the State, but it is probable that before long a National School of Forestry will be established for the training of officers for all Australian services.

A large amount of regenerative work has been done in connection with the Murray River and the inland forests. Experimental works have been started in various parts of the coast and highlands to test the capacity of different classes of hardwood forest for re-afforestation, and to ascertain the best methods of treatment; and stations have been selected for the promotion of afforestation by the establishment of State nurseries, with the object of utilising some of the waste lands of the State, of which about 300,000 acres are suitable for the purpose.

On 30th June, 1920, the total area of Crown lands proclaimed as State Forests was 5,085,050 acres, and the area of timber reserves was 1,746,069 acres.

State Forest Nurseries and Plantations.

A State Forest Nursery is maintained at Gosford for the propagation of plants of commercial types. The planted area is about 42 acres; exchanges of seeds and plants are made with similar institutions in various parts of the world. Branch Nurseries of various dimensions have been established in practically every forestry district in the State, and the total area planted during the year 1919 was 396½ acres. Large areas have been cleared and prepared for planting, and will be utilised when a suitable opportunity presents itself.

To supplement the supply of softwood in the State, afforestation has been commenced in eighteen distinct areas, and, with existing planting schemes, an area of 100,000 acres is involved. Preliminary surveys in the southern highlands disclose an area of 150,000 acres suitable for the growth of softwoods and indigenous hardwood, and as this land is used only for summer grazing at present there is a possibility of extension in afforestation.

Production and Consumption of Timber.

During the year ended 30th June, 1920, there were 477 licensed sawmills. The employees numbered 5,660, and the value of plant and machinery was estimated at £828,449. The output of native timber amounted to 160,627,000 superficial feet, valued at the mills at £1,929,695.

The estimated value of production from Forestry in 1919-20 was £1,527,000, as at the place of production. The following table shows the value of Forestry production in New South Wales since the year 1901 :—

Year.	Value. (000 omitted.)	Year.	Value. (000 omitted.)
	£		£
1901	554	1911	998
1902	513	1912	1,083
1903	594	1913	1,130
1904	722	1915*	1,070
1905	833	1916*	1,045
1906	1,008	1917*	1,094
1907	1,017	1918*	1,093
1908	990	1919*	1,306
1909	899	1920*	1,527
1910	906		

* Year ended 30th June.

The output of native timber from local sawmills increased rapidly in the years preceding the war, but owing to the disorganisation of shipping and of all business enterprise, the export trade declined and production decreased. The following table shows the average annual output of native timber from sawmills in New South Wales before the war and in successive years thereafter, and for comparative purposes the gross consumption of native and imported timbers is shown for the past four years, as estimated by the Forestry Commission.

Period.	Annual Output of Native Timber from Saw Mills. (000 omitted.)	Estimated Gross Consumption of Timber.	
		Native. (000 omitted.)	Imported. (000 omitted.)
	super feet.	super feet.	super feet.
1910-14*	149,294	‡	‡
1915†	140,940	‡	‡
1916†	115,201	‡	‡
1917†	125,243	261,000	125,976
1918†	126,745	285,925	92,628
1919†	131,617	291,225	86,687
1920†	155,114	318,040	86,637

* Mean of 5 years. † Year ended 30th June. ‡ Not estimated.

The greater part of the softwood used in New South Wales has been drawn for many years from foreign sources of supply, among which New Zealand, the United States of America, and the countries bordering the Baltic Sea are most important. It is hoped, however, that the steps now being taken by the Forestry Commission to plant extensive areas with high-class American and other soft-woods will ultimately render the State independent of imported timbers.

Imports and Exports of Timber.

In the following table particulars are shown regarding the import and export of timber to and from New South Wales at intervals since 1901. A rapid increase in imports proceeded until the outbreak of war, indicating that a growing demand existed locally for soft-woods. Though the forests of the State abound in high-class hard-woods, it is not probable that the export trade will ever assume important proportions.

Year.	Imports.				Exports—Australian Produce.			
	Undressed.		Other.	Total Value.	Undressed.		Other.	Total Value.
	Quantity.	Value.			Quantity.	Value.		
	sup. feet.	£	£	£	sup. feet.	£	£	£
1901	68,369,135	322,642	137,123	459,765	10,385,618	66,346	58,664	125,010
1906	84,771,918	444,563	81,850	526,413	29,321,865	325,805	9,361	335,166
1911	164,379,875	955,344	209,028	1,164,372	28,397,961	250,990	17,949	268,939
1915-16	119,232,376	814,102	74,305	888,407	15,098,981	144,486	10,965	155,451
1917-18	93,936,763	815,700	39,245	854,945	11,292,281	167,364	7,897	175,261
1918-19	83,187,747	1,089,288	56,580	1,145,868	8,613,784	126,135	9,820	135,955
1919-20	85,975,377	1,442,511	60,245	1,502,756	9,964,984	168,828	25,520	194,348

Included in the value of other timber imported and exported during the year 1919-20 are such items as staves, laths, shingles, spokes, etc., which are not sold in superficial feet. The total value of these items amounted to £32,512 imports and £11,638 exports.

Forestry Licenses and Permits.

Licenses and permits are granted at nominal sums for the purposes of obtaining timber and fuel, grazing, sawmilling, ringbarking, and for the occupation of land. Considerable revenue, however, is gained from royalties on timber, agistment, and occupation fees, etc., which are chargeable in addition to the license and permit fees abovementioned.

The revenue collected by the State from Timber Licenses and from Royalty on timber during each year since 1910 is given in the following table:—

Year.	Timber Licenses, &c.	Royalty on Timber.	Total.	Year.	Timber Licenses, &c.	Royalty on Timber.	Total.
	£	£	£		£	£	£
1910	10,877	70,960	81,837	1916†	8,701	59,406	68,107
1911	11,153	79,165	90,318	1917†	9,136	58,137	67,273
1912	10,998	85,967	96,965	1918†	12,938	58,031	70,969
1913	12,251	85,362	97,613	1919†	26,705	70,887	97,592
1914*	6,593	39,531	46,124	1920†	52,000	95,040	147,040
1915†	11,365	76,021	87,386				

* Six months ended 30th June.

† Year ended 30th June.

The practice of forestry in Europe and America has shown that greater expenditure by the Government means greatly increased profits, and there is reason for expecting increased revenue as the result of forest improvement in New South Wales, where timber grows more rapidly and to larger size.

FISHERIES.

THE waters along the coast of New South Wales contain numerous varieties of fish, but the fishing industry is being but slowly developed. The principal sources of the supply of marine fish are the coastal lakes and estuaries, the sea beaches and ocean waters, while Murray cod is obtained in the inland rivers. Fishermen generally confine their attention to the coastal lakes and estuaries. Out of 3,164 licensed fishermen operating in 1920 only 198 worked ocean waters.

The most extensive development may be expected in the ocean waters, where large shoals of deep-sea fish such as great tunnies, Spanish mackerel, bonito, mackerel, kingfish, tailer, salmon, and many other pelagic fishes travel in large shoals. There are also immense quantities of pilchards, sprats, and other "herring-kind," as well as sea garfish and others.

Crayfishing and the oyster industry are also capable of great development, and mussels could be farmed successfully in a somewhat similar way to oysters, in many cases in places where the oyster will not flourish. The expansion of the oyster industry depends to a certain extent upon a diffusion of the knowledge of successful oyster culture among oyster growers. Intense cultivation at Port Stephens has produced excellent results in recent years.

Whaling operations have been conducted intermittently, but it is considered that two shore stations with two steam whaling gunboats each could be maintained profitably on the coast of the State. The season begins in June and ends in November, though whales may be taken before and after that period.

CONTROL OF THE FISHERIES.

Under the Fisheries Act, 1902, control of the fisheries of the State, previously administered by a Commission, was placed in the hands of a Board to supervise the industry, to carry out investigations likely to be of service, and to ensure observance of the regulations in regard to the dimensions of nets, closure of inland and tidal waters, net-fishing, and other such matters. Under an amending Act, in 1910, the Fisheries Board was dissolved and its powers vested in a Minister of the Crown, the Chief Secretary being charged with the administration of the Act.

Fishing Licenses.

Persons catching fish for sale in tidal or inland waters must be licensed, also boats used for this purpose, the annual fee being 5s., which is reduced to half that amount if the license is issued after 30th June and before 1st December.

The number of licenses granted to fishermen during the year 1920 was 3,388, and licenses were issued in respect of 1,816 fishing boats; the fees received amounted to £1,422.

The following table shows the number and value of the boats used in general fisheries and in oyster fisheries during 1920; the figures do not include the State Trawling vessels :—

Description.	General fisheries.		Oyster fisheries.	
	Number.	Value.	Number.	Value.
		£		£
Boats not more than 24 feet over all—				
With motor	226	26,800	68	6,685
Without motor	660	23,561	342	5,037
Boats more than 24 feet over all—				
With motor	43	13,100	13	2,650
Without motor ... ..	...	...	16	924
Steamer	1	1,000	...	...
Total	935	64,461	439	15,296

Oyster Leases.

For the purposes of oyster-culture, tidal Crown lands below an approximate high-water mark may be leased at yearly rentals, determined by the Minister; the areas are classified as average, special, or inferior lands.

The leases of average lands are for fifteen years, but may be renewed for a like period; no area upon which an aggregate rental of less than £5 per annum is payable, may be leased to any person not already an oyster lessee.

Leases of special lands are granted for areas of special value after the land has been offered by auction or tender, and are subject to the same conditions as leases of average lands, but need not be confined to areas along the approximate high-water mark.

Leases of inferior lands are granted for a term not exceeding ten years, with the right of renewal for a further term of five years.

During the year 1920 applications for leases numbered 655, representing 135,980 yards of foreshore and 622½ acres of off-shore leases; at the end of the year the existing leases numbered 3,642; the length of foreshores held was 1,041,500 yards; and there were deep-water leases to the extent of 947½ acres. The deposits paid with the applications for leased areas were £1,144, while the rentals received during the year for leased areas were £7,616.

PRODUCTION FROM FISHERIES.

The most important kinds of fish marketed are snapper, bream, black-fish, whiting, mullet, jewfish, flathead, garfish, and Murray cod—a fresh-water fish; salmon, tailor, trevally, leather-jacket, gurnard, and others, are gradually gaining favour in the local markets.

Fish.—Exclusive of fish marketed by the State Trawling Industry, the quantity consigned to Sydney and Newcastle markets during 1920 amounted to 183,913 baskets, of which 2,689 baskets were condemned. In addition 6,939 baskets of fish were consigned from the Tweed River to Brisbane, and 16,000 baskets are recorded as having been sold in various fishing centres in coastal areas, but these figures are incomplete. A basket of fish weighs approximately 84 lb.

As usual the bulk of the supplies came from the estuaries and lakes on the northern part of the coast-line. A small proportion, chiefly snapper, came from the ocean, this being principally the produce of long-line fishing. The main sources of the fresh fish supply during 1920 are indicated below :—

			Baskets.				Baskets.
Clarence River	...	...	45,583	Botany Bay and George's River	...	...	9,196
Wallis Lake	...	...	14,475	Camden Haven	...	...	8,470
Lake Illawarra	...	...	11,863	Hawkesbury River	...	...	7,909
Manning River	...	...	10,630	Port Stephens	...	...	7,776
Lake Macquarie	...	...	10,372	Macleay River	...	...	5,755
Tuggerah Lakes	...	...	9,390	Richmond River	...	...	5,646

Notwithstanding the immense shipping development and consequent increase of traffic, and the large reclamation of foreshores of recent years, it is of special interest to note that the marketed production from Port Jackson was as much as 3,088 baskets. The actual production was very much greater, because a considerable quantity was sold in the suburbs of Sydney without passing through the markets.

The total production of fish, as recorded during 1920, was about 23,000,000 lb.

Crayfish.—The number of marine crayfish (*Palinurus*) marketed during 1920 was 76,752; the number captured was very much greater, but many were lost by death before marketing, and 1,188 were condemned. The principal source of supply was the northern crayfish grounds, from Newcastle to Port Macquarie. From Port Stephens alone over 31,000 were marketed.

Prawns.—A quantity of 6,099 baskets, or, approximately, 243,900 quarts of marine prawns (*Penæus*) was marketed during 1920; about 95 baskets were condemned. These figures do not include prawns sold for bait.

Crabs.—About 656 baskets of crabs were marketed. These comprised several species of swimming-crabs, notably the Blue (*Lupa*) and the Mangrove (*Scylla*).

Oysters.—During the year 1920 the oyster production of the State amounted to 25,021 sacks of the Rock Oyster (*Ostrea cucullata*). This output was principally the result of artificial cultivation.

Value of Production.

The value of the production from fisheries of New South Wales, as recorded during the year ended 30th June, 1920, was approximately £470,400, made up as follows :—

Fresh Fish—				£
State Trawling Industry,	6,277,101 lb.	...	...	117,696
Other	...	...	...	255,204
Crayfish	...	...	...	9,446
Prawns...	...	...	...	12,008
Crabs	...	...	...	984
Oysters	...	...	...	75,062
Total Value				£470,400

This amount, £470,400, is exclusive of the value of fish condemned, or sold in fishing and other centres and not recorded, or used for fertiliser and oil, the value of molluscs other than oysters, and of the products of whale and dolphin fisheries.

The value of fish, fresh and preserved, imported into the State of New South Wales during 1920 was £584,649; as against this the value of exports was £81,697, comprising re-exports (tinned, potted, &c.) and fresh and smoked fish for ships' stores.

The following table shows the value of production from fisheries since the year 1901 :—

Year.	Value. (000 omitted).	Year.	Value. (000 omitted).
	£		£
1901	179	1911	197
1902	182	1912	220
1903	185	1913	270
1904	188	1915*	237
1905	177	1916*	325
1906	166	1917*	303
1907	156	1918*	307
1908	175	1919*	335
1909	197	1920*	470
1910	202		

* Year ended 30th June.

THE STATE TRAWLING INDUSTRY.

The State Trawling Industry is carried on independently of the other fisheries of the State, as it is essentially a commercial project.

This undertaking was established in 1915 with the object of improving the conditions of the fishing industry by augmenting the supply and by affording facilities for speedy distribution to the consumers. Fishing operations are conducted with seven steel steam trawlers, which use the full-sized commercial otter trawl net. Trawling has been confined principally to grounds off Botany Heads, a few miles south of Port Jackson, and in the vicinity of Eden and Green Cape, while some fishing has been done between Sydney and Newcastle, and in the waters off the North Coast. The catches are landed at a central receiving depot at Woolloomooloo Bay, where there are cold storage facilities, and vessels trawling in the Northern waters may discharge at a distributing depot in Newcastle.

The bulk of the fish handled is distributed by means of retail shops, of which fourteen have been opened in the Metropolitan area, one in Newcastle, and five in country towns. In addition, arrangements have been made with the councils of twenty-five country municipalities to receive and market fish on account of the State Trawling Industry. The principal varieties of trawled fish are flathead, gurnard, leatherjacket, skate, barracouta, sawfish, snapper, and John Dory.

FISH PRESERVING.

The fishes especially suitable for treatment, by canning, smoking, or salting, include pilchard, sandy sprat, anchovy, tailer, samson fish, cow-nyung, kingfish, trevally, mackerel, bonito, little tunny, southern tunny, and Spanish mackerel. Canneries have been established at various times in New South Wales, but the irregularity of supplies under present conditions, together with certain climatic disadvantages, militated against their success.

FISH CULTURE AND ACCLIMATISATION.

Acclimatisation of non-indigenous fishes, particularly trout, has met with success in New South Wales. Californian rainbow trout have been introduced in all suitable streams. Trout fishing now constitutes an important attraction for tourists and sportsmen in the districts watered by the Murrumbidgee and Snowy Rivers and their tributaries, and in the New England and Western mountain districts. A trout hatchery is maintained at Prospect, and considerable numbers of young fry are distributed annually.

FOOD AND PRICES.

ALTHOUGH New South Wales is not entirely independent of external sources of food supply, the articles which enter most largely into daily consumption—meat, bread, milk and butter—are all produced within the State in sufficient quantity to meet local demands, and to leave a surplus for export.

CONSUMPTION OF FOOD.

With the cessation, on the 13th September, 1910, of the system of keeping records of interstate trade, it became difficult to determine accurately the quantity of commodities consumed within the State; consequently, tables which had been published previously were discontinued. In view, however, of the special interest attached to the question of food consumption, particularly in relation to the cost of living, efforts were made in 1916 to obtain this information again, and in spite of the absence of official records of interstate trade, the following estimates are published with a large degree of confidence as indicative of the consumption of the more important articles of diet during the year 1920.

In order to show the changes of regimen during the last 20 years, similar information is shown for the years 1901 and 1911; in regard to the latter year it has been assumed that the consumption of all the commodities except meat was the same as in the three years, 1907-09, and the quotations for 1920 relate to the year ended on the 30th June :—

Commodity.	Unit.	Consumption per head per annum.			Commodity.	Unit.	Consumption per head per annum.		
		1901.	1911.	1920.			1901.	1911.	1920.
Meat—Beef	lb.	134·4	150·9	92·5	Bread	2-lb. loaves	107·0	102·0	99·0
Mutton	lb.	90·7	101·3	65·4	Rice	lb.	9·7	8·2	5·3
Pork	lb.	4·6	5·0	2·7	Sago and Tapioco ..	lb.	1·9	2·0	1·9
Bacon and Ham ..	lb.	9·0	10·7	8·3	Oatmeal	lb.	7·0	7·6	5·6
Total Meat ..	lb.	235·7	267·9	173·4	Sugar	lb.	107·8	103·8	105·1
Fish—Fresh & Smoked	lb.	4·8	6·4	11·3	Jam	lb.	14·2	15·7	10·2
Preserved	lb.	4·7	4·3	3·4	Butter	lb.	15·6	20·1	29·9
Total Fish ..	lb.	9·5	10·7	14·7	Cheese	lb.	3·7	3·5	3·9
Potatoes	lb.	197·7	181·0	105·4	Milk—Fresh	gal.	16·4	17·4	20·7
Flour	lb.	244·4	228·4	222·8	Preserved	lb.	3·5	4·4	6·0
					Tea	lb.	7·9	7·3	8·5
					Coffee	oz.	13·3	11·0	12·2

From the above table it will be seen that there has been a marked decline in the consumption of some leading articles of diet; and as that decline has not been accompanied apparently by a corresponding increase in respect of other articles, it might be inferred that there has been either a lowering of the standard of living, or an elimination of waste and an adjustment of dietary. There is little doubt that the great cheapness of meat in the earlier years caused a wasteful consumption, and much of it taken for individual use was practically thrown away. It is remarkable, however, that the table shows also a decline in the consumption of bread; and as meat is rich in proteins (tissue-formers), and moderately supplied with fat, while bread is largely the source of the supply of the necessary carbohydrates (work and heat producers) in a bread-and-meat diet, a correlative decline in the consumption of both bread and meat points to a more economic dietary, subject to certain modifications which will be considered later.

In comparison with 1901 there were decreases per head in the annual consumption of the following important articles of diet :—Meat 65·3 lb., potatoes 92·3 lb., flour 21·6 lb., bread 12lb., jam 4 lb., rice 3·9 lb., oatmeal 1·4 lb., sugar 2·7 lb. There were increases in butter 10·3 lb., fish 5·2 lb., fresh milk 4·3 gallons, and preserved milk 2·5 lb. As approximately one-third of the meat sold for consumption is bone and waste, the actual decrease in consumption would be about 43 lb.

Meat.

The following statement shows the average annual consumption per head of the various kinds of meat in each year since 1901 :—

Year.	Beef and Veal.	Mutton and Lamb.	Pork.	Bacon and Ham.	Total.
	lb.	lb.	lb.	lb.	lb.
1901	134·4	90·7	4·6	9·0	238·7
1902	122·1	99·2	3·8	7·7	232·8
1903	112·4	90·3	4·1	6·2	213·0
1904	127·6	73·3	3·9	8·1	212·9
1905	133·5	82·2	4·6	9·7	230·0
1906	140·5	89·8	4·2	9·2	243·7
1907	145·7	91·6	3·7	8·3	249·3
1908	141·1	96·3	3·5	7·4	248·3
1909	147·6	101·4	2·8	7·5	259·3
1910	145·3	100·0	5·9	9·1	260·3
1911	150·9	101·3	5·0	10·7	267·9
1912	165·4	90·9	6·2	11·1	273·6
1913	152·4	93·8	3·8	9·8	259·8
1914-15	121·6	78·8	3·0	9·4	212·8
1915-16	98·7	73·1	2·0	8·0	181·8
1916-17	95·0	69·8	3·6	9·6	178·0
1917-18	85·2	62·7	4·0	10·1	162·0
1918-19	81·3	67·9	6·4	8·4	164·0
1919-20	92·5	69·4	2·7	8·8	173·4

The quantity of meat consumed is still large, though it has declined considerably. The consumption declined in each year from 1901 to 1904, when it was 212·9 lb. per head; in 1905 it increased by 17 lb. per head, and the upward movement continued until in 1912 the average quantity amounted to 273·6 lb. per head. Then it decreased rapidly until in 1915-16 it was less than two-thirds of the consumption in 1912, the decrease being general in all kinds of meat. The decline continued, though at a slower rate, during the succeeding two years, and in 1917-18 the average consumption was only 162 lb. per head, or 111·6 lb. below the average in 1912. In 1918-19 there was a slight increase, and during the following year there was an increase of 9·4 lb. per head.

As a general rule, fluctuations in the average consumption are the result of variations in prices. Thus a rise in prices in 1902, on account of drought, was followed by a marked decline in consumption, but when prices fell the consumption did not increase immediately as the effects of the drought had reduced the spending capacity of the people.

During the prosperous years, 1909 to 1912, variations in prices did not greatly affect the consumption, but in 1913 and following years the average quantity consumed decreased in each year as the price increased. In 1918-19 the prices dropped by about 6 per cent., and the consumption increased slightly. In the following year the price rose by 9 per cent.; nevertheless there was an increase of nearly 6 per cent. in the consumption, which may be attributed to increases in wages in consequence of a rise of 17s.

per week in the living wage declared in October, 1919. It is noticeable that the increase was in the consumption of beef, to which preference is generally given in periods of prosperity.

The following statement shows the variations in the average consumption, and in the levels of the average retail prices of meat (including bacon), since 1901, the figure for that year being taken as 100 in each case :—

Year.	Average Annual Consumption.	Retail Prices.	Year.	Average Annual Consumption.	Retail Prices.
1901	100	100	1911	112	101
1902	98	123	1912	115	113
1903	89	115	1913	109	117
1904	89	106	1914-15	89	150
1905	96	100	1915-16	76	223
1906	102	101	1916-17	75	227
1907	104	104	1917-18	68	238
1908	104	110	1918-19	69	223
1909	109	102	1919-20	73	242
1910	109	100			

The decline in the consumption of meat has not apparently been counter-balanced by an increase in the consumption of fish, which as a food is inferior in every respect. The quantity of fish consumed represented 14·7 lb. per head in 1920, viz., fresh and smoked 11·3 lb., and preserved 3·4 lb. As regards the former there has been an increase of 6·5 lb. since 1901, while the latter shows a decrease of 1·3 lb. which may be attributed to a rise in price.

It is, however, very probable that a growing consumption of rabbits has partially replaced the decline in the consumption of meat. The local consumption of this type of food is difficult to ascertain, but is estimated to be now from 60,000 to 80,000 pairs per week, which is much greater than in the early years under review.

It is probable also that the diminution in the consumption of meat has been made good partially by an increased consumption of eggs. The number of eggs, however, used as food, either directly or as ingredients in cakes, pastry, puddings, etc., cannot be ascertained accurately.

Potatoes.

The consumption of potatoes decreased from 197·7 lb. in 1901 and 181 lb. in 1911 per head to 105·4 lb. during the period under review. Of the commodities shown in the table, potatoes are subject to the greatest fluctuations as to supply and price, and the consumption varies accordingly. In 1901 the average price for 14 lb. was 11½d., in 1911 it was 12½d., in 1919 it was 2s. 9d., and in the following year 2s. 2½d. Local production is not equal to the demand, and has declined greatly, so that it is necessary to import large supplies from the neighbouring States. The average annual production during the three years 1899-1901 was 68,800 tons; during 1909-11 it was 97,700 tons; but during the last three years it was only 43,400 tons.

Bread and Flour.

The average consumption of bread in 1920 was 99 loaves (2 lb.) per head. It is the opinion of those in the trade that the introduction of day-baking in the middle of 1914 caused a reduction of 10 per cent. in the consumption of bread, as a result of the comparative staleness of the loaf baked on the day preceding delivery. However, owing to a recent

adjustment of the hours of baking, the practice now is to deliver the bread on the day it is baked, in order to satisfy the popular demand for hot bread ; and the consumption has increased.

Such food commodities as potatoes and bread were of greater importance in the usual family dietary in early years than at the present time, when a variety of vegetables and other foods are obtainable readily. It is estimated that the consumption per head of bread in 1901 was 105 loaves, in 1911 it was 102 loaves, and in 1916 it was 96 loaves.

The consumption of flour is stated at 222·8 lb. per head. The quantity includes approximately 149,000 tons (149 lb. per head) used for bread, and 12,890 tons (12·9 lb. per head) used in biscuit factories, but the quantity used by pastrycooks is not available. Exclusive of the quantity used for bread, biscuits, etc., it is estimated that the average household consumption of flour by a family of five persons is about 4 lb. per week, or 42 lb. per head per annum.

Oatmeal, Rice, and Sago.

The consumption of oatmeal rose slightly from 7 lb. per head in 1901 to 7·6 lb. in 1911, but it has declined since to 5·6 lb., probably on account of an increased consumption of other breakfast foods. The consumption of sago and tapioca shows but slight alteration, and the quantity of rice has decreased from 9·7 lb. to 5·8 lb. per head. Supplies of rice are obtained by importation ; it was scarce and dear during 1919 and 1920.

Sugar.

The quantity of sugar consumed—105·1 lb. per head—appears high, though it was 107·8 lb. or 2·7 lb. higher in 1901. In computing the average it is not possible to allow for the quantities used in the manufacture of products such as jam, of which the exportation has increased greatly, having risen from 700,000 lb. per annum during the period 1899–1901 to 16,000,000 lb. in 1919–20. The records of the manufacturing industry in 1919–20 show that 10,545 tons of sugar (11·8 lb. per head) were used for jam and canned fruit ; 2,975 tons (3·3 lb. per head) for biscuits ; 2,258 tons (2·6 lb. per head) in condensed milk factories ; 5,732 tons (6·4 lb. per head) in breweries ; 3,210 tons (3·6 lb. per head) in aerated water factories ; and 8,352 tons (9·3 lb. per head) in making confectionery.

The average household consumption of sugar is estimated at 6 lb. per week for a family of five persons, or 62 lb. per head per annum. Refined sugar is classed as a practically pure carbohydrate, and its food value is very high.

Butter, Cheese, and Milk.

Butter is an important item of food in New South Wales, and the consumption increased from 19·6 lb. per head in 1901 to 26 lb. in 1911, and to 30 lb. in 1920. During the last three years the production of butter in New South Wales amounted, on the average, to nearly 70,000,000 lb. per annum, which was more than sufficient to supply the local demand, and a considerable quantity was exported.

The quantity of cheese consumed has not varied greatly, but the quantity of fresh milk has increased from 16·4 gallons to 20·7 gallons per head, and of condensed milk from 3·5 lb. to 6 lb.

Tea and Coffee.

Tea enters largely into consumption amongst all classes, the average annual consumption being 8·5 lb. per head, or about half a pound more per head than 20 years ago. Of coffee, on the other hand, the average, which has not varied materially, was only 12·2 oz. per head.

CONSUMPTION OF INTOXICANTS.

As with other commodities, so with alcoholic beverages, the figures relating to local consumption in years later than 1909 were not published until the issue of the Year Book for 1916; to supply an approximate basis for later years, however, information was obtained from spirit merchants. The annual consumption in various years since 1901 is estimated to have been as follows:—

Year.	Aggregate Consumption of Spirits.			Per Head of Population.		
	Australian.	Foreign.	Total.	Australian.	Foreign.	Total.
	proof gallons.	proof gallons.	proof gallons.	proof gallons.	proof gallons.	proof gallons.
1901	12,400	1,233,300	1,245,700	·01	·89	·90
1904	120,300	1,006,100	1,226,400	·08	·70	·78
1907	224,100	1,207,200	1,431,300	·15	·79	·94
1910	165,200	1,211,100	1,376,300	·10	·75	·85
1913	285,600	1,440,300	1,734,900	·16	·80	·96
1916-17	433,500	849,700	1,283,200	·23	·46	·69
1917-18	420,400	669,000	1,089,400	·22	·35	·57
1918-19	290,700	451,700	742,400	·15	·23	·38
1919-20	482,600	554,900	1,037,500	·24	·28	·52

It should be noted that the figures show the proof alcoholic contents of the beverages sold as spirits; the actual quantities sold would be at least 25 per cent. greater; whisky and brandy of the best quality are retailed usually at about 23·5 per cent. under proof, and gin and rum at about 30 per cent. under proof. The standards under the Pure Food Act are whisky and brandy 25 per cent. under proof, gin and rum 35 per cent. under proof.

The consumption of spirits, which had been increasing slowly for five or six years, decreased by 60 per cent. during the five years following the outbreak of the war. In 1918-19 the decrease amounted to one-third, as compared with the previous year. In the following year there was a decided increase, and the consumption per head rose almost to the level of 1917-18. In comparison with 1913 there has been an increase of 50 per cent. in the consumption of Australian spirits, and a decrease of 65 per cent. of imported spirits.

The consumption of beer per head increased by 34 per cent. between 1907 and 1913, but after the commencement of the war it decreased. During the last three years the consumption increased, and in 1919-20 it was equal to that of 1913. Practically all the beer consumed is brewed in Australia.

Year.	Quantity of Beer consumed.			Per Head of Population.		
	Australian.	Imported.	Total.	Australian.	Imported.	Total.
	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
1901	13,118,300	1,757,900	14,876,200	9·60	1·28	10·88
1904	12,079,400	940,900	13,020,300	8·45	·66	9·11
1907	14,278,800	945,700	15,224,500	9·41	·62	10·03
1910	16,287,600	1,033,600	17,321,200	10·08	·64	10·72
1913	22,973,400	1,338,000	24,311,400	12·70	·74	13·44
1916-17	21,159,200	204,000	21,363,200	11·35	·11	11·46
1917-18	21,978,500	88,600	22,067,100	11·62	·05	11·67
1918-19	23,923,000	53,100	23,976,100	12·37	·03	12·40
1919-20	26,724,100	92,000	26,816,100	13·37	·05	13·42

The wine entering into consumption in New South Wales is chiefly the produce of Australian vineyards, but the quantity produced in the State is much less than might be expected in a country so eminently adapted for viticulture.

The consumption of both Australian and foreign wines declined progressively from 1904 to 1917; during the succeeding two years the consumption of Australian wine increased slightly, but the quantity of imported wines continued to decline. In 1919-20 there was a noticeable increase, and the quantity per head was almost as high as in 1904.

Year.	Consumption of Wine.					
	Aggregate.			Per Inhabitant.		
	Australian.	Foreign.	Total.	Australian.	Foreign.	Total.
	gallons.	gallons.	gallons.	gallons.	gallons.	gallons.
1901	700,000	94,000	794,000	·51	·07	·58
1904	941,100	40,500	981,600	·66	·03	·69
1907	892,700	43,300	936,000	·59	·03	·62
1910	816,900	46,900	863,800	·50	·03	·53
1913	927,800	58,500	986,300	·51	·03	·54
1916-17	764,500	30,300	794,800	·41	·02	·43
1917-18	839,500	22,000	861,500	·44	·01	·45
1918-19	895,700	15,900	911,600	·46	·01	·47
1919-20	1,321,100	33,200	1,354,300	·66	·02	·68

The amount of money expended on intoxicating liquors in New South Wales in the year ended 30th June, 1920, is estimated to have been £10,251,000, or £5 2s. 7d. per head. Between 1913 (the year before the commencement of the war) and 1916-17 the prices of intoxicants increased, and the consumption decreased in each year until in 1916-17 the decreased consumption offset the increased prices and caused a reduction in the total drink bill.

During 1917-18 and 1918-19 there was a slight increase in the consumption per head of beer and wine, prices continued to rise, and the aggregate expenditure on intoxicants increased. The imposition of a new tariff in March, 1920, caused a further rise in prices, but there was a noticeable increase in the consumption of all kinds of intoxicants, and the drink bill in 1919-20 was the highest on record. Apparent reasons for the higher consumption are the return of the soldiers from overseas, and the general increase in wages. But it should not be assumed that the average consumption is abnormally high, as it is somewhat less now than in 1913.

Year.	Drink Bill.		Year.	Drink Bill.	
	Total.	Per Head of Population.		Total.	Per Head of Population.
	£	£ s. d.		£	£ s. d.
1901	5,000,000	3 13 2	1916-17	6,667,000	3 11 6
1904	4,406,000	3 1 8	1917-18	7,223,000	3 16 5
1907	5,064,000	3 6 9	1918-19	7,275,000	3 15 4
1910	5,304,000	3 5 8	1919-20	10,251,000	5 2 7
1913	7,001,000	3 17 5			

The drink bill of the United Kingdom in 1913 was estimated at £166,000,000, or £3 12s. per head; in 1920 it had increased to £469,700,000, or £10 per head, notwithstanding a decline of about 24 per cent. in the consumption, measured in terms of absolute alcohol.

The following statement shows the consumption per head of intoxicating liquors in various countries at the latest date for which the information is available :—

Country.	Consumption per head of Population.		
	Spirits.	Wine.	Beer.
	gallons.	gallons.	gallons.
New South Wales ...	{ 1919-20 .52	.68	13.42
... { 1918-19 .38	.47	12.40	
Australia ...	1918-19 .39	.50	12.50
New Zealand ...	1919 .58	.15	11.70
United Kingdom ...	1907-11 .76	.27	26.94
Canada ...	1916-17 .70	.06	4.19
German Empire ...	1912 .64	.68	23.32
France ...	1917 .41	26.84	4.48
United States ...	1918 1.12	.28	14.59

CONSUMPTION OF TOBACCO.

The amount of tobacco consumed in New South Wales, as estimated, at intervals since 1901, is shown in the following statement, special data having been obtained for estimates subsequent to 1909 :—

Year.	Total Consumption (000 omitted).				Per Head of Population.			
	Tobacco.	Cigars.	Cigarettes.	Total.	Tobacco.	Cigars.	Cigarettes.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
1901	2,977	215	368	3,560	2.18	.15	.27	2.60
1904	3,199	184	512	3,895	2.24	.13	.36	2.73
1907	3,608	220	622	4,450	2.38	.14	.41	2.93
1910	3,707	239	873	4,819	2.29	.15	.54	2.98
1913	3,853	306	1,413	5,572	2.13	.17	.78	3.08
1916-17	4,098	263	1,283	5,614	2.20	.14	.69	3.03
1917-18	4,208	244	1,318	5,770	2.22	.13	.70	3.05
1918-19	3,918	252	1,484	5,654	2.03	.13	.77	2.93
1919-20	4,638	292	1,937	6,867	2.32	.15	.97	3.44

The quantity of tobacco (including cigars and cigarettes) consumed in 1919-20 was 6,867,000 lb., which represents an average of 3.44 lb. per head of population. The average has increased throughout the period reviewed. From 1914 to 1920 the retail price of tobacco (cut) of popular brands advanced from 6s. 8d. to 12s. per lb. In March, 1921, there was a decline of 8d. per lb.

As regards the description of tobacco used, the proportion of cigarettes advanced during the period under review from 10 to 28 per cent., and the proportion of ordinary tobacco declined from 84 to 68 per cent.

Of the total tobacco consumed in 1919-20, about 95 per cent. was manufactured in Australia, the proportions of the different descriptions being of ordinary tobacco 97 per cent. made in Australia, cigarettes 93 per cent., and cigars 74 per cent. The proportion of tobacco and cigarettes made in Australia in 1911 were 85 per cent. and 94 per cent. respectively; a marked increase—

from 46 to 74 per cent.—has occurred since 1911 in the proportion of cigars of Australian manufacture.

The following statement shows the quantity of Australian and of imported tobacco consumed in 1901, in 1911 and in 1919-20:—

Description.	Total Consumption.			Per Head of Population.			
	Australian.	Imported.	Total.	Australian.	Imported.	Total.	
	lb.	lb.	lb.	lb.	lb.	lb.	
Tobacco ...	1901	2,081,200	896,000	2,977,200	1·52	·66	2·18
	1911	3,261,100	566,100	3,827,200	1·96	·31	2·30
	1919-20	4,490,800	147,300	4,638,100	2·25	·07	2·32
Cigars ...	1901	15,600	198,900	214,500	·01	·14	·15
	1911	125,000	145,700	270,700	·07	·09	·16
	1919-20	214,900	76,700	291,600	·11	·04	·15
Cigarettes ...	1901	288,200	79,900	368,100	·21	·06	·27
	1911	1,015,100	61,400	1,076,500	·61	·04	·65
	1919-20	1,793,700	143,800	1,937,500	·90	·07	·97
Total ...	1901	2,385,000	1,174,800	3,559,800	1·74	·86	2·60
	1911	4,401,200	773,200	5,174,400	2·64	·47	3·11
	1919-20	6,499,400	367,800	6,867,200	3·26	·18	3·44

Although the tobacco is called "Australian," the bulk of it is made from imported leaf, as only about 11 per cent. is made from leaf grown in Australia.

STANDARDISATION OF FOOD COMMODITIES.

The administration of the pure food law is entrusted primarily to the Board of Health, with an Advisory Committee, consisting of the President of the Board, and medical men, chemists, merchants, and others, on whose recommendations the Board makes regulations regarding the standardisation, composition, methods and conditions of manufacture, storage, sale, etc., in order to secure the wholesomeness, cleanliness, and purity of the food supply. Officers, appointed under the Act, may enter for the purpose of inspection any place used for the sale, storage, delivery, manufacture, or preparation of any article intended for use as a food or a drug. The first code of regulations, prescribing the standards for foods and drugs, was gazetted on 15th July, 1909. The Commonwealth Department of Trade and Customs has control as to the composition and labelling of foods and drugs imported into Australia.

STANDARD WEIGHTS AND MEASURES.

Weights and measures in New South Wales are regulated under the Weights and Measures Acts, 1915 and 1916. The standard weights and measures of the United Kingdom have been adopted; and all articles sold by weight must be sold by avoirdupois weight; except precious metals, sold by troy weight; precious stones, by metric carat; and drugs, retail, by apothecaries weight. Sales by retail must be according to net weight or measure, and packages of goods must have the net weight or measure stamped thereon.

Weights, measures, and weighing and measuring instruments used for trade are required to be stamped with marks of verification, and, unless a measure made of glass, must be restamped at specified intervals. In the Metropolitan and Parramatta police districts and in other districts as

proclaimed, coal and firewood are sold by weight, but in the case of quantities exceeding 5 cwt., if the written consent of the purchaser be obtained, it may be sold otherwise as agreed.

During 1920 the number of weights and measures submitted for verification was 129,846, and 10,045, or 8·4 per cent., were below standard; Government inspectors visited 8,395 premises and examined 64,571 weights and measures. Prosecutions for breaches of the Weights and Measures Act numbered 610, and there were 14 prosecutions under the Bread Act for light weight bread. Fines amounting to £1,080 were imposed, and the sum of £4,723 was collected as fees.

PUBLIC MARKETS.

The Sydney Corporation (Consolidating) Act of 1902 and its amendments empower the City Council to establish public markets within its boundaries for the sale of fruit, vegetables, fish, produce, or general merchandise; the Council may grant licenses for hawking and selling in the city, poultry, fish, vegetables, garden produce, and other articles, and may make by-laws for the regulation and control of all stands and stalls used, in any public way in the city, for the sale of refreshments or fruit.

Under the Local Government Act of 1919, the councils of municipalities and of shires are empowered to provide markets for the sale of animals or of any articles of human food; to supervise premises used for the storage of food; to control and regulate the hawking and peddling of food commodities; and, except in the Metropolitan and Newcastle districts, to establish abattoirs. The councils of municipalities exercise authority in respect of dairy supervision, and this power may be granted to the council of any shire.

In April, 1921, the Board of Trade opened a public inquiry as to the extent to which existing facilities could be used for the transmission of primary products direct from producers to the consumers.

Sydney Municipal Markets.

The Municipal Council of Sydney has erected markets for vegetables, farm produce, fruit, fish, and poultry.

The vegetable market has 288 stalls, which are occupied by the *bona fide* grower, who brings his own produce to market, and conducts the sale by private treaty; the charges are on the dues system at 1s. 6d. per cart load, the minimum amount payable weekly for each stall being 4s. 6d.

The produce market is occupied almost entirely by agents, who receive products from the country and oversea; these agents are allotted stands on the scale of 1s. 6d. per load, with an additional reserving fee of 1s. per week for the particular stand. Surrounding this market are stores, which are leased to the agents, who distribute to suburban and distant centres.

The fruit market was designed for the speedy and careful handling of this delicate food product. Fruit may be conveyed to the market directly by means of a special railway siding, which connects with the main railway system. Provision is made for sales by auction or by private treaty. Half of the market is reserved for the use of the growers, the charge for a stand being 2s. per day; the remainder is divided into stands which are let to agents at a rental of 11s. per week.

In the fish market supplies are consigned direct to the Council from the various districts, and are sold by the Council's officers at auction. Salt water, pumped from the harbour, is supplied to the markets for cleansing the fish, and a cooling chamber is provided.

In all these markets the officers of the Council are charged with the necessary authority for inspection and condemnation.

The poultry market provides accommodation for fifteen to twenty thousand head of poultry; there is also a special floor for eggs, bacon, butter, cheese, etc. The market is subdivided into stands, which are let to poultry auctioneers; the Council supervises the cleanliness of the market, but has no power in regard to inspection.

The area and cost of the several markets are as follows:—

Market.	Floor Space.	Cost of Market.	Market.	Floor Space.	Cost of Market.
	sq. ft.	£		sq. ft.	£
Vegetable ...	95,560	127,000	Fish	47,517	49,000
Produce	45,300	48,300	Poultry	12,200	27,500
Fruit	143,000	119,500			

Cold storage works have been constructed in the market area immediately adjoining the Fruit Markets. They are equipped with chilling and freezing rooms for the storage of fruit, dairy and farm produce, mutton and rabbits, and their cost was £94,000.

The total storage capacity of the chambers, excluding passages and grading rooms, is 224,130 cubic feet. Provision is made to supply power for an ice-making plant, also for a further addition of cooling space as may become necessary.

FRUIT AND VEGETABLES.

The fruit supply is derived mainly from the local orchards and from Victoria, Tasmania, and Queensland. From November or December to February or March the supply is for the most part locally grown; from March to October the market for all fruits except citrus is supplied chiefly from the other States; and from May to December local supplies of citrus fruits are available. Prior to the war large shipments of bananas were imported from Fiji, but owing to the restriction of oversea shipping and to the outbreak of disease the importations diminished, and the Tweed River district became the chief source of supply.

In Sydney there are two fruit markets, viz., the Fruit Exchange, conducted by a private company, and the City Market, controlled by the City Council. Market sales are conducted generally by private treaty. The majority of the country and interstate distributors operate in the Fruit Exchange, which is exclusively a wholesale market. In the City Market a considerable amount of retail, as well as wholesale, trade is transacted.

The supply of vegetables, except potatoes and onions, is obtained from local sources and marketed at the City market. A large proportion of the potato supply is imported from Victoria and Tasmania, and the bulk of the onions from Victoria. Imported potatoes are sold by private treaty on the wharf shortly after arrival, and the prices are fixed by arrangement between the sellers; locally-grown potatoes are sold by auction in the railway yards.

On account of the numerous varieties and grades of fruit and vegetables, it is extremely difficult to ascertain satisfactory average retail prices, and on account of the large quantities of both grown in home gardens, it is, if anything, more difficult to estimate the local consumption. Moreover details

are not available regarding the production of the different kinds of vegetables in market gardens, the figures being included under a general heading, as shown in the chapter relating to Agriculture.

The following statement shows, in regard to a few varieties, the average wholesale prices in Sydney during the last seven years:—

Fruit and Vegetables.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Apples, per bushel	6s. to 9s.	7s. to 10s.	6s. 6d. to 10s.	9s. to 13s.	8s. to 11s.	10s. to 15s.	9s. to 12s.
„ cooking, per bushel	7s. 6d.	8s.	6s.	9s. 6d.	8s.	10s.	10s.
Oranges, per bushel	8s. to 14s.	8s. to 13s.	7s. 6d. to 15s.	7s. to 13s.	7s. to 14s.	10s. to 17s.	9s. to 15s.
Mandarins „	11s.	8s.	11s.	9s. 6d.	11s.	13s.	12s.
Pears „	12s.	11s.	11s.	9s. 6d.	12s.	13s.	12s.
Passion Fruit, per $\frac{1}{2}$ bushel	7s.	7s.	6s. 6d.	7s.	10s.	10s. 6d.	11s.
Bananas, per $\frac{1}{4}$ bushel	18s.	20s.	15s. 6d.	16s. 6d.	18s.	23s.	26s.
Pineapples „	9s.	8s.	7s. 6d.	9s.	9s. 6d.	12s.	14s.
Cabbages, per doz.	5s. to 6s.	6s. to 8s.	5s. to 7s.	6s. to 7s.	7s. 6d.	10s.	10s.
Cauliflowers „	6s. to 8s.	6s. to 8s.	7s. to 8s.	8s.	8s. 6d.	11s. 6d.	12s. 6d.
Peas, per bushel	5s. 6d.	6s. 6d.	7s.	8s.	9s. 6d.	11s.	11s. 6d.
Beans „	3s. to 4s.	5s. to 6s.	4s. to 5s.	5s. to 6s.	5s. 6d.	8s.	8s. 6d.

MEAT SUPPLY.

The estimated number of livestock (cattle, sheep, and pigs) required for food in New South Wales in various years since 1901 is shown in the following statement. These figures differ from those published elsewhere in this volume showing the animals killed in slaughtering establishments, as those include animals slaughtered for export and animals treated in boiling-down works. Moreover, the number of pigs shown in the table is larger than the number slaughtered in New South Wales in some years, when the production of bacon was not sufficient for local requirements.

Year.	Bullocks and Cows.	Calves.	Sheep and Lambs.	Pigs.
1901	297,200	18,500	2,717,400	264,900
1904	284,600	14,400	2,301,600	244,800
1907	348,000	28,200	3,104,200	260,500
1910	380,900	50,200	3,894,600	315,800
1913	462,800	70,900	3,896,900	310,000
1914-15	403,600	59,300	3,521,900	289,200
1915-16	331,200	30,300	3,358,500	234,600
1916-17	304,700	36,800	2,941,000	304,800
1917-18	277,600	28,500	2,436,400	335,400
1918-19	311,900	49,000	2,975,600	375,900
1919-20	401,600	74,000	3,514,200	286,100

In the Metropolitan Abattoir Area (comprising the county of Cumberland), all operations in connection with the sale, slaughter, and inspection of stock, and with the sale of meat, are under the control of the Metropolitan Meat Industry Board, which was created in 1916, in terms of the Meat Industry Act, 1915. The Board consists of three members, one representing the producers, one the consumers, and a chairman.

The cattle saleyards at Flemington cover an area of 66 acres, and the Act vests in the Board the land and buildings contained in the Public Abattoir at Glebe Island, the Stock Saleyards at Flemington, and the Public Abattoir at Homebush Bay, capable of accommodating on one day from 75,000 to 80,000 head of sheep and lambs, and 2,500 head of cattle.

The Pig and Calf Saleyards and Markets were opened at Homebush on 2nd July, 1916, and superseded the Municipal Small Stock Markets in the city.

The Public Abattoirs at Homebush Bay are close to the saleyards, and the area consists of 1,400 acres, of which 1,200 acres are retained as resting paddocks for stock prior to slaughter, and 200 acres are used for buildings, roads, and railway. Extensive building operations are in progress to provide refrigerating works (capable of accommodating 250,000 carcasses), canning factories, and oleo works.

The carcase butchers who operate at the Abattoirs supply the labour and pay at fixed rates per head of stock treated. The charges, including fees for inspection, and chilling for forty-eight hours, are as follows:—Cattle, 4s. 6d. per head; sheep, 3½d.; pigs, 1s. 9d., and calves, 1s. 6d.

The following table shows the slaughtering at the Public Abattoirs at Glebe Island and at Homebush Bay during each of the last five years:—

Year.	Sheep.	Cattle.	Calves.	Pigs.
1916	1,245,655	87,639	37,190	66,737
1917	993,874	103,231	23,574	76,780
1918	1,620,619	114,096	33,882	120,638
1919	2,355,446	185,799	49,818	118,310
1920	1,724,773	175,612	73,817	77,991

The meat is transported by rail from Homebush to the Central Meat Distributing Depôt; thence it is delivered by the carcase butchers to the retail shops. The Central Depôt is situated within the city area, on the Darling Harbour railway line, and depôts have been opened at St. Leonards and Rockdale to facilitate delivery in the suburban districts.

In May, 1921, a Government shop for the sale of meat to consumers was opened in Sydney. The enterprise is conducted in conjunction with a retail shop of the State Fish Trawling Industry.

In the Newcastle district, *i.e.*, within a radius of 14 miles from the Newcastle Post Office, slaughtering and inspection are controlled by the Newcastle District Abattoir Board. Outside the Metropolitan and Newcastle districts slaughtering is done at private abattoirs, which are subject to inspection by officers appointed by the local authorities and by the Board of Health.

Meat Supply for Imperial Uses Act.

The Meat Supply for Imperial Uses Act was passed in February, 1915, in order to place at the disposal of the Imperial Government the whole of the supply of beef and mutton available for export during the continuance of the War. Upon a written order of the Chief Secretary as the Minister charged with the administration of the Act, all stock and meat mentioned therein became the property of the Crown at prices fixed by the Board, the purchase and shipment being arranged by the Metropolitan Meat Industry Board. The period of the Act was extended by proclamations to 31st December, 1920, but the British Government ceased to purchase meat for Imperial uses on 31st October, 1920.

The prices for meat taken into cold storage were fixed as follows:—Mutton, first and second quality—wether, 5½d.; ewe, 5d.; teg, 5½d., and lamb 6½d.; third quality being ½d. less. Beef—ox, 4½d.; cow, 4½d. to 4½d.; boneless (in bags), 5½d.; in crates, 5½d. The prices were conditional upon delivery by the vendors of the meat free on board ship; no interest or charges were paid to the vendors for the meat until it had been twenty-eight days in cold storage, but thereafter they could claim interest at the rate of 6 per cent. on the value of the meat, and the storage charge was paid by the Government.

The total quantity of beef and mutton requisitioned under authority of the Act, and shipped from Sydney up to 31st March, 1921, was 177,390,813 lb., consisting of 3,483,550 carcasses and 1,640 pieces of mutton and lamb, and 223,041 pieces of beef. The Imperial Government purchased also 378,820 crates of rabbits, valued at £347,273, and 1,482,314 lb. of cheese, the prices paid being 9½d. per lb. for first quality and 9d. per lb. for second quality. The total cost to the Imperial Government, including storage and interest, to the end of March, 1921, was £3,961,609 for beef and mutton, £404,576 for rabbits, and £57,108 for cheese.

FISH SUPPLY.

The seaboard waters of New South Wales contain immense quantities of edible fish, nevertheless fresh fish does not enter largely into the dietary of the people, the average annual consumption being only 11·3 lb. per head. The local production recorded in 1919-20 amounted to 23,500,000 lb., exclusive of 6,396 dozens of crayfish, 567,000 lb. of prawns and crabs, and about 25,000 sacks of oysters. The bulk of the supply is obtained from the river estuaries and the coastal lakes and inlets, and is marketed in Sydney by agents to whom the fishermen consign their catches.

There are two fish markets in Sydney, the Municipal Fish Market and the Commonwealth Co-operative Fish Exchange, Redfern. The former is controlled by the City Council, which acts as selling agent, though private agents are allowed to conduct business in the Council's buildings. The Co-operative Fish Exchange is owned and controlled by a private company, but it is subject to inspection by a Government inspector acting under the Pure Food Act. In order to regulate the sale of fish in the markets, regulations have been drafted by the Government to provide for the licensing of fish agents and the compulsory sale of fish by weight, and by auction.

An effective system of distribution to private consumers has not been organised. In the city and nearer suburbs fish is retailed in State and private shops, and a few dealers maintain regular rounds for the purpose of house-to-house distribution, but the more distant suburbs are supplied only by hawkers, whose visits are intermittent.

The State Trawling Industry was initiated in 1915, with the object of developing the deep-sea fisheries in order to provide a regular supply of cheap fish. The bulk of the fish is distributed by means of retail shops, of which seventeen have been opened in the Metropolitan area, one in Newcastle, and five in country towns. The average selling price, calculated on the net weight sold in 1917-18 was 5·9d. per lb., in 1918-19 6·2d., and in 1919-20 it rose to 7·12d. The prices charged vary according to the class of fish, viz., fresh fish, 3d. to 11d. per lb.; smoked, 7d. to 1s. per lb.; crayfish, 2s. to 2s. 6d. each; and prawns, 8d. to 1s. 6d. per lb.

BREAD SUPPLY.

The bread for the metropolitan population is produced under satisfactory conditions, and is of good quality; for the most part it is sold by the bakers directly to the consumers. A State bakery was acquired in 1914 to supply bread to Government institutions. Before the introduction of day baking in June, 1914, practically all bread was delivered at the consumer's house, but many customers now buy at the shops in order to obtain fresher bread.

Prior to the war the price was fixed ordinarily by the Master Bakers Association with relation to the declared price of flour, which was fixed by an association of millers, but since August, 1914—except during the months

March to August, 1919—the prices of bread and of flour have been determined by Government proclamation.

The variations in the price of bread in Sydney since 1900 are shown below in conjunction with the price of flour at the time when the price of bread was altered. These prices are for delivery and weekly payments; in recent years the price has been $\frac{1}{4}$ d. per loaf less for cash over the counter.

Date.	Price of 2 lb. Loaf.	Cost of Flour per ton.	Date.	Price of 2 lb. Loaf.	Cost of Flour per ton.
	d.	£ s. d.		d.	£ s. d.
1900... ..	2 $\frac{1}{2}$	6 15 0	1915—July ...	5	17 5 0
1902—April ...	2 $\frac{3}{4}$	8 15 0	October ...	4	11 17 6
September ...	3	9 10 0	1916—March ...	3 $\frac{3}{4}$	11 5 0
November ...	3 $\frac{1}{4}$	10 10 0	1917—June ...	4	11 0 0
1903—February ...	3 $\frac{1}{2}$	12 0 0	1919—March ...	4 $\frac{1}{2}$	11 0 0
December ...	3 $\frac{3}{4}$	10 10 0	October ...	4 $\frac{3}{4}$	11 15 0
1904—September ...	3	9 0 0	December ...	4 $\frac{1}{2}$	11 17 6
1907—June ...	3 $\frac{1}{2}$	8 15 0	1920—January ...	5	12 15 0
1909—March ...	3 $\frac{1}{2}$	10 0 0	February 2...	5 $\frac{1}{2}$	16 7 6
1910—June ...	3 $\frac{1}{2}$	8 15 0	February 9...	6 $\frac{1}{2}$	19 2 6
1912—May ...	3 $\frac{1}{2}$	9 15 0	December ...	6 $\frac{1}{4}$	19 2 6
1914—December ...	4	11 17 6			

MILK SUPPLY.

The law governing the conditions of milk production and distribution is contained mainly in the Dairies Supervision Act of 1901, the Pure Food Act of 1908, and the Dairy Industry Act of 1915. The duty of registering dairies, and supervising and inspecting dairy premises and cattle, is vested in local authorities, but in actual practice the administration is conducted by the Board of Health. At 31st December, 1920, there were 18,449 registered dairymen in the State, and the cattle in their dairy herds numbered 728,401; there were also 3,531 registered milk vendors. In the metropolitan district there are 390 registered dairymen, with 8,843 cattle, and 2,737 registered milk vendors.

The standard for milk is fixed by regulation under the Pure Food Act. It must contain not less than 8.5 per cent. of milk solids (not fat), and 3.2 per cent. of milk fat. During 1920 the Pure Food and Municipal Inspectors collected 12,740 samples of milk, and 994 were below standard; prosecutions were instituted in 426 cases, and penalties in fines and costs amounted to £2,566.

The milk supply of Sydney is derived partly from dairies in the metropolitan area, and partly from dairies in country districts, viz., the South Coast district between Wollongong and Nowra, the districts traversed by the Main Southern Railway between Liverpool and Moss Vale, the Penrith, Windsor, and Richmond Districts, and the districts around Brantxton, Singleton, and Gosford, on the Northern Railway line.

The proportion of the city supply derived from metropolitan dairies is decreasing steadily, and there is strong evidence of diminishing productiveness in many parts of the South Coast District, where the bulk of the country milk is obtained; but there has been an increase in the quantity obtained from the Maitland District.

The milk from the metropolitan dairies is distributed direct to the consumer, and the country milk is handled by three large distributing companies, being subjected to a pasteurising process before distribution.

The range of wholesale and retail prices of milk during each year since 1901 is shown below. The wholesale price represents that paid by the distributing companies to the farmer for milk delivered on trucks at country railway stations; the retail price for country milk is that charged by these companies, or by milk vendors, to the householder; and for fresh milk the retail price is that charged by the metropolitan dairymen.

The prices were fixed by the State or Federal authorities from July, 1915, to January, 1919; and from July, 1919, by the Necessary Commodities Control Commission or the Profiteering Prevention Court.

Year.	Wholesale.		Retail.		Year.	Wholesale.		Retail.	
			Country.	Fresh.				Country.	Fresh.
	per gal.		per qt.			per gal.		per qt.	
	d.	d.	d.	d.		d.	d.	d.	d.
1901	6	to 7	4	4-5	1911	6	to 9	4-5	5
1902	6	„ 10	4-5	5-6	1912	6	„ 9	5	6
1903	6	„ 10	5	5	1913	6	„ 9	5	6
1904	5	„ 6	3-4	4-5	1914	8	„ 11	5	6
1905	5½	„ 7	4	4	1915	8	„ 11	5-5½	6
1906	6	„ 7	4	4	1916	8	„ 12	5-5½	6
1907	6½	„ 9	4-5	4-5	1917	10	„ 12	5½	6
1908	6	„ 12	5	5	1918	10	„ 15½	5½	6
1909	7	„ 10	5	5	1919	15½	„ 21½	5½-7½	6-9
1910	6	„ 9	4-5	5	1920	14	„ 18	7½-8½	8-10

REGULATION OF PRICES.

Shortly after the outbreak of the war the Necessary Commodities Control Act of 1914 was passed to empower the State Government to review the prices of necessary commodities. The Commission appointed to administer the Act operated until 20th July, 1916, when the Federal Government assumed control of the prices of foodstuffs, necessary commodities, and services.

The Commonwealth Prices Adjustment Board was constituted under the War Precautions Act, and a Commissioner was appointed in each State to collect evidence on which the Board based its recommendations as to prices and rates.

During 1919 the various commodities were gradually released from Federal control until it was terminated about the middle of the year; thereupon, in July, the State Government restored the Necessary Commodities Commission. Lists of the commodities in respect to which price-fixing proclamations had been issued up to July, 1919, were shown in the 1918 issue of the Year Book. In that volume reference is made also to reports issued by the Inter-State Commission in relation to the causes of increase in the prices of commodities in general use, viz., bread, meat, butter, cheese, bacon, vegetables and fruit, milk, groceries, clothing and boots, also as to house rents.

The Act of 1914 was repealed in December, 1919, and the powers in relation to the regulation of prices were extended by the Necessary Commodities Control Act, 1919, and the latter was replaced at the end of the year, 1920, by the Profiteering Prevention Act, which is to remain in operation until 31st December, 1922.

Under the Profiteering Prevention Act the following are declared to be necessary commodities, but the term does not include any prescribed agricultural or pastoral product in the ownership or possession of the grower

or producer; and the Act does not apply to the sale or supply of any necessary commodity by public auction or competitive tender or for export.

- (a) Coal, firewood, coke, kerosene, petrol, or other fuel.
- (b) Any article of food or drink for man or for any domesticated animal.
- (c) Any article of clothing or apparel for man, including hats, footwear, and haberdashery.
- (d) Any article made of wool, linen, or cotton, or partly of one and partly of another.
- (e) Fertilisers.
- (f) Any article which enters into, or is used in the composition or preparation of, any of the foregoing.
- (g) Agricultural implements.
- (h) Tools of trade.
- (i) Seeds for sowing.
- (j) Any article of furniture.
- (k) Any building material.
- (l) Drugs, proprietary medicines, medical instruments, chemicals, disinfectants, soaps, and toilet requisites.
- (m) Oils.
- (n) Any article which the Governor, in the *Gazette*, declares to be a necessary commodity.

“ Necessary Services ” were defined as follows :—

- (a) The supply of gas or electricity.
- (b) The supply of water.
- (c) The carriage of goods by land or sea.
- (d) The carriage of persons by ferry.
- (e) Refrigeration and cool storage.
- (f) The burial of the dead.
- (g) Any service which the Governor declares in the *Gazette* to be a necessary service.

The President may fix the maximum prices, wholesale or retail, of any necessary commodity, either by fixing the price directly or by fixing the highest rate of profit, and he may fix the charges and rates of profit in respect of any necessary service.

Prices and rates of profit may be fixed in relation to locality, standards of quality or quantity, conditionally, on a sliding scale, or for cash, delivery, credit, or time-payment, or on the basis of manufacturing or other cost; and maximum prices may be fixed in relation to profits, dividends, or wages and salaries.

The President may prohibit increases in the prices of necessary commodities on or after a fixed date, and may prohibit specific persons from increasing prices without his permission. He is authorised to prevent cornering and unfair methods of trade competition and discrimination, and to investigate complaints as to unreasonable profits. The Governor may, by proclamation, acquire supplies of necessary commodities for home consumption.

The Act authorises the Board of Trade to propound schemes for the promotion of co-operative enterprise with a view to the reduction of the average cost of living.

Except where otherwise provided, any person guilty of an offence against the Act is liable for a first offence to a fine not exceeding £100 or imprisonment up to three months; if the offender is a corporation the maximum fine is

£200. If a first offence is due to inadvertence a nominal penalty only may be imposed; for a subsequent offence the maximum penalty is £200 or six months imprisonment, or in the case of a corporation, £500.

For the third or subsequent offence against the provisions of the Act prohibiting cornering, selling at unreasonable profit, failure to supply on demand at the fixed price, charging above fixed prices or rates for necessary commodities or supplies, or speculating in necessary commodities an offender is liable to be proceeded against on indictment, the penalty being from £50 to £500 or twelve months imprisonment, or both. A corporation may be sued in the Supreme Court for the recovery of a penalty not less than £100 and not more than £3,000, and in addition to, or in lieu thereof, the Supreme Court may dissolve the corporation. An offence by a corporation is deemed an offence *primâ facie* by the chairman, each director and each officer concerned in the management, unless he proves that the offence took place without his knowledge or without his consent.

WHOLESALE PRICES.

The movement of wholesale prices in Sydney from 1901 to 1920 is shown in the following pages. Wholesale prices probably do not fluctuate so frequently nor with such uncertainty as retail prices, and, when determined, they are generally of a wider incidence. Moreover, in the special case of New South Wales, wholesale prices in Sydney in most instances determine those throughout the State.

It is held by some notable economists and compilers of index numbers that a few commodities, well chosen with regard to their importance and their representative nature, will indicate the general trend of prices. The British Board of Trade formerly used 45 commodities, but now uses 150, the London "Economist" originally used 22, but now employs 44 commodities, and the London "Statist," continuing Sauerbeck's indexes, treats of 45 articles. On the other hand, the United States Bureau of Labour investigates the prices of commodities varying in number between 234 and 346, while the Canadian Department of Labour has extended its list from 230 to 272 articles.

In the present investigation the number of commodities and kinds of commodities has been reduced to 100. These have been arranged in eight groups, corresponding with those of the Commonwealth Statistician in his wholesale price index numbers for Melbourne. The groups are numbered according to their importance in 1911, and the items in each group are arranged in similar order.

As the reliableness of index numbers obviously depends upon the accuracy of the price quotations, endeavour has been made everywhere to obtain information from representative and most reliable sources as to the prices of the most typical grades of commodities. Trade journals and newspapers, giving prominence to market reports, constitute the principal sources of information, while, in some cases, inquiries have been made from manufacturers and merchants. Monthly averages have been obtained wherever possible, and an annual average has been calculated by taking the arithmetic mean of the monthly averages. This process involves a degree of error which, however, is probably small. The effect has been to state a predominant price for the year, and, in view of the fact that a system of fixed weights has been used, the results indicate simply and solely the extent of variations in the prices themselves, and pay no regard to changes of usage. The average annual prices are contained in the "New South Wales Statistical Register for 1919-20."

The list of commodities appearing below includes the majority of items of importance in the economic life of this State. But it will be seen that articles of clothing and furniture, and most of the highly manufactured products, have been excluded. Fashion, changes of grade and quality—due to the introduction of new processes, and to numerous other considerations—militate against the satisfactory determination of prices of such goods.

This deficiency, however, in a large measure, has been supplied by allowing to the raw materials, which are the bases of these goods, the full consumption-weight. Thus, raw cotton and wool are listed, instead of many items of cotton and woollen goods, four grades of leather instead of boots, shoes, harness, and other manufactures of leather, and six grades of timber instead of furniture, and other manufactures of wood.

The changes in prices of raw materials, are, perhaps, more violent and more rapid than those of manufactured articles, but on the whole, the index numbers based on these probably afford a fair indication of the general movement of prices over relatively long periods of time.

The statement which follows gives the grade of the article or commodity, and the source of information as to price, together with the weights applied to the various prices.

Commodity.	Description.	Unit of Measurement.	Weight (000 omitted).	Source of Information.	
<i>Group I.—Agricultural Produce.</i>					
1. Chaff	Wheaten	ton	600	Daily and Weekly Newspapers.	
2. Flour	150-lb. bags	ton	200		
3. Hay	Oaten	ton	300		
4. Maize		bushel	6,800		
5. Potatoes		ton	180		
6. Wheat	Milling	bushel	3,150		
7. Oats	Best Feed	bushel	2,900		
8. Bran		bushel	6,300		
9. Pollard		bushel	4,750		
10. Barley—Malting	Chevalier	bushel	800		
Feed	Cape	bushel	87		
11. Peas	Blue Fodder	bushel	135		
12. Oatmeal	In 7-lb. bags	cwt.	6		
<i>Group II.—Groceries.</i>					
1. Sugar	1A	ton	92	C.S.R. Co. W. D. and H. O. Wills' Price Lists. Trade Lists.	
2. Tobacco—Cigars	3 brands	100	232		
3. Cigarettes	Capstan and Three Castles	1,000	576		
4. Tobacco	Cut and Plug	lb.	3,820		
5. Tea	Good Quality (in packets)	lb.	13,000		
6. Soap	Household	40lb.	595		
7. Jam	Taylor's Assorted	1 doz. 27-oz. tins	1,525		
8. Kerosene		case 8½ gals.	750		
9. Dried Fruits—Currants	Mildura	lb.	3,650		
	Raisins	Sultana Mildura	lb.		5,020
11. Tinned Fish—Herrings	Leading Brands	lb.	2,200		
12. Salmon	Karluk Talls	lb.	3,250		
13. Sardines	Norwegian, ordinary ½ lb.	lb.	1,050		
14. Salt—Extra Fine		cwt.	605		
15. Rock	Liverpool Red	ton	9		
16. Rice	Locally dressed	cwt.	135		
17. Candles	Local	lb.	5,000		
18. Cocoa	Manufactured, ½ lb. tins	lb.	870		
19. Coffee	Roast & Ground, Chicory 25 per cent.	lb.	1,300		
20. Matches—Wax		gross	305		
21. Wooden	Local and Swedish	gross	295		
22. Starch	Silver Star	cwt.	25		
23. Sago		cwt.	30		
24. Blue	Reckitt's	lb. or doz. figs	650		
25. Mustard	Keen's	lb.	290		
26. Macaroni		lb.	830		

Commodity.	Description.	Unit of Measurement.	Weight (000 omitted).	Source of Information.
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Group III.—Wool, Cotton, Leather, and Jute.

1. Cotton (American)	Middling Upland, Liverpool Prices.	lb.	102,000	} <i>Statist</i> , London.
2. Wool (Australian)	U.K. Import values	lb.	45,000	
3. Leather—Sole		lb.	1,000	} U.K. Trade Returns.
4. Harness	Brown	lb.	3,000	
5. Kip	Waxed	lb.	2,000	
6. Bag		side	400	
7. Cornsacks	Standard	doz.	790	
8. Woolpacks	11½ lb.	each	920	
9. Bran bags		doz.	380	} Trade Journals and Newspapers.

Group IV.—Metals and Coal.

1. Iron—Pig	Local	ton	38	} Trade Journals and Newspapers.
2. Rod and Bar	Square and Round	ton	22	
3. Angle		ton	22	
4. Plate, Girder		ton	19	
5. Hoop, Galvanized		cwt.	35	
6. Hoop, Black		cwt.	35	
7. Corrugated, Galvanized.	Redcliffe, 26 g.	ton	35	
8. Sheet, Black		ton	20	} Contracts.
9. Fencing Wire	No. 8	ton	32	
10. Barbed Wire	No. 12, Australian	cwt.	54	
11. Coal	Newcastle, large, in Sydney	ton	3,900	} Trade Journals and Newspapers.
12. Copper	Sheet	lb.	13,330	
13. Tinned Plates	I.C. Coke, 14 x 20	cwt.	260	
14. Lead—Sheet		ton	6	
15. Piping	Coils to 2 inch	ton	5	
16. Zinc—Sheet		cwt.	65	

Group V.—Building Materials.

1. Timber—Flooring	Richmond River Pine, 4 x 1	100 ft. sup.	600	} Trade Lists, Daily Newspapers, and Merchants.
2. Flooring	Rimu (N.Z.), 4 x 1	100 ft. sup.	200	
3. Weatherboards	Hardwood, 7-inch, rough splayed.	100 ft. lin.	1,000	
4. Hardwood	3 x 2	100 ft. lin.	1,500	
5. Oregon	Stock sizes up to 30-feet lengths.	100 ft. sup.	800	
6. Shelving	Kauri, 12 x 1	100 ft. sup.	250	
7. Bricks	Common	1,000	367	
8. Cement	Portland, ex-bags	cask, ½ ton	750	
9. Glass—Sheet	16 oz.	sup. ft.	5,000	
10. Plate	½ inch	sup. ft.	900	
11. Whitelead		cwt.	90	
12. Linseed Oil	Blundell and Spence—Raw	gal.	520	
13. Tiles, Roofing	Local	1,000	10	
14. Lime		ton	34	
15. Turpentine	Pratt's	gal.	220	
16. Slates, Roofing	Purple Bangor, 20 x 10	1,000	4	
17. Plaster of Paris		cask, 310 lb.	42	

Group VI.—Meat.

1. Beef—Fores		lb.	148,000	} Metropolitan Meat Board and "Australian Meat Trades Review."
2. Hinds		lb.	124,000	
3. Mutton		lb.	150,000	
4. Lamb		lb.	16,000	
5. Pork		lb.	9,000	

Group VII.—Dairy Produce.

1. Butter	Good Brands	lb.	47,000	} Daily and Weekly Newspapers.
2. Eggs	New Laid	doz.	12,000	
3. Bacon	Sides	lb.	14,660	
4. Condensed Milk	Gold Medal	case, 42-lb.	236	
5. Cheese	Prime Loaf	lb.	6,125	
6. Ham		lb.	3,640	
7. Honey		lb.	7,230	
8. Lard	In Bulk	lb.	1,000	

Group VIII.—Chemicals.

1. Superphosphate		ton	40	} Trade Journals, Newspapers, and Merchants.
2. Cream of Tartar		lb.	1,920	
3. Sulphur	Common	cwt.	87	
4. Caustic Soda	70-72 per cent. and 76-77 per cent.	cwt.	38	
5. Sheep Dip	Cooper's	case (100 lb)	7	
6. Carbonate of Soda		cwt.	33	

A scientific system of weights properly determined should, in perfection, give each item just that influence on the final result which is proportional to its importance for the purpose of the particular index. Thus, in ascertaining the general rise in the prices of goods over any period of time, account must be taken of the extent to which each type of goods has been used. It is, however, not necessary to obtain an exact measure of this usage for the purpose of weighting. So long as weights are proportionate, with substantial accuracy, to the importance of the several items, the results can be shown by experiment to vary little, even when widely-diverging systems of weights are compared.

The weight given to the price of each commodity in the present index is the extent to which it entered into consumption in New South Wales on the average during the three years, 1911-1913.

The procedure has been to multiply the weight of each commodity by its price in each year, to add these products, and finally to obtain the index, with the year 1911 as base, by dividing the successive yearly aggregates by the 1911 aggregate.

The arrangement of commodities into groups places together those articles which are in close economic relationship, and for which prices in general might be expected to move in sympathy, or from causes common to all. Grouping thus throws into relief the manner in which prices have varied sectionally, as well as showing the aggregate variations.

Measured by aggregate value, the proportion of commodities included of Australian origin to those imported is approximately 2 to 1. In 1911 agricultural produce carried nearly 22 per cent. of the weight of all commodities, dairy produce and meat nearly 10 per cent. each, other Australian products about 22 per cent. The approximate percentages of the remaining groups were groceries 17, wool, etc., 14, metals and coal 14, building materials 12, and chemicals 0.8. Of the 100 commodities included, 38 may be classed as raw materials and 62 as manufactured products. Their respective weights are in the approximate proportion of 2 to 1.

The following table furnishes the results of the investigation for the twenty years since 1901. It should be noted that the indexes are not comparable between groups except to illustrate the respective changes in price:—

Year.	I. Agricultural Produce.	II. Groceries	III. Wool, Cotton, Leather, Jute.	IV. Metals and Coal.	V. Building Materials	VI. Meat.	VII. Dairy Produce.	VIII. Chemicals.	All Commodities.*
1901	834	919	737	1001	745	1222	963	977	904
1902	1266	940	750	964	756	1763	1235	965	1072
1903	1181	925	866	964	811	1549	1114	960	1042
1904	789	943	914	942	802	1256	859	952	911
1905	972	985	837	952	773	1081	924	952	933
1906	929	960	937	996	806	1163	953	951	955
1907	1003	952	986	1068	848	1196	1010	987	1001
1908	1343	973	866	1034	884	1327	1141	961	1055
1909	1134	982	920	1004	885	1094	1053	932	1014
1910	1012	986	1036	988	912	1014	1030	958	997
1911	1000	1000	1000	1000	1000	1000	1000	1000	1000
1912	1339	1036	968	1001	1079	1323	1133	980	1129
1913	1069	1033	1043	1039	1107	1379	1093	1003	1092
1914	1135	1016	1000	1079	1105	1669	1128	1220	1137
1915	1048	1039	976	1270	1137	2596	1349	1426	1401
1916	1163	1245	1367	1725	1241	2896	1380	1617	1489
1917	1127	1298	2093	2358	1421	3007	1440	1956	1727
1918	1377	1405	2614	2740	1685	2616	1487	2605	1933
1919	1970	1492	2501	2454	1879	2873	1718	2089	2090
1920	2450	1914	3079	2602	2415	3113	2236	2301	2503

* Weighted average.

Prices were at the lowest point at the beginning of the period under review, but in 1902 there was an increase of 18 per cent. owing to the rise in prices of agricultural and dairy produce, and of meat, during the drought of that year. In the good seasons which followed there was a decline, and in 1904 the index number was only slightly higher than in 1901. From 1904 to 1908 there was a steady increase, followed by a decline in 1909 and 1910; then the upward movement recommenced. Since 1910 prices have increased almost constantly, as, with the exception of 1913, each year showed an advance on the preceding year. The greatest increases were 23 per cent. in 1915, 16 per cent. in 1917, and 20 per cent. in 1920.

The index numbers for 1920 in the above table do not afford any indication of the changes in prices which occurred during the year. From the end of 1914 to July, 1920, there had not been any marked drop in the index numbers, although groceries fluctuated after May; but in August a decline commenced in all other groups of commodities with the exception of meat and dairy produce, which reached their highest points in August, 1920, and in February, 1921 respectively, and have since declined steadily.

The following table gives the monthly index numbers from January, 1920, to June, 1921, from which the movement month by month may be gauged. To facilitate this study the changes per cent. during each month since June, 1920, are shown also.

Month.	I. Agricultural Produce.	II. Groceries	III. Wool, Cotton, Leather, Jute.	IV. Metals and Coal.	V. Building Materials	VI. Meat.	VII. Dairy Produce.	VIII. Chemicals.	All Commodities.
1920.									
January ...	2294	1578	3456	2424	2215	2818	1889	2093	2357
February ...	2421	1672	3523	2503	2259	2736	1889	2142	2419
March ...	2499	1723	3507	2531	2392	2494	2052	2192	2455
April ...	2629	1971	3310	2559	2410	2514	2088	2347	2511
May ...	3070	2021	3423	2601	2426	2406	2249	2607	2646
June ...	2922	2018	3403	2637	2440	3058	2279	2379	2682
July ...	2615	1977	3483	2631	2487	3820	2246	2290	2698
August ...	2503	1979	3145	2623	2485	4233	2237	2246	2661
September ...	2265	2002	2903	2581	2466	4091	2429	2292	2575
October ...	2027	2014	2534	2706	2467	2993	2483	2307	2388
November ...	2066	2015	2225	2720	2455	3225	2487	2274	2375
December ...	1843	1997	2041	2704	2480	2977	2503	2433	2276
1921.									
January ...	2001	1931	1980	2616	2449	2886	2519	2064	2273
February ...	1838	1980	1890	2615	2348	2601	2550	1925	2186
March ...	1893	1971	1839	2597	2348	2643	2309	1899	2166
April ...	1867	1958	1798	2551	2244	2140	2180	1773	2072
May ...	1741	1947	1652	2541	2248	1915	2099	1780	1990
June ...	1727	1932	1575	2542	2250	1968	2041	1836	1973

Movement per cent. each month from July, 1920, to June, 1921.

1920.									
July ...	- 10.5	- 2.0	+ 2.4	- 0.2	+ 1.9	+ 24.9	- 1.4	- 3.7	+ 0.6
August ...	- 4.3	+ 0.1	- 9.7	- 0.3	- 0.1	+ 10.8	- 0.4	- 1.9	- 1.4
September ...	- 9.5	+ 1.2	- 7.7	- 1.6	- 0.8	- 3.4	+ 8.6	+ 2.0	- 3.2
October ...	- 10.5	+ 0.6	- 12.7	+ 4.8	0.0	- 26.8	+ 2.2	+ 0.7	- 7.3
November ...	+ 2.0	0.0	- 12.2	+ 0.5	- 0.5	+ 7.8	+ 0.2	- 1.4	- 0.5
December ...	- 10.8	- 0.9	- 8.3	- 0.6	+ 1.0	- 7.7	+ 0.6	+ 7.0	- 4.2
1921.									
January ...	+ 8.7	- 0.8	- 3.0	- 3.3	- 1.2	- 3.1	+ 0.6	- 15.2	- 0.1
February ...	- 8.2	0.0	- 4.5	0.0	- 4.1	- 9.9	+ 1.2	- 6.7	- 3.8
March ...	+ 3.0	- 0.5	- 2.7	- 0.7	- 0.0	+ 1.6	- 9.5	- 1.9	- 0.9
April ...	- 1.4	- 0.7	- 2.2	- 1.8	- 4.4	- 19.0	- 5.6	- 6.1	- 4.3
May ...	- 6.8	- 0.6	- 8.1	- 0.4	+ 0.2	- 10.5	- 3.7	+ 0.4	- 4.0
June ...	- 0.8	- 0.8	- 4.7	0.0	+ 0.1	+ 2.8	- 2.8	+ 3.1	- 0.9

Between July, 1920, and June, 1921, of the 100 commodities, the prices of which are used in deriving the index numbers, 22 increased in price, 60 decreased, and 18 remained stationary.

A further summary of the movement in the index numbers during 1920 is shown by the following table, which compares the position in June, 1921, with the highest point reached, and with 1913, the year before the war.

Group.	Highest level reached.			June, 1921, per cent. above level of 1913.
	Month.	Per cent. above 1913.	Decline per cent. from highest to June, 1921.	
Agricultural Produce	May, 1920	187·2	43·7	61·6
Groceries	„ „	95·6	4·4	87·0
Wool, Cotton, Leather, Jute ...	February, 1920	237·8	55·1	51·0
Metals and Coal	November, „	161·8	6·5	144·7
Building Materials	July, „	124·7	9·5	103·3
Meat	August, „	207·0	53·5	42·7
Dairy Produce	February, 1921	133·3	20·0	86·7
Chemicals	May, 1920	159·9	29·6	83·1
All Commodities	July, „	147·1	26·9	80·7

The highest point was not reached in the same month by all groups of commodities. In four of the nine groups it was reached before the middle of 1920, and in the other five, after that period, the latest being in February, 1921, by dairy produce. Comparing the highest level reached with the level of 1913, groceries showed the smallest increase, and wool, cotton, leather, and jute the highest; and as regards the decline since the maximum point was attained, wool, cotton, leather, and jute show the greatest fall, and groceries, metals, and building materials the smallest. The result was that in June, 1921, metals were still 145 per cent. above 1913, and building materials 103 per cent. above the level of that year. At the other end of the scale meat was 43 per cent. above 1913, wool, cotton, leather and jute 51 per cent. above, and agricultural produce 62 per cent. above that year. The other groups came between these extremes, being over 80 per cent. higher than in 1913.

The following statement gives a comparison of the index numbers of Australian products, and of imported goods, in each year since 1901:—

Commodities.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Australian	903	1168	1110	901	945	955	997	1149	1045	991
Imported	906	887	912	929	910	955	1008	962	955	1009
All Commodities.	904	1072	1042	911	933	955	1001	1085	1014	997

Commodities.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Australian	1000	1185	1113	1188	1532	1481	1580	1675	1993	2354
Imported	1000	1023	1054	1041	1151	1509	2003	2438	2283	2799
All Commodities.	1000	1129	1092	1137	1401	1489	1727	1933	2090	2503

The prices of Australian products vary, as a general rule, in accordance with local seasonal conditions, and the prices of imported goods in accordance with world conditions.

The sudden rises of the index numbers in 1902, 1908, and 1915, were due principally to bad seasons, which affected the prices of local products.

The price level of Australian products declined slightly in 1916, when a good harvest was reaped, but imported goods rose by 32 per cent. In the following years local products increased in price, but the high index was due more to imported goods, which increased by 33 per cent. in 1917, and by 21 per cent. in 1918. After the end of the war these prices fell for a time, but the upward movement of the prices of local products continued. In 1920 the price level of Australian products increased by 18 per cent., and of imported articles by 23 per cent., the former being 135 per cent., and the latter 180 per cent., higher than in 1911.

It is estimated that the commodities treated as of Australian origin and as imported, in the above table, enter 67 per cent. and 40 per cent., respectively, into the export and import trade of the State, and that their combined export and import values constitute 55 per cent. of the total value of the oversea trade of New South Wales.

Omitting the years of severe drought it does not appear that either agricultural or dairy produce obtained the increase in prices that other commodities enjoyed. The prices realised for agricultural produce varied considerably between seasons, but in 1918, when the general index number was over 93 per cent. above the level of 1911, the corresponding increase for agricultural produce was only 38 per cent., and even the high prices realised in consequence of the severe drought of 1919 did not bring the index number for this group quite up to the general level.

In the case of dairy produce the index number was higher than the general index number during the years 1907 to 1913. Since 1914 it has been lower, falling farther and farther behind that of all commodities. In 1919 a rise of 15 per cent. occurred, and an advance of 29 per cent. in 1920, but the index remained considerably below the index of all commodities.

The following table shows the price-levels for the principal agricultural and dairy products included in this investigation for the years 1901 to 1920:—

Year.	Wheat (Milling).	Flour.	Wheaten Chaff.	Oaten Hay.	Potatoes.	Butter (Prime).	Eggs (New Laid).
1901.	771	743	869	860	914	997	963
1902	1257	1111	1242	1286	1189	1380	977
1903	1311	1411	1183	1053	718	1119	1070
1904	907	951	877	629	512	815	878
1905	974	938	968	697	1515	960	826
1906	937	892	916	754	1253	1008	791
1907	1100	1028	1034	915	662	999	917
1908	1223	1125	1585	1331	1050	1155	1048
1909	1357	1306	1116	881	1004	1031	1034
1910	1094	1145	1040	820	1162	1037	1019
1911	1000	1000	1000	1000	1000	1000	1000
1912	1167	1114	1407	1339	1551	1129	1098
1913	1029	1017	1101	1008	856	1023	1098
1914	1178	1109	1242	1030	849	1004	1045
1915	1601	1572	1770	1746	1337	1400	1189
1916	1381	1327	973	922	1420	1400	1183
1917	1356	1302	1005	1017	994	1541	1075
1918	1356	1307	1378	1316	1091	1576	1157
1919	1463	1329	2207	2110	2587	1812	1345
1920	2457	2182	2626	2529	2211	2342	1792

In 1920 the index number of agricultural produce advanced by 22 per cent. Wheat was 68 per cent. dearer than in 1919, and flour 64 per cent. dearer. The high prices were due partly to the bad season, and partly to the high prices ruling in oversea markets.

The index of meat has been higher in nearly every year than that of any other group, and in 1917 reached a point 200 per cent. above the 1911 level. The high index number is, however, in some measure due to the fact that low rates were ruling in 1911. The principal increases occurred in the years 1902, 1912, and 1915. A fall of 13 per cent. took place in 1918, during the latter part of which year prices were controlled by the Commonwealth Government; but this fall was inconsiderable in comparison with the prices then ruling. The further advance that accompanied the 1919-20 drought conditions brought the general level of meat prices to 211 per cent. above the 1911 level. The same fluctuations have not characterised the price movements of beef and mutton, as will appear from the following comparison of price-levels. From 1901 to 1911 the prices of mutton were nearer to those of the base year than were those of beef, but since 1911 the converse has been the experience:—

Commodity.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Beef	1333	1920	1588	1178	1017	1209	1265	1414	1189	1025
Mutton	1090	1650	1530	1415	1165	1135	1120	1225	910	960

Commodity.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Beef	1000	1283	1321	1585	2762	3049	3027	2566	3033	3051
Mutton	1000	1438	1500	1875	2500	2813	3187	2813	2813	3350

The unfavourable seasons in this period were 1902, 1912, 1915, and 1919. It will be observed that beef prices increased by 44 per cent. in 1902, but there was a fall of 17 per cent. in 1903, and the decline continued until in 1905 prices were 24 per cent. below the 1901 level; a sharp rise of 19 per cent. occurred in 1906, and another advance of 12 per cent. in 1908, but then prices fell steadily up to 1911, when the lowest point was reached. There was a recovery in 1912, when prices advanced 28 per cent., and this upward movement, accelerated by a rise of 74 per cent. in 1915, continued until in 1916 prices attained a level 200 per cent. above 1911 values, and with the exception that there was a fall of 14 per cent. in 1918, this was maintained until 1920.

Mutton prices moved generally in the same direction as beef prices, but with even more violent fluctuations, and reached their lowest level in 1909 instead of 1911. There was a sharp rise of 52 per cent. in 1902, followed by a steady decline until 1907, when prices were only 3 per cent. above the 1901 level. A slight recovery took place in 1908, but in 1909 there was a heavy fall of 26 per cent. In the next year prices advanced, and the upward movement continued until 1917, when prices were more than three times as high as in 1911; there were advances of 44 per cent. in 1912, 24 per cent. in 1914, 33 per cent. in 1915, 12 per cent. in 1916, and 13 per cent. in 1917. In 1918 there was a decline to the 1916 level, which was maintained during 1919, but in 1920 there was an increase of 19 per cent.

Cotton, wool, leather, and jute together were low in 1901, but rose although not regularly, by nearly 36 per cent. during the decennium 1901-11; the principal increases, 15 per cent. and 12 per cent., occurred in 1903 and 1906, and there were decreases of 8 per cent. and 12 per cent. in 1905 and 1908 respectively; after 1911 the index fluctuated near the 1911 level until

1915, and thereafter advanced rapidly to 1918. The principal rise occurred in 1917, with considerable increases in 1916 and 1918. In 1919 the index declined slightly, but in the following year a rise of 23 per cent. occurred, and the index number was more than three times as high as in 1914. The price movements in each of these commodities are shown in the following table:—

Commodity.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Cotton	675	688	857	938	723	845	930	813	899	1136
Wool	770	866	913	923	946	1025	1040	929	973	937
Leather	775	760	764	775	845	918	918	816	841	970
Jute	981	915	862	921	1121	1215	1246	1039	945	894

Commodity.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Cotton	1000	916	996	911	834	1278	2356	3168	2791	3668
Wool	1000	984	1035	1041	1020	1424	1932	2183	2184	2267
Leather	1000	1006	1096	1142	1234	1344	1594	1586	2154	2875
Jute	1000	1471	1357	1310	1401	1785	1801	2321	2491	2857

The price of raw cotton rose considerably from 1901 to 1911, and then exhibited a tendency to decline, which became accentuated in July, 1914, and the lowest point was reached by the end of the year. A very slow recovery was effected during 1915, in which year low prices ruled. Thereafter rapid advances were made until September, 1918, when there commenced a series of fluctuations tending downwards, and continuing until the following September, when a further succession of rapid advances began, and in 1920 the index was 16 per cent. higher than in 1918. The greatest rise, 84 per cent., occurred between 1916 and 1917, while between 1915 and 1918 the prices almost quadrupled.

As a consequence of the purchase by the Imperial Government of Australian wool from November, 1916, and the resultant market control, it has not been found practicable to determine a satisfactory average commercial price for these years. Recourse, therefore, has been made to the average import value into Great Britain of Australian wool. This value rose in each year from 1901 to 1907; then a decline occurred, and the value fluctuated somewhat until 1915. In 1916 an advance of 40 per cent. is shown, and, as a result of the rising market, the Imperial purchase scheme was formulated. By its adoption prices were controlled, but values continued to rise until 1920.

A fairly steady advance in leather was evident from 1901 to 1918, by which year prices had reached a point 59 per cent. above 1911 rates. A rise of 36 per cent. occurred in 1919, and of 33 per cent. in 1920.

The index number of jute goods, as shown by cornsacks, bran bags, and woolpacks, was comparatively higher in 1901 than the index numbers of the other commodities in this class, but they declined during the two succeeding years; from 1905 to 1908 they were higher than in 1911. In 1912 the prices rose by 47 per cent., and in the following years experienced a decline, until 1915, when a continuous advance began, the principal rises taking place in 1916 and 1918.

With the exception of coal most of the articles in the fourth group are manufactured metals, which are largely imported. The prices of these commodities were generally higher in 1901 than in 1911, but the index number

did not vary greatly until 1915, when a period of rapid increases began. The greatest general rise occurred in 1917, and a slight decline followed the close of the war. The price of coal increased slowly during the decade 1901-10, and recovering from downward fluctuations between 1911 and 1913, rose rapidly until 1920, when it was 92 per cent. higher than in 1911. The price-levels of the more important items of this group are shown in the following table:—

Commodity.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Pig-iron (local) ..	1079	969	957	857	898	977	1066	1015	926	926
Girdler-plate ...	1153	1135	1032	1007	1007	1007	1007	1007	1007	1007
Corrgtd. Gal. Iron	1041	1018	1013	993	1013	1102	1206	1089	1059	1032
Copper (Sheet) ...	1353	1317	1152	1024	1031	1246	1611	1492	1167	1000
Coal ...	844	844	928	940	934	922	934	958	982	982

Commodity.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Pig-iron (local) ...	1000	1020	1033	1020	1250	2201	2296	1998	2074	2111
Girdler-plate ...	1000	1028	1114	1149	1221	2177	4441	5998	3728	3028
Corrgtd. Gal. Iron	1000	1070	1082	1117	1581	2135	2904	3462	3279	3576
Copper (Sheet) ...	1000	1031	1095	1127	1286	2095	2841	3048	2731	2524
Coal ...	1000	982	970	1018	1066	1168	1383	1533	1670	1916

The upward movement in the prices of building materials has been comparatively regular, but considerable advances took place during the last four years; in 1920 the increase amounted to 28 per cent. The greatest increases were in glass, linseed oil, white-lead, and imported timbers. The following table of price-levels furnishes a comparison of the principal items included in the group:—

Commodity.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.
Local Hardwood...	700	700	837	834	789	811	832	894	917	902
Local Pine ...	669	669	731	759	768	774	894	961	965	965
N.Z. Pine ...	913	939	926	965	952	952	978	1023	972	959
Oregon Pine ...	801	801	881	836	735	951	988	919	833	929
Bricks ...	800	857	857	857	829	810	810	871	905	943

Commodity.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Local Hardwood..	1000	1103	1151	1132	1119	1167	1312	1458	1776	2073
Local Pine ...	1000	1075	1102	1079	1071	1201	1311	1653	1842	2408
N.Z. Pine ...	1000	1094	1113	1119	1145	1214	1387	1694	1901	2726
Oregon Pine ...	1000	1103	1218	1160	1282	1526	1962	2545	2865	4113
Bricks ...	1000	1066	1071	1071	1071	1071	1166	1191	1252	1447

During the whole period under review groceries have shown the smallest increases of any group. The index advanced but little until 1915, and manifested signs of decline from 1912 to 1914; in 1916 it rose by 13 per cent., with smaller increases in the two succeeding years. In 1920, however, there was a rise of 28 per cent., and the index number was 91 per cent. higher than 1914. Comparing in each case with the year 1911, the increases in grocery prices occurred three years later than the general advance. Not until 1918 and 1919 did the grocery index number reach the position occupied by the index

of all commodities in 1915 and 1916 respectively. The yearly price-levels of the more important commodities of the group are shown below :—

Commodity.	1901.	1902.	1903.	1904.	1905.	1906.	1907.]	1908.	1909.	1910.
Sugar	1011	937	942	936	1036	947	904	951	973	1015
Tobacco	925	925	931	948	1000	1000	1000	1000	1000	1000
Tea	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Soap	791	830	859	863	873	873	916	955	952	957
Jam	1391	1306	1067	1083	1059	1048	937	988	1116	1028
Kerosene... ..	862	836	789	862	956	989	982	1006	1006	1017

Commodity.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Sugar	1000	1078	1044	985	1063	1337	1337	1337	1337	2015
Tobacco	1000	1000	1000	1000	1076	1083	1168	1203	1349	1561
Tea	1000	1000	1000	1000	1139	1222	1222	1278	1420	1920
Soap	1000	1000	1000	1000	1000	1000	1132	1319	1513	1848
Jam	1000	1098	1146	1146	1186	1401	1345	1432	1480	1940
Kerosene	1000	1058	1114	1092	1138	1575	1851	2183	2299	2871

Comparison with Other Countries.

The following statement shows the wholesale price index numbers for various parts of the British Empire and for the United States of America, with 1911 as common base, and affords an interesting comparison of the manner in which wholesale prices varied under the influence of war conditions :—

Year.	Sydney, New South Wales. [Bureau of Statistics.]	Melbourne, Victoria. [Commonwealth Bureau of Census and Statistics.]	New Zealand. [Census and Statistics Office.]	Canada. [Department of Labour.]	United Kingdom. [Board of Trade.]	United States of America. [Bureau of Labour.]
Number of Commodities.	100	92	106	272	45	Variable. 234-346
1901	904	974	937	840	883	833
1902	1072	1051	981	856	881	840
1903	1042	1049	960	867	886	840
1904	911	890	928	874	898	906
1905	933	910	1000	893	892	840
1906	955	948	1022	942	921	927
1907	1001	1021	1022	991	969	959
1908	1085	1115	1012	949	941	938
1909	1014	993	956	956	952	1021
1910	997	1000	989	975	985	1052
1911	1000	1000	1000	1000	1000	1000
1912	1129	1170	1047	1055	1050	1062
1913	1092	1088	1033	1064	1065	1052
1914	1137	1149	1084	1068	1071	1042
1915	1401	1604	1277	1162	1315	1052
1916	1489	1504	1388	1429	1705	1302
1917	1727	1662	1564	1860	2220	1830
1918	1933	1934	1820	2237	2443	2062
1919	2090	2055	1845	2315	2708	2252
1920	2503	2480	2198	2618	3394	2542

Prices had been increasing steadily in all countries for many years before the war, and the effect of the war on prices was less marked in the countries more remote from the centre of conflict; in every case there has been a general increase in prices since the cessation of hostilities. In Great Britain prices attained twice their 1911 level in 1917, in America and Canada in 1918, while in Australia this did not occur until 1919, and in New Zealand until 1920. From 1911 to 1915 wholesale prices advanced more slowly outside Australia than within, and, with the exception of the United Kingdom, this was the case also in 1916. In 1917 and following years all countries, except New Zealand, show a greater increase in prices than Australia.

The upward movement of prices continued everywhere throughout 1919 and during the early months of 1920. The first indication of falling prices was in France, where a decline of 6 per cent. occurred in May, 1920, and a heavier fall during June; in the next three months there was a temporary recovery, but in October and November the course was rapidly downward, and in May, 1921, prices were 44 per cent. below the level of April, 1920. In June, 1920, prices in the United States began to fall a little, but in August the decline was more appreciable, and was still more pronounced in October and November. The fall continued, and the April, 1921, level was 43 per cent. below the high level of May, 1920.

In the United Kingdom there was a fall of 6 per cent. in August, followed by a slight advance in September, since then the movement has been continuously downward, and prices in April, 1921, were almost one-third lower than in July, 1920. In Canada prices reached their highest point in June, 1920, when they were 128 per cent. above July, 1914, since then they have declined slowly, and in May, 1921, they were 31 per cent. below June, 1920, and 84 per cent. above July, 1914.

In New South Wales prices attained their maximum height in July, 1920, in August and September they declined slowly, and in October a fall of 7 per cent. occurred; there was a very slight decline in November, and the trend has been steadily downward, so that in June, 1921, prices were 27 per cent. below those of July, 1920. The fall was not evident in Victoria until September, 1920, but once begun, the movement was more rapid, and the fall greater, with the result that in March, 1921, prices were 25 per cent. lower than in August, 1920. In New Zealand the decline did not set in until November, 1920, and up to March, 1921, there had been a fall of 6 per cent. only.

The marked difference between the index numbers of Sydney and Melbourne in 1915 was largely due to seasonal causes. The price level of agricultural produce rose in that year to 2162 in Melbourne, while in Sydney it was 1655.

RETAIL PRICES.

The following table shows the average retail prices in Sydney of various commodities at intervals since 1901; the averages for each year from 1901 to 1920 are shown in the 1919-20 issue of the "Statistical Register of New South Wales." The quotations are based on the prices charged in the shops in the metropolitan district, and represent the mean of the monthly prices during each year.

The table is useful for comparative purposes in regard to the measurement of the general change in prices, but the figures do not disclose a most interesting feature in a history of prices, namely, the fluctuations during the year, which are pronounced, especially in the case of perishable produce. For such information readers are referred to the "N.S.W. Statistical Register," where the average monthly prices are shown.

Commodity.		1901.	1903.	1906.	1908.	1911.	1913.	1916.	1918.	1919.	1920.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bread	2lb. loaf	0 2 5	0 3 5	0 3 0	0 3 3	0 3 5	0 3 5	0 4 0	0 4 0	0 4 2	0 5 9
Flour	25lb.	1 11 0	3 4 0	2 6 0	3 0 0	2 9 0	2 10 0	3 6 1	3 7 4	3 9 9	6 0 4
Tea	lb.	1 3 0	1 3 0	1 3 0	1 3 0	1 3 5	1 3 8	1 6 1	1 6 7	1 8 1	2 4 5
Coffee	"	1 5 0	1 5 0	1 5 0	1 5 0	1 5 0	1 5 5	1 6 0	1 6 1	1 7 8	2 2 6
Sugar	"	0 2 3	0 2 5	0 2 5	0 2 5	0 2 7	0 2 7	0 3 5	0 3 5	0 3 5	0 5 4
Rice	"	0 2 5	0 3 0	0 2 5	0 2 5	0 2 7	0 3 0	0 3 2	0 3 4	0 5 4	0 7 4
Sago	"	0 2 5	0 3 0	0 3 7	0 3 7	0 2 7	0 2 7	0 3 2	0 4 7	0 5 4	0 5 6
Jam (Australian)	"	0 4 0	0 4 5	0 4 5	0 4 2	0 4 4	0 5 0	0 6 0	0 5 7	0 6 0	0 9 1
Oatmeal	5 lb.	0 11 3	1 0 5	1 0 5	1 3 0	1 0 5	1 2 3	1 2 6	1 5 6	1 10 6	2 2 1
Raisins	lb.	0 6 2	0 7 0	0 5 3	0 7 2	0 6 2	0 6 4	0 7 7	0 8 2	0 8 7	0 10 7
Currants	"	0 6 6	0 5 6	0 5 9	0 6 6	0 7 0	0 7 2	0 9 1	0 8 6	0 9 0	0 11 0
Starch	"	0 4 0	0 5 0	0 5 0	0 5 0	0 5 5	0 5 4	0 6 4	0 6 9	0 7 6	0 10 2
Blue	12 squares	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 0	0 9 2	1 3 6	1 5 0	1 5 0
Candles	lb.	0 5 5	0 5 5	0 6 5	0 6 5	0 6 5	0 6 5	0 8 0	0 10 4	0 11 4	1 2 2
Soap	"	0 2 5	0 3 0	0 3 0	0 3 0	0 3 0	0 3 3	0 3 4	0 4 4	0 5 3	0 7 0
Potatoes	14lb.	0 11 3	0 8 8	1 3 8	0 10 9	1 0 2	1 0 8	1 6 5	1 5 2	2 8 9	2 2 5
Onions	lb.	0 1 4	0 0 6	0 1 0	0 1 2	0 0 7	0 1 3	0 1 1	0 2 8	0 2 7	0 3 0
Kerosene	gal.	0 10 1	0 10 1	0 10 8	0 11 1	0 11 1	1 0 2	1 6 7	2 2 7	2 3 5	2 8 6
Milk	quart	0 4 0	0 4 5	0 4 0	0 5 0	0 4 4	0 5 2	0 5 5	0 6 0	0 7 0	0 7 9
Butter	lb.	1 0 2	1 2 0	1 1 2	1 3 5	1 1 7	1 1 8	1 5 8	1 7 0	1 9 9	2 4 4
Cheese	"	0 7 5	0 9 0	0 8 0	0 10 0	0 8 7	0 9 5	1 0 1	1 1 3	1 3 8	1 5 5
Eggs, Fresh	doz.	1 3 0	1 6 0	1 1 0	1 3 0	1 3 5	1 5 1	1 6 4	1 5 8	1 9 2	2 6 9
Bacon, Middle Cut	lb.	0 9 0	0 11 0	0 9 5	0 11 5	10 5	1 0 7	1 4 5	1 4 5	1 6 3	1 11 9
Shoulder	"	0 6 5	0 7 5	0 8 0	0 7 0	0 7 0	0 8 7	1 0 4	0 11 5	1 2 0	1 6 1
Ham	"	0 11 0	1 0 5	0 11 5	1 1 5	1 1 0	1 2 0	1 5 5	1 5 9	1 8 1	2 2 0
Beef, Sirloin	"	0 4 5	0 5 0	0 4 5	0 5 0	0 4 5	0 5 0	0 11 1	0 10 2	0 11 1	0 11 5
Ribs	"	0 3 8	0 4 0	0 3 8	0 4 2	0 3 8	0 4 5	0 9 5	0 9 2	0 9 4	0 9 9
Gravy Beef	"	0 2 0	0 3 5	0 3 0	0 3 2	0 3 0	0 3 5	0 7 6	0 7 2	0 6 3	0 7 2
Steak, Rump	"	0 7 0	0 7 5	0 7 0	0 7 5	0 7 0	0 7 9	1 1 8	1 2 8	1 4 0	1 4 9
Shoulder	"	0 3 5	0 4 0	0 3 5	0 3 8	0 3 5	0 3 5	0 8 5	0 8 8	0 9 1	0 10 1
Beef, Corned Round	"	0 4 0	0 4 5	0 4 0	0 4 2	0 4 0	0 4 4	0 9 6	0 9 0	0 9 6	0 10 2
Mutton, Leg	"	0 3 2	0 4 0	0 2 2	0 3 5	0 3 0	0 3 3	0 7 8	0 7 8	0 7 8	0 8 8
Shoulder	"	0 2 8	0 3 5	0 2 8	0 3 0	0 2 5	0 3 1	0 6 7	0 6 8	0 7 2	0 7 2
Loin	"	0 3 8	0 4 5	0 3 8	0 4 0	0 3 8	0 4 0	0 7 9	0 8 4	0 8 6	0 9 3
Neck	"	0 3 2	0 3 5	0 3 0	0 3 2	0 3 0	0 3 5	0 7 0	0 6 9	0 7 0	0 7 4
Chops, Loin	"	0 4 2	0 5 0	0 4 2	0 4 5	0 4 0	0 4 7	0 9 0	0 10 0	0 10 1	0 10 5
Leg	"	0 3 8	0 4 5	0 3 8	0 4 0	0 3 8	0 4 7	0 8 6	0 9 1	0 8 3	0 10 0
Neck	"	0 3 2	0 4 0	0 3 2	0 3 5	0 3 0	0 3 0	0 7 3	0 6 8	0 7 4	0 8 3
Pork, Leg	"	0 6 2	0 6 0	0 6 0	0 7 0	0 7 0	0 8 5	1 0 1	1 1 3	1 1 2	1 5 4
Chops	"	0 6 8	0 6 5	0 6 5	0 7 8	0 8 5	0 9 0	1 0 1	1 2 6	1 2 1	1 6 0

HOUSE RENTS.

The average householder with a moderate income spends a considerable portion of his income on rent; any fluctuation in rents therefore affects largely the cost of living. Information as to the predominant rents of houses in Sydney and suburbs since 1863 has been obtained from newspapers and other sources, and the average rentals, according to the size of the houses, have been computed; details for each year from 1865 to 1920 are published in the "Statistical Register," 1919-20.

A review of the rents since 1865 shows that for the first five years of the period the rents did not vary greatly, though there was a tendency to increase in regard to the larger houses. In 1870 the average weekly rents, according to the size of the houses, (taking the kitchen as a room) were as follows:—Under 4 rooms, 7s. 6d.; 4 rooms, 10s. 6d.; 5 rooms, 12s. 6d.; 6 rooms, 16s. 6d. Industrial conditions were unfavourable during the three years 1871-73, and the rents declined; but in 1875 they commenced to rise with the increase in immigration, and in 1883 the average rents for the classes of houses quoted above were 8s. 3d., 12s., 15s., and 18s. 9d.

respectively. During the succeeding five years the rents of the smaller houses increased slightly, while the larger houses became cheaper; from 1889 to 1892 the conditions were reversed, and in the latter year the average rents were:—Under 4 rooms, 7s. 6d.; 4 rooms, 10s. 6d.; 5 rooms, 15s.; and 6 rooms, 18s. 6d. In 1894 the effects of the industrial crisis caused the rents of the smallest houses to increase by about 1s. a week, and the houses of five rooms and over became 3s. cheaper than in 1892.

In 1899 the rents commenced to increase, and the upward movement continued until 1914; at first the increase affected only the smaller houses, and the rents of the six-roomed houses did not vary until 1905. In 1911 there was a marked increase in regard to all classes of dwellings.

The table below shows the average amounts paid by tenants of various types of houses in Sydney and suburbs in 1901 and later years. The figures represent the average predominant rents paid for each class of house; the range of rents varies considerably according to locality, position, and class of building; proximity and means of speedy transport to the city are important factors in respect to rents in the suburbs.

Year.	Under Four Rooms.	Four Rooms.	Five Rooms.	Six Rooms.	Seven Rooms.	Over Seven Rooms.	Weighted Average.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1901	9 0	11 1	13 7	15 4	19 1	22 2	13 5
1906	9 2	11 7	14 0	16 9	19 1	22 6	13 11
1911	11 4	14 5	17 1	20 2	23 3	26 10	17 0
1912	11 2	13 2	17 2	20 5	25 1	31 5	18 5
1913	11 9	14 3	18 6	21 9	26 0	31 1	19 6
1914	12 4	15 5	18 7	22 0	26 5	31 8	20 0
1915	12 2	14 6	18 0	20 10	25 0	29 10	19 0
1916	12 3	14 8	17 11	20 6	24 6	29 8	18 11
1917	12 3	14 9	17 10	20 11	24 6	29 4	19 0
1918	12 6	15 4	18 6	21 9	24 11	29 7	19 6
1919	12 8	15 9	18 11	22 5	25 8	31 2	20 1
1920	13 10	17 8	20 8	24 3	28 4	34 3	22 1

NOTE.—Kitchen is included as a room.

Between 1901 and 1914 rents in Sydney and suburbs increased by nearly 50 per cent., but the war had a steadying effect, and the next three years showed a slight decrease. Regulations were issued by the Commonwealth Government under the War Precautions Act, prohibiting any increase in the rent of a house occupied by a member of the Expeditionary Forces, or by a parent or female dependent of a member, except by leave of a competent Court. These regulations and the operations of the Fair Rents Court in Sydney tended to keep rents from rising above pre-war level.

In 1918, however, the rents increased, and the upward movement has since been continuous, owing to an increasing shortage of houses, the deficiency being attributed to the practical cessation of investment building, on account of the high price of both materials and labour. In 1920 there was a marked increase in building activities, but the supply was still short of the demand, and it is estimated that at the end of the year the shortage of houses in Sydney was nearly 18,000; the average rental during the year was 10 per cent. higher than in 1914.

Cost of Building.

The following comparison shows the cost of building in Sydney, in various years since 1901, a plain brick cottage with 4 rooms, kitchen, bathroom, pantry, and back and front verandahs, complete with bath, laundry fittings, gas

stove, fencing, water and sewerage. No allowance has been made for the builder's profit, and the cost of the land has not been included. The comparison is based on the assumption that the quantity of materials and of labour, as in the month of July, was equal in each year, except that in 1921 the estimate is based on the prices and rates ruling in the month of June.

Year.	Cost of—			Proportion of Total Cost.		Index-number of Cost. 1911=1,000.		
	Materials.	Labour.	Total.	Materials.	Labour.	Materials.	Labour.	Total.
	£	£	£	per cent.	per cent.			
1901	181	100	281	64	36	797	833	810
1911	227	120	347	65	35	1000	1000	1000
1914	255	133	388	66	34	1123	1108	1118
1920	483	221	704	69	31	2128	1842	2029
1921	482	225	707	68	32	2123	1875	2037

With the object of providing adequate housing, the Government of New South Wales has instituted a scheme for assisting people to build dwellings, and the Federal Government assists in providing houses for returned sailors and soldiers and their female dependents; particulars are given in the chapter relating to Social Condition, as also are particulars relating to new buildings generally.

Fair Rents Court.

A measure of regulation of house rents is provided by the Fair Rents Act, passed in December, 1915, and amended in 1920. The Act provides for the determination of rents of dwellings leased for a term not exceeding three years at a rental not exceeding £156 per annum, but it does not apply to houses ordinarily leased for summer residence.

The operations of the Fair Rents Act may be applied to any localities proclaimed by the Governor; up to 16th August, 1920, it had been proclaimed in the metropolitan area only, but on that date its provisions were extended to the country police districts. The Act is administered by Fair Rents Courts, consisting of a Stipendiary or Police Magistrate. Applications to the Court for the determination of the fair rent of a dwelling may be made by the lessor, or by the lessee, if he has paid all rent due under the lease or satisfies the Court that non-payment is justifiable, notwithstanding that he has received notice to terminate the tenancy.

In order to determine the fair rent, the Court must ascertain the capital value of the dwelling, which is the unimproved capital value of the land plus the estimated cost of erection as at the date of the application, less a fair sum for depreciation.

The fair rent is fixed on the capital value at a rate not less than that charged on overdrafts by the Commonwealth Bank of Australia, and not more than 2½ per cent. above such amount, plus rates, taxes, repairs, maintenance, insurance, and depreciation. But, excepting where circumstances which render an increase equitable are proved, the fair rent may not exceed the rent which was charged for the dwelling on 1st January, 1915.

The determinations of the Court take effect fourteen days after decision, and remain in force for a period not less than twelve months and not longer than three years, as specifically stated; if no special period be mentioned the duration is three years. A determination while in force applies to any lease of the dwelling, notwithstanding change of ownership or tenancy, and

during the pendency of an application or the period of six months after decision, the lessor may not determine the lease without reasonable cause if the lessee performs the conditions of his lease.

Under new sections added to the Act in 1920 a penalty may be imposed on any person who gives or receives or offers a bonus in consideration of the grant or acceptance or renewal of a lease, or who makes it a condition of the granting of a lease that the lessee shall purchase furniture or pay for obtaining the key of a house. A fine not exceeding £50 may be imposed for refusal to let a house to a respectable and responsible applicant who has children.

The first sitting of the Fair Rents Court in Sydney was held on the 13th March, 1916. Particulars of cases determined by the Court are shown in the following tables, but for several reasons they cannot be regarded as a satisfactory basis for conclusions as to the effect of the Fair Rents Act upon house rents. For instance, in cases where the tenant applies promptly upon receiving notice of the landlord's intention to increase the rent, the "fair rent" as determined by the Court may be recorded as an increase on the rent at date of application, whereas it is a reduction compared with the proposed increased rental against which the action was directed.

The number of applications in the Metropolitan district, dealt with during the five years ended 31st March, 1921, are shown in the following statement:—

Particulars.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	Total.
Cases withdrawn or struck out...	141	53	100	225	439	958
Rent fixed as at date of application.	137	49	36	47	52	321
„ Increased	7	19	132	254	256	668
„ Decreased	294	102	65	141	187	789
Total	579	223	333	667	934	2,736

The majority of dwellings affected by the decisions of the Court were small, and the rents did not exceed £1 5s. per week. The average of the rentals reviewed by the Court in the year ended March, 1921, was £1 3s. per week as compared with 19s. 2d. in 1916-17, 18s. 7d. in the following year, 19s. 11d. in 1918-19, and 21s. in 1919-20. With few exceptions, the period of adjustment was twelve months. In the following statement the figures are shown for the year 1920-21, and for the period of five years since the commencement of the Act.

Rent (at date of Application).	Year ended 31st March, 1921.				Total to 31st March, 1921.			
	Fixed as at date of Appl'n.	Increased.	Reduced.	Total.	Fixed as at date of Appl'n.	Increased.	Reduced.	Total.
10s. and under ...	1	4	...	5	11	6	13	30
10s. 6d. to 12s. 6d. ...	3	7	3	13	15	33	51	99
13s. to 15s. ...	7	29	13	49	51	83	175	309
15s. 6d. to 17s. 6d. ...	5	41	35	81	49	107	141	297
18s. to 20s. ...	13	40	29	82	77	123	132	337
20s. 6d. to 25s. ...	13	73	47	133	68	196	139	403
25s. 6d. to 30s. ...	7	37	21	65	29	83	54	166
30s. 6d. to 40s. ...	1	24	29	54	12	27	54	93
40s. 6d. to 50s. ...	2	1	8	11	9	5	20	34
50s. 6d. to 60s. ...	...	...	2	2	...	...	10	10
Total	52	256	187	495	321	668	789	1,778

During 1920-21 the Court granted increases in 52 per cent. of the decisions, and reductions in 37 per cent.; the total increases to 31st March, 1921, represented 38 per cent., and the total reductions 44 per cent.

The amount of reduction and of increase in the rents of dwellings during the year 1920-21 may be seen in the following statement:—

Amount of Reduction, or of Increase.	Rents Increased.	Rents Reduced.	Amount of Reduction, or of Increase.	Rents Increased.	Rents Reduced.
6d. and under.	36	36	3s. 6d. and under 4s.	11	8
1s. „ 1s. 6d.	36	32	4s. „ 5s.	19	15
1s. 6d. „ 2s.	30	15	5s. and over ...	57	47
2s. „ 2s. 6d.	33	15			
2s. 6d. „ 3s.	18	13			
3s. „ 3s. 6d.	16	6	Total ...	256	187

The reductions amounted to a sum of £30 8s. 9d. per week, which represents an average of 8·7 per cent., or 3s. 3d. per house per week. In 256 cases the rents were increased, the total increases amounting to £39 15s. 6d. per week, equal to 11·4 per cent., or 3s. 1d. per house.

The weekly rents reviewed by the Court during 1920-21 amounted to a sum of £572 12s., the net increase being £9 7s., or 1·6 per cent.

In the country districts only 22 cases were brought before the Fair Rents Courts from 16th August, 1920, to the end of that year; 3 were withdrawn, and in 11 cases the rent was fixed as at date of application; in 4 it was reduced, and in 4 increased.

RETAIL PRICE INDEX NUMBERS.

The index numbers of the prices of food and of rent shown in this section should not be used as a complete measure of variations in the cost of living, as they were compiled with the primary object of showing the general movement of the retail prices of food and of rent, and do not cover other items of family expenditure. In measuring a movement in prices over a period of years, changes in dietary each year cannot be taken into account in computing the index numbers; the price of each food commodity must be weighted over a series of years in accordance with its relative importance in a fixed regimen as determined in or around the basic year. In reviewing prices over a long period there is a probability of a discrepancy between the rise or fall of the index numbers and the increase or decrease in the actual expenditure of a household on food. During abnormal years, such as during war, when violent fluctuations in prices and supplies necessitate changes in the kinds, quality, and relative quantities of the various foods, and an adjustment of the family dietary, the discrepancy is likely to be wider than under normal conditions. The result of a changed as compared with a fixed regimen is shown on page 511.

The following table shows the variations, measured by index numbers, in retail prices of food and groceries and in rent, in Sydney, in each month since January, 1913, in comparison with July, 1914, the month before the outbreak of war. The index numbers of food and groceries were determined from the prices of 40 commodities in everyday use, the articles being as shown in the table on page 499. The prices in July, 1914, weighted according to the average consumption in the years 1906-10 of the various commodities, were called 1000, and related to the prices, similarly weighted, in the other months. Information regarding rent is obtained quarterly, and

the monthly figures were interpolated after assuming that the average rent for the quarter was the rent for the middle month of the quarter.

	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Food and Groceries.												
1913	937	954	970	963	943	958	953	939	988	932	935	933
1914	953	984	1017	1007	1000	1003	1000	998	985	981	967	1027
1915	1049	1040	1057	1082	1119	1175	1269	1391	1332	1338	1273	1300
1916	1288	1328	1313	1293	1310	1313	1336	1316	1316	1306	1316	1310
1917	1313	1338	1343	1348	1324	1316	1321	1381	1410	1405	1377	1359
1918	1372	1376	1362	1352	1362	1351	1343	1311	1328	1368	1397	1426
1919	1470	1494	1512	1507	1519	1523	1529	1534	1518	1585	1639	1634
1920	1651	1698	1708	1812	1831	1912	1961	1963	2014	1930	1855	1858
1921	1852	1839	1760	1636	1649	1624	..	..	..	..	..	..
Rent.												
1913	946	946	946	971	971	971	971	971	971	992	992	992
1914	992	982	996	1000	1000	1000	1000	1000	1000	1000	988	975
1915	959	954	950	946	946	946	946	946	946	946	942	938
1916	958	938	938	942	942	942	942	942	942	942	942	942
1917	942	942	942	942	942	942	942	942	942	942	946	950
1918	959	963	967	975	975	975	971	971	971	975	979	983
1919	988	988	988	988	992	996	1000	1004	1008	1012	1021	1029
1920	1046	1062	1079	1104	1104	1104	1104	1110	1110	1133	1133	1132
1921	1137	1137	1137	1137	1137	1137	..	..	..	..	..	..
Food and Rent combined.												
1913	941	950	959	966	956	964	961	953	953	960	961	960
1914	971	987	1007	1004	1000	1001	1000	999	992	990	977	1003
1915	1008	1001	1008	1020	1040	1071	1121	1183	1156	1159	1122	1134
1916	1128	1148	1142	1133	1142	1144	1156	1145	1145	1140	1145	1142
1917	1144	1157	1160	1163	1060	1145	1148	1180	1196	1196	1182	1174
1918	1183	1187	1181	1180	1185	1179	1173	1155	1165	1189	1206	1224
1919	1250	1263	1273	1270	1278	1282	1288	1292	1286	1324	1357	1358
1920	1374	1408	1421	1439	1499	1543	1570	1569	1597	1566	1542	1527
1921	1525	1518	1475	1435	1415	1402	..	..	..	..	..	..

From the above table it will be seen that the effects of war were not felt by housekeepers until early in 1915. In that year the price-level of food rose from 1040 in February to 1391 in August, then declined gradually to 1300 in December, and it is remarkable that throughout 1916 the prices showed very little variation, so that in December they were at practically the same level as at the end of the previous year. In 1917 the price level remained fairly constant until it rose in August and in September to 1410, while a decline to 1359 occurred during the last two months of the year. During 1918 the prices did not vary greatly until the latter half of the year, when a decline in July and August brought them back to the level of December, 1916. Then a steady rise commenced and continued until in December, 1919, the prices were 63 per cent. above the pre-war level. During 1920 the upward movement was accelerated, and the highest point was reached in September, 1920, viz., 101 per cent. above July, 1914. Subsequently the prices of food declined in each month until in June, 1921, they were lower than in November, 1919.

Rents were not affected immediately by the outbreak of the war, but they began to decline slowly in November, 1914, reaching the lowest point at the end of 1915, when they were about 6 per cent. lower than in July, 1914. For two years there was only slight variation, then they commenced to rise, but did not regain the pre-war level until July, 1919. During the last two years there has been a rise of nearly 14 per cent.

The index number for food and rent combined rose by 59.7 per cent. between July, 1914, and September, 1920, and then declined; in June, 1921, it was 12 per cent. lower than in last September, and 40 per cent. higher than

in July, 1914. It is curious to note that there was a greater increase in the twenty-two months after the signing of the armistice than during the fifty months of war.

Comparison with other Countries.

The following statement shows the extent to which the war affected the retail prices of the principal articles of food in other countries; the particulars for the Australian States relate to the capital cities. The figures for the oversea countries have been taken from the "London Labour Gazette" and other official sources; those relating to France and to Sweden include fuel and lighting:—

Country.	Percentage Increases in Retail Food Prices since July, 1914.						
	July, 1915.	July, 1916.	July, 1917.	July, 1918.	July, 1919.	July, 1920.	June, 1921.
New South Wales ...	27	34	32	34	53	96	62
Victoria	40	34	29	33	44	108	73
Queensland	35	29	31	41	63	99	68
South Australia ...	31	24	12	25	36	92	53
Western Australia ...	16	20	13	11	42	63	54
Tasmania	24	25	24	34	40	84	69
Australia	31	30	26	31	47	94	65
New Zealand	12	19	27	39	44	67	67
South Africa	7	16	28	34	39	97	56 Apl.
Holland (Amsterdam) ...	...	...	42	76	110	117	88 May
United States	(-) 2	9	43	64	86	115	42 May
Canada	5	14	57	75	86	127	65 May
United Kingdom	32	61	104	110	109	158	118
Denmark	28	46	66	87	112	153	176 Jan.
Sweden	24	42	81	168	210	197	137 May
Norway	—	60	114*	179	189	219	192 May
Italy (Rome)	(-) 5	11	37	103	106	218	332 Apl.
France (Paris)	22	32	83	106	161	273	228 Apl.

In New South Wales, after a long and unbroken period of rising values, retail prices of food and groceries began to move downward after September, 1920, when they were 101 per cent. above July, 1914, prices, and fell steadily month by month until in June, 1921, they were only 62 per cent. above the July, 1914, level. In Victoria, although prices fell a little in August, 1920, they advanced again in September to a point 108 per cent. above the July, 1914, level, and the downward movement did not set in really until October, and then was not so pronounced as in New South Wales; in June, 1921, the prices were 73 per cent. above those of July,

1914. In New Zealand, also, the movement at first was uncertain; as, although retail prices in November, 1920, showed a slight reduction, in December they increased, only to fall again in January, 1921. In June, 1921, prices were 67 per cent. above the July, 1914, level.

Elsewhere in the Empire the movement was downward. For example, in the United Kingdom retail food prices did not weaken until December; in November they had reached a point 191 per cent. higher than in July, 1914; and, even after a steady decline during four months, they were still 118 per cent. higher in June, 1921. In Canada retail prices began to fall in July, 1920, when they were 127 per cent. higher than in July, 1914, and continued to decline until in May, 1921, they were 65 per cent. above that level. In South Africa the decline commenced in October, 1920, and in April, 1921, retail prices had fallen to a point 56 per cent. above the July, 1914, level.

As regards other countries, in the United States prices, after being stationary in July, 1921, at a point 115 per cent. above the July, 1914, level, declined persistently until in May, 1921, they were only 42 per cent. higher than in July, 1914. In France no reduction was apparent until after November, 1920, when prices were 326 per cent. higher than in July, 1914; in five months there was a fall of 29 per cent. to a level in April, 1921, 228 per cent. above that of July, 1914. In Sweden retail prices were at their highest—239 per cent. above July, 1914—in January, 1919, and then fell steadily until in May, 1921, they were 137 points above the July, 1914, level. In Italy (Rome), prices continued to rise throughout 1920; and, although there was a slight fall in January, 1921, there was a further increase, and in April, 1921, they were 332 per cent. above the July, 1914, level.

Retail Price Index Numbers, 1864-1920.

The following information covers the period of fifty years prior to the commencement of the European war, and before discussing the changes in the index numbers it will be of interest to review briefly the industrial conditions during that time.

At the commencement of the period, New South Wales was experiencing a succession of unfavourable seasons, and vast areas were affected alternately by drought and floods. In the year 1864 crops in the north were destroyed by continued rain, and in other parts by rust and drought; the following year was normal as regards the season; in 1867-68 there were floods, followed by dry weather, and in 1869 a severe drought affected the State; in the two succeeding years considerable loss was occasioned by floods. The unfavourable seasons had a most baneful effect upon industry, by discouraging the investment of capital in rural development; money was very dear, the public finances were in an unsatisfactory condition, and depression prevailed in commercial circles. The rates of wages declined, particularly those of mechanics, and there was a large degree of unemployment. The prices of commodities fell, also rents, as the cessation of immigration had reduced the demand for houses.

About the year 1872 a marked improvement was apparent, the production of gold increased, and copper and tin mines were developed. Extensive purchases of land indicated that greater attention was being paid to rural industries, the public funds were augmented by the revenue from land sales, and an expansive public works policy was initiated in order to provide roads and railways to open up the interior of the country. As a result, steady employment was readily obtainable, wages advanced, and the Government maintained a vigorous immigration policy in order to meet the demand for labour.

An important factor affecting industrial conditions was the influx of large sums of private capital, which increased in volume from 1870 to 1885, and then declined. The wave of prosperity reached its height during the years from 1882 to 1885, and began to recede in 1886. The reduction of public and private expenditure and the completion of large public works caused large numbers to be thrown out of employment, and wages declined. Serious industrial disputes occurred in the coal-mining districts during 1886-88, the pastoral and maritime industries suffered through strikes in 1890, and the silver-mines at Broken Hill were idle for some months during 1892.

The year 1893 marks the beginning of a new industrial period. The financial crisis caused a stoppage of all forms of speculative activity, and wages fell during that year, and again in 1895. Conditions improved, however, as the result of important mining development and of the expansion of the agricultural industry. The area under crop increased from about a million acres in 1893 to nearly two and a quarter millions in 1899, and the oversea trade in wheat, which has grown to such important dimensions, was established in 1898.

The South African war, 1899-1902, did not greatly affect prices in New South Wales, as the rise in prices which has been continuous since 1897 was a world-wide movement which cannot be attributed to local causes. Since the federation of the Australian States, the Commonwealth Government has introduced a protective tariff and legislative measures to encourage local enterprise, with the result that there has been a remarkable expansion in the manufacturing industries. A disastrous drought in 1902-03 was followed by a period of prosperity which lasted until 1914, when the disturbing effects of the war were intensified by a drought affecting the rural industries.

The drought, enlistments, and disorganisation due to the war steadily reduced the productive activity of the population; industrial conditions were uncertain, strikes were prevalent, and enterprise languished until 1917. Prices rose abnormally on account of a strong demand for raw materials oversea, and of a scarcity of manufactured goods. Unseasonable conditions existed from 1918 to June, 1920, and the year 1920 marked the beginning of a general process of deflation.

The index numbers in the following tables indicate the variations in the cost of food and groceries and of rent, and of food and rent combined, in each year from 1864. The index numbers for food and groceries from 1864 to 1900 inclusive are based on the retail prices (which are shown in the 1905 edition of the Year Book) in Sydney of sixteen commodities in general use, viz., bread, beef, mutton, milk, butter, cheese, sugar, tea, coffee, potatoes, bacon, eggs, rice, oatmeal, soap, and starch. The expenditure on these sixteen commodities is nearly 90 per cent. of the total expenditure on the forty items of food and groceries, which are now considered in ascertaining the index numbers. The prices were weighted according to the average consumption of each article in the year 1865, and in 1901, and by taking the mean of the two index numbers thus obtained for each year up to 1900 the index numbers shown below were formed.

From 1901 onwards forty commodities have been included in the data on which the index numbers are based; information as to meat prices, previously limited to one quotation each of beef, mutton, and bacon now include the prices of eighteen different cuts of beef, mutton, pork, bacon, and ham; and onions, sago, jam, raisins, currants, blue, candles, and kerosene have been added to the list of groceries. The index numbers of years with the smaller number of commodities compare satisfactorily with those for the same years based on the larger numbers.

The basis of the table is the year 1911, the index numbers for which are called 1,000

Year.	Index Numbers (1911 = 1000).			Year.	Index Numbers (1911 = 1000).		
	Food and Groceries.	Rent.	Food and Rent Combined.		Food and Groceries.	Rent.	Food and Rent Combined.
1864	1241	760	1034	1893	926	828	884
1865	1313	794	1090	1894	792	735	768
1866	1220	779	1031	1895	776	735	758
1867	1035	799	935	1896	812	725	775
1868	1083	799	961	1897	793	725	764
1869	968	779	888	1898	775	725	754
1870	1025	765	914	1899	855	740	806
1871	961	750	871	1900	830	765	802
1872	916	745	843	1901	896	789	848
1873	964	725	862	1902	1033	784	921
1874	1069	735	926	1903	1020	784	914
1875	1007	776	907	1904	902	794	854
1876	1078	776	948	1905	970	814	900
1877	1093	776	957	1906	968	819	901
1878	1031	809	936	1907	936	838	892
1879	941	843	899	1908	1035	848	951
1880	915	858	891	1909	1015	878	954
1881	896	853	877	1910	991	907	953
1882	1113	843	997	1911	1000	1000	1000
1883	1072	892	995	1912	1142	1083	1116
1884	1036	868	964	1913	1084	1147	1112
1885	1081	863	988	1914	1138	1177	1155
1886	1130	843	1007	1915	1377	1118	1261
1887	1024	804	930	1916	1503	1113	1328
1888	1010	819	928	1917	1550	1118	1356
1889	996	848	933	1918	1560	1147	1375
1890	980	853	925	1919	1763	1181	1502
1891	961	853	918	1920	2121	1299	1752
1892	969	873	928				

At the beginning of the period food was dear, the price level being 24 per cent. higher than in the basic year 1911, but rents were 24 per cent. lower. In 1865 prices of food and rent increased; in the following year they were reduced, and the decline was fairly steady down to the year 1872, when living was cheaper than in any other year from 1865 to 1893, the index number for food and rent being 23 per cent. lower than in 1865. The prices of food were somewhat above normal from 1874 to 1888 except during the three years 1879 to 1881, and rents rose with increasing immigration. The index number for food and rent rose slowly up to the year 1877 and during the next four years it declined. During the prosperous years of the early eighties the cost of living increased, and in the year 1886 it was slightly higher than in 1911. Thereafter the prices of food became gradually cheaper, until in 1892 the index number of food and rent was 8 per cent. lower than 1886. During the two years 1893-4 the prices of food decreased by 18 per cent. and rents by 16 per cent.; the decline continued until 1898, when the index number was the lowest during the whole period of fifty-seven years. Since that year, as already stated, the rise in prices and in rent has been fairly continuous.

The index numbers in quinquennial periods are shown below :—

Period.	Index Numbers (1911=1000.)			Amount required in each period to purchase the same quantities of Food and Rent as would have cost, on the average, 20s. in 1911.
	Food and Groceries.	Rent.	Food and Rent Combined.	
1864-1868	1178	786	1010	s. d. 20 2
1869-1873	967	753	876	17 6
1874-1878	1056	774	935	18 8
1879-1883	987	858	932	18 8
1884-1888	1056	839	963	19 3
1889-1893	966	851	918	18 4
1894-1898	790	729	764	15 3
1899-1903	927	772	858	17 2
1904-1908	962	823	900	18 0
1909-1913	1046	1003	1027	20 6
1914-1918	1426	1135	1295	25 11
1919	1763	1181	1502	30 0
1920	2121	1299	1752	35 0

A comparison such as the foregoing, extending over a long period, is necessarily defective in some respects, because as conditions and standards change, consumption varies. Articles highly prized at one period become less popular in another; on the other hand, articles which are scarce at one period become common articles of diet at another. For example, there is the important and necessary article, milk, which probably did not figure as a

genuinely marketable commodity until 1875 when Mr. T. S. Mort inaugurated the country milk supply to the metropolis. Prior to that year Sydney depended on local dairies, and for many years milk was regarded merely as a by-product of the butter and cheese industries, and it is only in comparatively recent years that its food value has been recognised fully.

It is important also to take into consideration the quality of the produce consumed, as considerable improvement has taken place. Thus the sugar consumed now is a good white article, whereas in earlier years an inferior quality of moist sugar was in general use. Flour, now roller-made, has improved greatly; and the standard of butter has risen with the development of the co-operative factories and the introduction of refrigeration, the quality in general use at the present time being choice and fresh; and so with many other articles of ordinary consumption.

COST OF LIVING.

For the purpose of measuring the extent of variations in the cost of living it is usual to distribute the expenditure of a family into five main classes, viz., food and groceries, rent, fuel and light, clothing, and miscellaneous items. Statistics relating to house rents and to the prices and consumption of the principal articles of diet are collected regularly, so that reliable estimates may be made in regard to the cost of food and rent, on which, in the case of a wage-earner, approximately 60 per cent. of the family income is spent. But data relating to clothing are not obtainable readily owing to the wide range of articles and frequent changes in quality and design, and a generally satisfactory method of recording variations in the cost of the numerous items of miscellaneous expenditure has not been devised.

Valuable information regarding the cost of living has been obtained as the result of investigations by the wage-regulating tribunals. The details are discussed in the chapter, Employment and Production, and need not be repeated here. It is interesting to compare the distribution of the expenditure of a worker's family, as fixed by the official standard in New South Wales, with the standards adopted in other countries.

Expenditure Group.	Sydney Living Wage (Board of Trade), Oct., 1919.	Sydney Cost of Living (Basic Wage Commission, Nov., 1920).	United States. Cost of Living Inquiry (National Conference Board), 1919.	Canada, 1918, (based on pre-war Budget).	United Kingdom, 1920, (based on pre-war standard).
	per cent.	per cent.	per cent.	per cent.	per cent.
Food and Groceries	41	40	43	39	60
Rent	20	19	18	14	16
Fuel and Light ...	4	4	6	9	8
Clothing	18	23	13	19	12
Miscellaneous ...	17	14	20	19	4
Total	100	100	100	100	100

An analysis of the expenditure of a worker's family, representing the average obtained from pre-war budgets in several countries, was published in previous issues of this Year Book, the percentages being as follows:—Food and groceries 46, rent 25, fuel and light 5, clothing 13, and miscellaneous 11. In comparison with this standard, the Sydney living wage of 1919 shows much higher proportions of expenditure on clothing and miscellaneous items, viz., 18 and 17 per cent. The percentages in respect of the other groups were much lower, particularly rent, which declined from 25 per cent. to 20 per cent. The proportions allotted to the groups, food, rent, and fuel in the Sydney cost of living as standardised by the Commonwealth Basic Wage Commission in 1920 are similar to those of the Sydney living wage, but the proportion is higher for clothing and lower for miscellaneous items.

The analysis of expenditure in the United States relates to wage-earners in average American communities, and was determined from the results of government and other investigations for the purpose of a cost of living survey, conducted by the National Industrial Conference Board. It is comparable with the analysis of the Sydney living wage. The expenditure on food and rent represented 61 per cent. of the total in each case, but the proportions were lower in Sydney for fuel and for miscellaneous items, and higher for clothing. The proportions of expenditure in Canada were determined from studies made regarding family expenditure, a budget being planned on the basis of a family living on the average civil service salary (approximately 1,000 dollars) in 1909. On account of the cold climate a relatively high expenditure on fuel and clothing is necessary in order to maintain a fair standard of comfort.

The proportions of expenditure in the United Kingdom relate to a worker's family; they are based on a pre-war standard, and are used by the Department of Labour in calculating the increase in the cost of living in the United Kingdom. The weight assigned to food was taken from budgets collected in 1904, to rent from data obtained in 1912, and to clothing from pre-war investigation. The analysis bears little resemblance to the other standards. Food expenditure absorbs the high proportion of 60 per cent. of the worker's income, but miscellaneous expenditure represents only 4 per cent.

Change in Regimen.

In order to demonstrate the effect of the increased prices in relation to the amount consumed, the weekly food bill of a family of five persons for the principal commodities in 1914 and in 1920 is shown below.

Fruit and vegetables, except potatoes, have been excluded on account of the impossibility of obtaining prices which would be properly comparable, principally owing to seasonal variations and to the difficulty of estimating the consumption.

Except in the case of flour and sugar, where allowance has been made for the quantities included in bread, jam, etc., the quantities are based upon the consumption per head in 1920, as shown on the first page of this chapter and the corresponding figures for 1914. In computing the consumption per head no consideration was given to the age and sex distribution of the population,

therefore it is assumed that each member of the family—a man, his wife and three children—consumed, on the average, equal quantities of food.

Article.	Unit of Quantity.	1914.			1920.		
		Weekly Consumption.	Average Price.	Weekly Cost.	Weekly Consumption.	Average Price.	Weekly Cost.
Beef	lb.	12·8	d. 5·3	s. 5 d. 7·8	8·9	d. 10·7	s. 7 d. 11·2
Mutton	lb.	8·1	d. 4·8	s. 3 d. 2·9	6·6	d. 8·7	s. 4 d. 9·4
Pork	lb.	·3	d. 10·3	s. 3·1	·3	d. 17·5	s. 5·3
Bacon and Ham ...	lb.	·9	d. 11·0	s. 9·9	·8	d. 22·	s. 1 d. 5·6
Fish—Fresh, &c. ...	lb.	·8	d. 9·5	s. 7·6	1·1	d. 15·5	s. 1 d. 4·8
„ Preserved ...	lb.	·4	d. 10·5	s. 4·2	·3	d. 25·8	s. 7·7
Potatoes	lb.	14·4	d. 9	s. 1 d. 1	10·1	d. 1·9	s. 1 d. 7·2
Flour	lb.	4·0	d. 1·4	s. 5·6	4·0	d. 2·9	s. 11·6
Bread	2lb. loaf	10·0	d. 3·5	s. 2 d. 11	9·5	d. 5·9	s. 4 d. 8·1
Rice	lb.	·8	d. 3·0	s. 2·4	·6	d. 7·4	s. 4·4
Sago and Tapioca ...	lb.	·2	d. 2·7	s. 5	·2	d. 5·6	s. 1·1
Oatmeal... ..	lb.	·5	d. 2·6	s. 1·3	·5	d. 5·2	s. 2·6
Sugar	lb.	6·0	d. 2·7	s. 1 d. 4·2	6·0	d. 5·4	s. 2 d. 8·4
Jam	lb.	1·6	d. 5·0	s. 8	1·0	d. 9·1	s. 9·1
Butter	lb.	2·9	d. 14·2	s. 3 d. 5·2	2·9	d. 28·4	s. 6 d. 10·3
Cheese	lb.	·3	d. 10·6	s. 3·2	·4	d. 17·5	s. 7·0
Milk—Fresh	qt.	7·7	d. 5·3	s. 3 d. 4·8	7·9	d. 7·9	s. 5 d. 2·4
Tea	lb.	·7	d. 15·8	s. 11·1	·8	d. 28·5	s. 1 d. 10·8
Coffee	oz.	1·3	d. 1·1	s. 1·4	1·6	d. 21·5	s. 2·5
Total ... ..		...	...	25 11·2	...	...	42 9·5

The weekly expenditure on the commodities enumerated rose from 25s. 11¼d. in 1914, to 42s. 9½d. in 1920—an increase of 65 per cent. In spite of the lower rate of consumption the meat bill increased from 9s. 11¾d. to 14s. 7½d., while the expenditure on milk and butter rose from 6s. 10d. to 12s. 0¾d.

Taking rent into consideration—the average being 20s. in 1914 and 22s. 1d. in 1920—the total weekly expenditure was 45s. 11¼d. as compared with 64s. 10½d., and the increase per week during the period amounted to 18s. 11¼d., which represents 40·9 per cent.

From the table on page 508 the price level of food in 1920 is found to be 86·4 per cent. higher than in 1914, and of food and rent combined 51·7 per cent. higher; the differences from the increases quoted above, viz., 65 and 40·9

per cent. respectively, are due to the fact that in computing the price levels the regimen was assumed to be constant. In other words it may be said that the increases in the prices of food would have increased the average household expenditure on food and rent by 51·7 per cent. between 1914 and 1920, if that household had purchased the same quantities of commodities in each year, whereas, owing to decreased quantities being consumed in the later year the actual increase in expenditure was 40·9 per cent.

Cost of Clothing.

As already stated, the information required to gauge accurately the movement of prices of clothing has not been collected, owing to the difficulty of fixing standards in view of the vast range of articles of clothing, the numerous grades of quality, and the rapid changes in fashion and design. But an effort has been made to ascertain the approximate increase in the cost of clothing since the commencement of the war period, and it is estimated that for a family of five persons—a man, his wife and three children (a boy, girl, and baby)—with a moderate income, the common articles of clothing which could have been purchased for £31 in July, 1914, would have cost nearly £68 in July, 1920; this represents an increase of about 120 per cent. in cost, while it is probable that the standard of quality is much lower than in 1914. The data for the month of July, 1921, are not yet available. The increase in prices continued during the latter part of the year 1920; then a decline occurred, so that probably the cost in July, 1921, was not higher than it was twelve months earlier.

Cost of Fuel and Miscellaneous Expenses.

Substantial increases have occurred in the cost of fuel and light. Kerosene, which is included in the list of food and groceries shown above, has more than doubled in price since 1914; gas for household purposes increased from 3s. 6d. per 1,000 cubic feet in July, 1914, to 5s. 9d. in November, 1920. The variations in the price of gas in the metropolitan district were as follows:—1914 (September), 3s. 10d. per 1,000 cubic feet; 1917 (March), 4s. 1½d.; 1918 (September), 4s. 5d.; 1919 (January), 4s. 4d., (August), 4s. 8d.; 1920 (January), 5s. 1d., (November), 5s. 9d. Coal was nearly 46 per cent. dearer, having risen from 24s. 6d. per ton to 42s. 10d.; and firewood had increased from 24s. per ton to 37s. 6d., or by about 56 per cent.

Almost all the items of miscellaneous expenditure have increased in price; for instance, fares by train, tram, and ferry, which are an important factor. General increases amounting to 66 per cent. have been made in railway fares, viz., 10 per cent. in August, 1917; 7½ per cent. in November, 1918; 15 to 20 per cent. in January, 1920; and 16¾ per cent. in November, 1920. Tram fares up to 31st March, 1914, were charged at the rate of 1d. per section, but on 1st April following the fare for the second section was increased to 1½d., the fares for two or more sections remaining unchanged. On 8th August, 1917, the fare for a single section was increased from 1d. to 1½d.; on 1st November, 1918, the fare for two sections was increased from 2d. to 2½d.; on 1st January, 1920, the fare for two sections was increased from 2½d. to 3d., and for three sections from 3d. to 3½d.; and on 6th November, 1920, the fares were fixed at the following rates:—One section, 2d., two sections, 3d.; three sections, 4d.; four sections, 5d.; five and six sections, 6d. Further particulars relating to tram fares will be found in the part of this work dealing with "Railways and Tramways." Increases have been made also in the fares charged on the majority of Sydney Harbour ferry routes. For instance, the monthly season ticket

rates, Circular Quay to Milson's Point, were increased as follows:—For men from 11s. 9d. in July, 1914, to 13s. in January, 1917, and to 16s. 3d. in July, 1919; and for women on the same dates from 8s. 9d. to 9s. 9d. and 13s.; the single fares were raised from 1d. to 1½d. in September, 1917, and to 2d. in April, 1921. Corresponding increases were made in respect to other rates, except to Manly where the season ticket rates remained unaltered, though the single fares were raised from 4d. to 5d. in January, 1920, and to 6d. in January, 1921. The prices of the morning daily papers were increased from 1d. to 1½d. on 1st September, 1919, and from 1½d. to 2d. on 10th May, 1920; and those of the evening papers from 1d. to 1½d. on 2nd February, 1920.

The entertainments tax, imposed by the Commonwealth Government from 1st January, 1917, represents an increase of ½d. for every 6d. paid as the price of admission to amusements. The land and income taxation—State and Federal—increased from 22s. 6d. per head in 1914 to 87s. 3d. in 1920, and local government and water and sewerage rates from 28s. 11d. per head to 39s. 9d. An additional charge of ½d. was imposed on each postal article in October, 1918, and further increases were made in October, 1920, when letter rates were raised by ½d. per ½oz., and fees for telephone calls, except in small country exchanges, were increased by 25 per cent., and increases ranging up to 50 per cent. were made in the charges for telegrams. The cost of medical attendance and medicine also has increased since 1914.

EMPLOYMENT AND PRODUCTION.

EMPLOYMENT.

COMPLETE information regarding the occupations of the people is obtained only at the Census, and statistics relating to the periods between the Census dates are restricted to employment in certain primary industries and in manufacturing establishments.

At the Census taken on 2nd April, 1911, there were in New South Wales 718,820 breadwinners and 916,211 dependents, classified as follows:—

Occupations.	Males.	Females.	Total.	Proportion to Total.		
				Males.	Females.	Total.
Breadwinners—				per cent.	per cent.	per cent.
Professional	36,763	19,377	56,140	4·34	2·46	3·44
Domestic	18,898	54,483	73,381	2·23	6·91	4·49
Commercial	88,208	18,112	106,320	10·42	2·30	6·50
Transport and Communica- tion	60,367	1,597	61,964	7·13	·20	3·79
Industrial	171,921	36,093	208,014	20·31	4·58	12·72
Primary Producers—						
Agricultural	77,599	1,636	79,235	9·17	·21	4·85
Pastoral	45,194	579	45,773	5·34	·07	2·80
Dairying	24,530	2,687	27,217	2·90	·34	1·66
Mining	39,551	23	39,574	4·67	·00	2·42
Others	12,269	25	12,294	1·45	·00	·75
Independent	5,507	3,401	8,908	·65	·43	·54
Total Breadwinners ...	580,807	138,013	718,820	68·61	17·50	43·96
Dependents	265,731	650,480	916,211	31·39	82·50	56·04
Not stated	11,160	543	11,703	...	...	...
Total	857,698	789,036	1,646,734	100·00	100·00	100·00

For details regarding occupations and ages of bread-winners at the Census of 1911, readers are referred to the 1915 issue of the Year Book.

The number of persons permanently employed in the principal industries of the State at intervals since 1901 is shown below, those employed in manufacturing establishments with fewer than four persons being excluded unless machinery is used. In the primary industries considerable difficulty is experienced in obtaining statistics of the number of women employed, owing to the fact that the majority of women and girls engaged in rural occupations are only partly so employed, in conjunction with, or in addition to their usual domestic duties, but there is a tendency to return them as engaged in rural occupations. The annual returns collected from the land-holders in 1911 showed an excess of more than 20,000 women workers over the census figures for that year, viz., in agriculture an excess of

4,000, and in dairying 16,000; it is evident, therefore, that they included a large number of women who were classified as dependents in census returns.

In 1920 the collectors were instructed to watch this matter particularly, and to exclude women engaged primarily in home duties; as a result, the returns show a decrease, as compared with 1919, of 10,882 women made up as follows:—In agriculture, 4,192; dairying, 4,482; and pastoral, 2,208. The number engaged in agriculture is lower than at the census, but the number in the dairying industry is greater by 10,000, and apparently it is still overstated.

The persons engaged in the agricultural, dairying, and pastoral industries in 1920, numbered 141,615, viz., 126,909 males and 14,706 females; of this number 70,402 men and 2,862 women were classed as working proprietors; 16,626 men and 9,305 women as relatives constantly employed but not receiving wages; and 39,881 men and 2,539 women as employees, including managers and relatives working for wages.

In the following statement the quotations for 1915 and subsequent years relate to the twelve months ended 30th June, except those for mining, which are for the calendar year, and the figures relating to agriculture include poultry, pig, and bee farmers:—

Year.	Agricultural.		Dairying.		Pastoral.	Mining.		Manufacturing.		
	Males.	Females.	Males.	Females.		Males.	Metal.	Coal and Shale.	Males.	Females.
							Males.	Males.		
1901	60,813	4,795	14,865	14,315	28,118	24,200	12,415	54,556	11,674	
1906	63,448	5,715	21,476	15,626	32,598	27,347	15,199	59,979	17,843	
1911	58,299	5,782	27,488	19,422	43,387	19,360	17,657	82,083	26,541	
1912	58,984	5,779	26,537	18,439	41,893	19,807	18,031	88,178	27,383	
1913	61,525	6,950	25,961	18,478	40,543	19,914	18,966	93,036	27,364	
1915	59,944	7,875	23,435	15,917	39,131	13,190	18,221	90,409	26,202	
1916	59,256	8,743	21,979	15,404	38,042	14,412	16,892	87,724	28,677	
1917	55,122	9,433	22,363	16,644	38,607	15,479	17,338	88,910	29,087	
1918	50,490	8,161	21,071	15,938	43,793*	16,737	16,926	90,025	30,529	
1919	45,529	5,353	21,561	17,160	46,899	14,281	18,178	96,884	30,707	
1920	48,942	1,161	24,685	12,678	54,149*	9,198	19,965	109,836	34,618	

*Includes 2,805 females in 1918, 3075 in 1919, and 867 in 1920.

The manufacturing industry has shown the greatest increase in the number of employees since 1901; the increase is most marked in regard to female employees, who increased threefold, while the number of males was doubled. The dairying and pastoral industries also have made great progress. The number of persons engaged in agriculture has decreased, but the area under cultivation has extended considerably, and the decline in labour has been more than counteracted by the use of machinery. The apparent decrease in the number of women engaged in the rural industries was due, as explained above, to a change in the basis of collection.

In the mining industry the number of coal and shale miners rose from 12,415 in 1901 to 17,657 in 1911, but there was not much progress during the six succeeding years; in 1920 the number was 19,965, the highest on record. Metal mining and particularly gold mining has declined steadily; in 1920 the number of gold miners was only 1,712, as compared with 17,958 in 1900; the marked decrease in metal miners during the last two years was the result of industrial dislocation in the Broken Hill district.

The decline in employment generally between 1913 and 1919 was due to the combined effects of the war and drought.

Grouping the figures shown above in Primary and Secondary Industries, the following results are obtained:—

Year.	Primary.			Secondary— Manufacturing.	All Industries.		
	Rural	Mining.	Total.		Males.	Females.	Total.
1901	122,909	36,615	159,524	66,230	194,967	30,787	225,754
1906	138,863	42,546	181,409	77,822	220,047	39,184	259,231
1911	154,378	37,017	191,395	108,624	248,274	51,745	300,019
1912	151,632	37,858	189,490	115,561	253,450	51,601	305,051
1913	153,457	38,880	192,337	120,400	259,945	52,792	312,737
1915	146,302	31,411	177,713	116,611	244,330	49,994	294,324
1916	143,424	31,304	174,728	116,401	238,305	52,824	291,129
1917	142,169	32,817	174,986	117,997	237,819	55,164	292,983
1918	139,453	33,663	173,116	120,554	236,237	57,433	293,670
1919	139,501	32,459	171,960	127,591	243,256	56,295	299,551
1920	141,615	29,163	170,778	144,454	265,908	49,324	315,232

The primary industries form the most important source of the wealth of Australia, and the necessity for continuous expansion has been afforded practical recognition in numerous schemes formulated by the State with the object of encouraging rural settlement.

Government Employees.

In New South Wales there is a large number of people employed by the State and Commonwealth Governments. In addition to services such as education, police, justice, health, lands, works, etc., the State owns the railways, tramways, and wharves, and engages in various industrial enterprises, e.g., timber yards and sawmill, trawling, meat supply, dockyards, building-stone and metal quarries, electric-power supply, brick and pipe works; thus a large number of persons are in constant employment. The Commonwealth services include posts, telegraphs and telephones, customs, taxation, and defence.

The number of employees in New South Wales under the Crown as at 30th June, 1920, is shown below:—

Services.	Permanent.		Temporary.		Total.		
	Males.	Females.	Males.	Females.	Males.	Females.	Total.
State—							
Public Service Board ...	9,207	5,126	3,301	1,381	12,508	6,507	19,015
Railways and Tramways ...	30,557	632	15,780	692	46,337	1,324	47,661
Sydney Harbour Trust ...	189	19	1,413	7	1,602	26	1,628
Water Supply and Sewerage —Metropolitan and Hunter District ...	1,517	44	1,003	3	2,520	47	2,567
Water Conservation and Irrigation Commission ...	362	24	2,219	60	2,581	84	2,665
Metropolitan Meat Industry Board ...	...	...	591	13	591	13	604
Police ...	2,634	8	65	...	2,699	8	2,707
Other ...	504	15	8,131	133	8,635	148	8,783
Total ...	44,970	5,868	32,503	2,289	77,473	8,157	85,630
Commonwealth—							
Public Service Commissioner	7,497	980	1,738	417	9,235	1,397	10,632
Department of the Navy ...	159	...	4,753	14	4,912	14	4,926
Defence Department ...	806	2	1,133	443	1,939	445	2,384
Repatriation Department ...	179	44	255	52	434	96	530
Total ...	8,641	1,026	7,879	926	16,520	1,952	18,472
Grand Total ...	53,611	6,894	40,382	3,215	93,992	10,109	104,102

UNEMPLOYMENT.

At the census in April, 1911, the unemployed in New South Wales, *i.e.*, persons out of work for more than a week, numbered 16,210 males and 2,700 females; of these, 15,429 males and 2,668 females were under 65 years of age, and represented 4 per cent. of the males and 2.6 per cent. of the females in receipt of wages or salary.

Returns relating to the condition of various industries are supplied to the Department of Labour and Industry by secretaries of trade unions, but owing to lack of records a large number of unions do not supply information regarding unemployment, and the data received cannot be regarded as sufficient to indicate the extent of unemployment.

RELIEF OF UNEMPLOYMENT.

Labour Exchanges.

The Industrial Arbitration Act provides for the administration by the Department of Labour and Industry of Labour Exchanges, and for the licensing and regulation of private agencies.

The functions of the State labour exchanges are to bring together intending employers and persons seeking employment, to encourage industrial training in skilled trades, to provide suitable training for vagrant and other persons unsuited for ordinary employment, and to co-operate for these purposes with private employment agencies.

In addition to labour exchanges for men and for women in the Metropolitan district, State exchanges have been opened in eight country centres, and sub-agents have been appointed in the principal towns throughout the State. The expenses of the exchanges are borne by the State, fees are not charged, and advances by way of loan may be made to enable persons to avail themselves of employment offered.

The operations of the State labour exchanges during the last six years are shown below:—

Year ended 30th June.	Applications for Employment.	Applications from Employers.	Persons sent to Work.
1915	24,838	11,842	10,228
1916	18,996	19,017	13,668
1917	19,572	16,771	11,428
1918	23,140	16,261	11,679
1919	22,151	28,937	19,321
1920	42,634	34,016	27,198

The Industrial Arbitration (Amendment) Act, 1918, provides that persons conducting private employment agencies must be licensed and must keep registers of persons applying for labour or employment, and of engagements made. The scale of fees chargeable is fixed by regulation, and where an applicant has paid a registration fee and does not obtain labour or employment within fourteen days, the fee must be repaid, less out-of-pocket expenses. Licensees are prohibited from sharing fees with employers, and from keeping as lodgers persons seeking employment.

At 31st December, 1920, there were 63 private agencies on the register, *viz.*, 33 in Sydney, 10 in the suburbs, and 20 in country districts.

The Returned Soldiers and Sailors Employment Act provides for preference to returned men; employers are required to reinstate them in their pre-war employment, and, if desiring to obtain employees, to apply to a State

labour exchange or a committee dealing with the repatriation of soldiers and sailors. A Board has been appointed to assist returned men to obtain employment or re-employment.

State Labour Depôt.

For the relief of unemployed persons seeking temporary shelter and assistance the State Labour Depôt is maintained at Randwick in proximity to the city; a pig, vegetable, and flower farm, and a dairy have been established, and destitute men unable to maintain themselves are given lodging, food, and a small money allowance in exchange for labour. Competent tradesmen, if employed at their trade, are paid extra. The period of residence must not exceed three months, nor recommence without a similar interval. A certain amount of training is given, and whenever possible trainees are sent to employment.

IMMIGRATION IN RELATION TO EMPLOYMENT.

Power to legislate with regard to immigration and emigration is a function of the Federal Parliament. The legislation passed up to 1920 is contained in the Immigration Act, 1901-1920, the Pacific Island Labourers Act, 1901-06, the Contract Immigrants Act, 1905, and the Emigration Act, 1910. The enactments relating to immigration restrict the right of entry of persons to the Commonwealth. They define the classes of persons who come under the heading of prohibited immigrants, including persons who fail to pass prescribed dictation tests or do not possess the prescribed certificate of health, criminals, and persons immoral or otherwise undesirable; and they provide for the deportation, within three years of arrival in Australia, of criminals and others.

Contract Immigrants.

The Contract Immigrants Act, 1905, regulates the admission of immigrants under contract to perform manual labour. Contracts must be in writing, made by or on behalf of some person named and resident in Australia. They are subject to Ministerial approval, which may be withheld if the fulfilment of the contract is likely to be prejudicial to the public welfare, either as affecting an industrial dispute, or as to the conditions of, and standards prevailing in, local industry. Approval may be withheld also, if there is insufficient evidence of difficulty in obtaining a worker of equal skill and ability within the Commonwealth. This latter provision is not applicable to contract immigrants who are British subjects, born in the United Kingdom or descended from a British subject there born; nor does the Act apply to domestic servants and personal attendants accompanying their employers.

During the nine years, 1908-16, the number of contract immigrants admitted to Australia was 916, and of these the contracts of 240 related to New South Wales; of the total number, 803 were described as British and 113 as non-British. Owing to the incidence of the War, there were no contract immigrants during the years 1917-19; in 1920 six British workers were admitted, of whom two had agreed to work in this State.

ENCOURAGEMENT OF IMMIGRATION.

The Commonwealth.

During the war all activities for the encouragement of immigration were suspended by the Commonwealth, though previously its operations in this connection were confined to advertising the attractions of Australia generally, with a view to promoting voluntary immigration to the different States.

In 1920 an agreement was made between the Commonwealth and the States by which the States declare to the Commonwealth the number and classes of immigrants they desire and assume responsibility for them on arrival; the Commonwealth undertakes control of the overseas organisation for the encouragement of immigration and the selection of immigrants, and makes arrangements for, and contributes towards the cost of, their transport to Australia.

The State.

State-assisted immigration was inaugurated in New South Wales in the year 1832, and was maintained until 1885, when it was discontinued except in respect of members of the family of persons already assisted to immigrate. After an interval of twenty years, the policy was resumed in 1905.

With the outbreak of the war assisted immigration was limited mainly to domestic servants, and even this class of immigration had almost ceased before the end of 1918.

In April, 1919, the Imperial Government arranged to grant free passages to the oversea Dominions for ex-service men and women and their dependents who could produce evidence that they would be acceptable in the Dominions and that provision would be made for them. The Government of New South Wales has provided for the acceptance, under this scheme, of immigrants approved by the Agent-General, preference being given to agriculturists, domestic servants, and to persons nominated by residents of New South Wales, who accept responsibility for the nominees upon arrival. The grants by the Imperial Government to dependents are limited to sons and stepsons, who were under 16 years of age on 8th April, 1919, and to daughters and stepdaughters, who were under 18, but the State has arranged to assist other children and the widowed mothers of approved ex-service immigrants. The scheme will cease to operate at the end of the year 1921. The immigrants under this arrangement who arrived during the year ended 30th June, 1920, numbered 663, viz., 358 males and 305 females, of whom 480 were nominated and 183 were selected; all were British subjects from the United Kingdom. The occupations of the selected immigrants were as follows:—Farmers, 6; farm workers, 69; domestic servants, 88; other occupation, 1; and dependents, 19.

The following statement shows the expenditure on immigration by State grants, and the number of assisted immigrants who arrived in New South Wales; since 1905 the number of immigrants nominated by residents of the State and the number selected abroad by the Immigration Office are shown separately. The figures for the year 1920 include immigrants to whom the Imperial Government granted free passages.

Year ended 30th June.	Expenditure, exclusive of Administration.	Immigrants Assisted.				
		Nominated.	Selected.	Total.		
				Males.	Females.	Total.
	£					
1832-1901	3,676,013	...	...	104,106	107,866	211,972
1905-1909	44,925	6,144	2,713	*	*	8,857
1910-1914	221,601	32,406	12,444	23,816	21,034	44,850
1915	24,501	2,399	1,109	1,498	2,010	3,508
1916	13,571	888	152	354	686	1,040
1917	3,690	526	60	168	418	586
1918	1,367	191	1	26	166	192
1919	2,140	119	...	21	98	119
1920	...	873	214	527	560	1,087

* Information not available.

Prior to the war arrangements existed with various steamship companies for passages from the United Kingdom at the rate of £14 per adult, of which the Government paid from £4 to £8; but when accommodation became available after the war the shipping companies increased the cost to £32 8s. per berth, and the Government raised its contribution by £4. During 1920 the cost was increased to £36, and a further increase of £2 will be charged in 1921.

Farmers and agricultural labourers under 45 years of age and of good general character, who are capable of furnishing proof of their suitability as settlers, are carried to New South Wales for a minimum net fare of £22 8s., and aid is given to their wives and families.

Persons nominated for assisted passage by relatives in the State may be granted a reduction on each full fare, the lowest net fares to nominated immigrants being £26 per adult for wives and families of farm workers, £28 for wives and families of other workers, and £30 for all other nominees.

Nominators are required to lodge the reduced steamer fare, and to guarantee that employment awaits nominees, or that adequate provision will be made for their maintenance.

The following statement shows the distribution of selected immigrants in their respective occupational classes in each of the last ten years:—

Year ended 30th June.	Rural Workers.			Domestic Servants.	Other.	Families of foregoing.
	Farmers.	Farm Workers.	Total.			
1911	12	1,831	1,843	387	...	329
1912	11	2,472	2,483	520	205	767
1913	10	1,662	1,672	549	3	275
1914	13	529	542	567	...	321
1915	11	486	497	477	...	135
1916	1	7	8	126	...	18
1917	...	3	3	51	...	6
1918	...	...	...	1	...	...
1919	...	...	...	...	...	...
1920	6	80	86	102	1	25

The Government guarantees employment for selected immigrants, and in January, 1919, the Immigration Office in Sydney was amalgamated with the State Labour Exchanges, so that State-aided immigration may be regulated in accordance with local industrial conditions.

Any immigrant who settles upon the land as owner, lessee, or labourer, within a reasonable time of his arrival, may be granted concessions in regard to railway fares and freight when travelling to the district in which he settles. These concessions may be granted also to nominated immigrants proceeding to the homes of their nominators, or travelling to take up farm work or domestic service.

The following statement shows the proportion of British subjects, in comparison with foreign-born, among assisted immigrants, in the period 1911-1920:—

Year ended 30th June	Immigrants from—						Total.		
	United Kingdom.		Other British Possessions.		Foreign Countries.		Nomin-ated.	Selected.	Total.
	Nomin-ated.	Selected.	Nomin-ated.	Selected.	Nomin-ated.	Selected.			
1911	4,675	2,524	4	3	60	32	4,739	2,559	7,298
1912	8,781	3,958	1	...	99	17	8,881	3,975	12,856
1913	10,997	2,482	3	...	150	17	11,150	2,499	13,649
1914	5,197	1,396	23	8	164	26	5,384	1,430	6,814
1915	2,347	1,087	9	5	43	17	2,399	1,109	3,508
1916	869	145	7	...	12	7	888	152	1,040
1917	515	60	2	...	9	...	526	60	586
1918	191	1	...	...	2	...	193	1	194
1919	118	...	1	...	...	...	119	...	119
1920	838	214	3	...	2	...	873	214	1,087

TRADE UNIONS.

Trade unions in New South Wales acquired legal status under the Trade Union Act of 1881, which is still in operation. The Act defines a "trade union" as "any combination, whether temporary or permanent, for regulating the relations between workmen and employers, or between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business, whether such combination would or would not, if this Act had not been passed, have been deemed to have been an unlawful combination by reason of some one or more of its purposes being in restraint of trade."

The Industrial Arbitration Acts provide for the incorporation of trade unions of employees as industrial unions, and the Industrial Arbitration (Amendment) Act, 1918, extended their powers by authorising them to acquire, own, and deal with property, to sue members for payment of subscriptions, fines, &c., in accordance with their rules, and to apply money and property to the furtherance of political objects, provided that such payments be made out of a separate fund maintained by purely voluntary contributions. Under the Act all persons of good character who are qualified by the nature of their occupation are entitled to be admitted to membership.

In the thirty-seven years, 1882-1919, 583 unions were incorporated under the Trade Union Act, the maximum number of registrations in any year being 46 in 1902; thirteen new unions were registered in 1919.

During the last ten years 215 new unions have been registered and 168 have been closed, the net gain being 47 unions. The number of unions at 31st December, 1919, was 213.

Cancellations for the most part have been directly consequent upon non-compliance with the law in regard to making returns as to the membership and funds, a default usually attributable to the moribund condition of the union. A number of unions have disappeared by amalgamation with kindred unions.

The following statement shows the position of all trade unions (*i.e.*, for employers and employees) for the five years 1915 to 1919, as regards finances and membership:—

Particulars.	1915.	1916.	1917.	1918.	1919.
Trade Unions No.	219	215	233	225	213
Total Receipts £	267,060	248,072	259,416	249,713	286,130
Total Expenditure £	257,297	256,909	296,114	243,810	278,440
Total Funds £	205,020	205,398	152,377	158,685	161,495
Membership No.	230,603	234,308	235,392	216,186	229,071
Receipts per Member	23s. 2d.	21s. 2d.	22s. 1d.	23s. 1d.	25s. 0d.
Expenditure per Member	22s. 4d.	21s. 11d.	25s. 2d.	22s. 7d.	24s. 4d.
Amassed Funds per Member	17s. 9d.	17s. 6d.	13s. 0d.	14s. 8d.	14s. 1d.

The unions are classified in two groups according to their constitution, *viz.*, of employers and of employees. The following table shows their relative positions as at 31st December, 1919:—

Classification.	Trade Unions.	Membership.				Funds.	
		Males.	Females.	Total.	Per Union.	Aggregate.	Per Union.
Employers	14	3,110	225	3,335	238	£ 5,476	£ 391
Employees	199	208,684	17,052	225,736	1,134	156,018	784
Total	213	211,794	17,277	229,071	1,075	161,494	758

Employers' Unions.

Fourteen associations of employers have formed trade unions; the total receipts during the year 1919 amounted to £9,748; the total expenditure to £9,388; and the total funds at the end of the year to £5,476.

Employees' Unions.

The first trade unions of employees were formed in the early fifties, during a period of high wages, and their main objective was the reduction of working hours to eight per day. Later they directed their attention to matters of wages, working conditions, the exclusion of alien immigrants, and direct parliamentary representation. Trade unionism expanded speedily with the development of industries during the prosperous years from 1872 to 1885. During the financial stringency of the nineties there was a decline, but the introduction of compulsory arbitration in 1901 gave considerable impetus to the movement, as the jurisdiction of the Court was limited to registered trade unions.

Until about 1890 separate unions were constituted for the various branches of the industries, and for male and female workers in those branches; but recognition of the advantages of consolidating allied interests has led to the

amalgamation of many unions, and to federation with kindred organisations in other States. The majority of the trade unions are affiliated with labour councils, which have been formed in the main industrial centres, viz., Sydney, Newcastle, and Broken Hill.

A recent development in trade unionism, formerly restricted to manual workers, has been the organisation of other classes of employees, such as school teachers and other employees in the Public Service, and bank clerks, who have registered under the Trade Union Act, with the object of obtaining the right to apply for industrial awards and to make industrial agreements.

The following statement shows the receipts, expenditure, accumulated funds, and membership of trade unions of employees in the year 1919:—

Industrial Classification.	Receipts.	Expenditure.	Funds at end of year.	Membership at end of year.			Funds per member.
				Males.	Females.	Total.	
Unions of Employees--	£	£	£	No.	No.	No.	s. d.
Building	19,995	19,241	19,808	22,091	60	22,151	17 11
Clothing	5,705	4,731	9,403	4,226	6,656	10,882	17 3
Engineering and Metal Working	44,412	41,001	24,459	24,205	...	24,205	20 3
Food, Drink and Narcotics Land Transport, exclusive of Railways and Tramways	17,107	17,740	8,618	13,780	3,813	17,593	9 10
Mining and Smelting ...	5,606	4,751	3,145	7,045	4	7,047	8 11
Pastoral	62,262	61,513	8,298	14,990	...	14,990	11 1
Printing, Bookbinding, &c.	37,914	40,128	22,058	29,093	215	29,308	15 1
Railways and Tramways ...	6,994	6,078	13,932	3,692	915	4,607	60 6
Shipping and Sea Transport	13,454	12,803	4,685	27,603	57	27,660	3 5
Manufacturing, n.e.i. ...	16,695	16,021	5,426	14,551	...	14,551	7 5
Public Service (including School Teachers) ...	16,994	17,398	15,319	12,671	762	13,433	22 10
Miscellaneous--	3,700	2,337	1,445	4,902	1,232	6,134	4 9
Labour Councils and Federations of Employees ...	2,015	2,269	284	...	...	...	...
Eight-hour Committees ...	2,060	1,372	5,865	...	...	...	...
Other Miscellaneous ...	21,469	21,669	13,273	29,837	3,338	33,175	8 0
Total Unions of Employees...	276,382	269,052	156,018	208,684	17,052	225,736	12 2

The strongest unions financially are those connected with the printing and bookbinding trades. Next in order of importance, measured by accumulated funds per member, are the manufacturing (n.e.i.) and the engineering and metal-working groups.

The numerical strength of employees' unions, excluding the Labour Councils, Federations, and Eight-hour Committees, is shown in the following statement:—

Membership.	Em- ployees' Unions.	Membership.	Em- ployees' Unions.
Less than 100 ...	45	5,000 to 6,000 ...	3
100 to 500 ...	56	6,000 ,, 7,000 ...	2
500 ,, 1,000 ...	29	7,000 ,, 8,000 ...	1
1,000 ,, 1,500 ...	24	9,000 ,, 10,000 ...	1
1,500 ,, 2,000 ...	5	11,000 ,, 12,000 ...	1
2,000 ,, 3,000 ...	11	Over 25,000 ...	1
3,000 ,, 4,000 ...	11		
4,000 ,, 5,000 ...	2	Total ...	192

INDUSTRIAL ARBITRATION.

The term "Industrial Arbitration" is used here in a broad sense to embrace all provision made by legislation for the adjustment of industrial relations between employers and employees, by arbitration, by conciliation, or by co-operation of employers and employees.

The necessity for legislative action to obviate dislocations of industry and to regulate the conditions of employment became urgent during the period of industrial unrest which followed the curtailment of public and private expenditure in 1885, and culminated in the maritime and shearers' strikes of 1890. Acts were passed in 1892 and in 1899 with the object of providing means for the settlement of industrial disputes, but they proved ineffective, because the parties to a dispute were not compelled to submit their cases to arbitration nor, after submission, to abide by the award. The principle of voluntary arbitration was abandoned, therefore, and in 1901 the Industrial Arbitration Act was passed to constitute a Court of Arbitration to which the submission of trade disputes was compulsory. The jurisdiction of the Court extended to all industrial matters arising between employers and employees, including wages and working conditions. Provision was made for the registration of industrial unions, and for industrial agreements between employers and unions; strikes and lock-outs were prohibited.

This Act expired by effluxion of time in 1908, and was replaced in that year by the Industrial Disputes Act, which provided for the constitution of wages boards, as subsidiary tribunals, to determine the conditions in specified industries, their awards being subject to revision by the Court.

This system of regulation by a Court and industrial boards, each empowered to make awards, was continued by the Industrial Arbitration Act of 1912, which is the basis of the existing State legislation; but the system has been modified by subsequent amendments of the Act.

In addition to the arbitration system under the law of the State of New South Wales the Commonwealth Parliament legislates with respect to industrial disputes extending beyond the limits of one State. A description of both systems is given.

THE STATE SYSTEM OF INDUSTRIAL ARBITRATION.

The Industrial Arbitration Act of 1912 provides for the regulation of conditions of industries by means of industrial conciliation and arbitration, and the powers of the Court and its subsidiary tribunals are not limited to cases in which a dispute has occurred.

Under this Act the range of industries and callings for which boards might be constituted was defined by schedule, and the boards were arranged upon the basis of craft or calling, those relating to allied industries being grouped under one chairman. The objective of this arrangement was the maintenance of a number of subsidiary arbitration courts, each having power to deal with a group of allied industries, but subject to the general control of the Court of Industrial Arbitration, which, in its supreme direction, would co-ordinate their work.

Experience showed, however, that this system failed to remedy serious defects of the machinery established under earlier legislation, viz., delay in hearing and determination, and the overlapping of awards owing to the multiplicity of boards. The Act was amended, therefore, in 1916 to provide for the appointment of additional judges to undertake the work of the boards, and the Court was empowered to codify awards. This amending Act repealed the schedules of the previous Act and thus extended to all industries

the right of regulation by award. The law was further amended in 1918 to provide for the appointment of special Courts and of deputy Courts, and for the establishment of a Board of Trade; other important amendments were made with the object of encouraging mutual co-operation between employers and employees for the adjustment of industrial matters, and the provisions for the repression of strikes were modified.

The Industrial Arbitration Amendment Act of 1919 relates mainly to the extension of the arbitration system to the employees in the public service of the State, and the amending Act of 1920 to the living wage declarations of the Board of Trade.

Industrial Unions.

Provision is made for the registration of industrial unions of employers and of employees; registration is granted only to organisations registered as trade unions under the Trade Union Act of 1881, and it may be refused if the organisation is not a *bona fide* trade union, or, if registered, would not be a *bona fide* industrial union, or if the interests of the members, unless they are employees of the Crown, may be protected by a previously registered union.

A union of employees must obtain registration as an industrial union before applying for an award to regulate the conditions of an industry, and organisation for this purpose has been effected or is proceeding in connection with practically all the industries of the State except domestic service in private houses and certain rural occupations.

The Court of Industrial Arbitration.

The Court of Industrial Arbitration is a superior Court and a Court of Record, governed in procedure and decisions by the dictates of equity and good conscience. Judges of the Court are appointed permanently by the Governor, and the Court is constituted by a single judge or, in certain cases, by two or more judges sitting together.

In order to facilitate the determination of technical trade matters the Court may elect to sit with assessors representing the interests of each of the parties, and matters relating to any log of prices or other basis for payment may be committed for determination and report to the assessors, sitting without a judge; the Court must sit as a Special Court with assessors when hearing matters exclusively affecting the Crown as employer, or persons employed exclusively by the Crown, or shire or municipal employees.

In any district proclaimed by the Governor a deputy Court may be constituted by a judge, or by a chairman nominated by the Court, with or without assessors. A deputy Court has been constituted for the district of Newcastle.

Industrial Boards.

An Industrial Board, consisting of a chairman and two or four other members equally representing the employers and employees, may be constituted for any industry or group of industries on the recommendation of the Court, and the Court may constitute special boards to determine questions of demarcation.

Where employers or employees in the industries or callings consist chiefly of women, members may be appointed who are not engaged in those industries or callings; otherwise the representative board members are men, for the most part intimately connected with the particular industry or calling. At 30th June, 1920, there were 252 boards.

Jurisdiction of the Court and Boards.

Proceedings before a board may be commenced by reference to the board by the Court or by the Minister; or by application to the board by employers of 20 employees, or by an industrial union of employers or employees in the industries or callings for which the board has been constituted. Since December, 1916, the work of the boards has been transferred to the Court, to which all applications are referred, and the boards exercise their functions only in respect of applications and references, which for special reasons the Court returns to them. An exception is made in regard to cases in the district of Broken Hill where, on account of distance from the Court, the local boards continue their activities.

The Court may exercise the powers, jurisdictions, and functions of industrial boards, special boards for demarcation, chairmen of boards and conciliation committees, and of industrial registrar and industrial magistrates; and it may amend and codify into one award all awards affecting any employer or class of employers, or the members of an industrial union employed by the same employer or class of employers. The Court may adjudicate also in respect of industries for which boards have not been constituted.

Where the public interests are likely to be affected the Crown may intervene in any proceedings before a board or the Court, or may appeal from an award of a board.

A Board may make an award—

- (a) fixing the lowest prices for work done by employees, and the lowest rates of wages payable to employees, other than aged, infirm, or slow workers, except that an award may not be made for persons occupying managerial positions (unless by the special court for Crown matters), or for payment of any wages in excess of £10 per week, or salary in excess of £525 per annum;
- (b) fixing the number of hours and the times to be worked in order to entitle employees to the wages so fixed;
- (c) fixing the lowest rates for overtime and holidays and other special work, including allowances as compensation for overtime, holidays, or other special work;
- (d) fixing the number or proportionate number of apprentices and improvers and the lowest prices and rates payable to them;
- (e) determining any industrial matter;
- (f) rescinding or varying any award made in respect of any of the industries or callings for which it has been constituted;
- (g) declaring that preference of employment shall be given to members of any trade or industrial union of employees upon such terms and conditions as the Court may prescribe, so long as the members thereof, after the passing of the Industrial Arbitration (Amendment) Act, 1918, shall not have taken part in, aided, or abetted an illegal strike;
- (h) declaring what deduction may be made from wages for board, residence, or customary privileges or payments in kind.

Awards affecting employees under the State Public Service Acts may be made only with respect to wages, payment for overtime, deductions for board, etc., and the rescission and variation of awards.

In pursuance of the policy of encouraging co-operation between employers and employees it is provided by the Amending Act of 1918 that so far as is consistent with the maintenance of industrial peace, the Court or a board may deal with wages and hours of employment only, leaving all other matters to shop committees, conciliation committees, industrial councils or voluntary committees formed for the purpose of adjusting the industrial relationship of employer and employee.

In prescribing minimum wages the Court may fix the quantity of work to be done. No award may be made for wages lower than the living wages declared by the Board of Trade; but aged, infirm, or slow workers unable to earn the minimum wage prescribed by an award may obtain permits to work for less.

Whenever the minimum wage in relation to a skilled occupation is fixed at a higher rate than the living wage, the amount of excess must be the same in the case of males and females doing the same class of work. Employees in the rural industries are entitled to be paid the living wage as determined after separate inquiry, but with the exception of those whose conditions of employment have been regulated by award, they are not otherwise subject to the provisions of the Industrial Arbitration Act.

Awards are binding on all persons engaged in the industries or callings, and within the locality covered, for a period not exceeding three years specified therein, and after such period until varied or rescinded. Awards take effect generally fourteen days after publication, but the Court in its discretion may make an award retrospective.

Variations of awards may be made only on application to a board or by the Court. It is a general rule of the Court that awards should not be varied during their currency, except in special cases, or by consent; the Amending Act of 1919, however, provides that applications for variation may be made whenever a living wage declaration has been made by the Board of Trade.

Where an institution, carried on wholly or partly for charitable purposes, provides for the food, clothing, lodging, or maintenance of any of its employees, or of any of its inmates who are deemed to be employees, the board must make due allowance in its award as to the wages of such persons. The institution may be exempted from any terms of the award, where the food, clothing, lodging, and maintenance provided by the institution, together with the money paid by the institution to such employees or inmates as wages, are at least equal in value to the value of their labour.

With regard to employees of the Government, the wages fixed must be not less than those paid to other employees doing substantially the same class of work; but the fact that the employment is permanent, and that additional privileges are allowed in the service of the Government may not of itself be regarded as a substantial difference.

Appeal from an award of a board lies to the Court, but the pendency of an appeal does not suspend the operation of the Award. Appeal from an award of a single Judge lies to the Court constituted by three judges. Decisions of the Full Court are final.

Awards by Boards and by the Court.

During the year ended 30th June, 1920, the Industrial Boards made five principal awards and one award of variation, and the Court of Industrial Arbitration made 136 principal awards and 269 variations; at the end of the period there were 330 awards in force.

The number of awards made by the boards and by the Court during each of the last five years is shown below :—

Year ended 30th June.	Industrial Boards.		Awards made by Boards.		Awards made by Court of Industrial Arbitration.	
	In existence at 30th June.	Cost during the Year.	Principal.	Variation.	Principal.	Variation.
		£				
1916	233	14,211	151	135	...	66
1917	237	12,900	169	99	7	127
1918	237	1,543	18	15	75	116
1919	238	277	3	2	106	88
1920	252	345	5	1	136	269

Industrial Agreements.

The practice of collective bargaining first received statutory sanction under the Industrial Arbitration Act, 1901, when industrial unions were empowered to make with employers written agreements, which became binding between the parties when filed in the prescribed manner.

The authority to make agreements was continued under later enactments. Under the Industrial Arbitration Act of 1912, the provision for the making and registration of agreements relating to industrial matters, previously limited to industrial unions, was extended to trade unions of employees. The maximum term for which an agreement may be made is five years, but it continues in force after the expiration of the specified term until varied or rescinded, or terminated after notice by a party thereto. No industrial agreement may be made providing for wages lower than the living wages declared by the Board of Trade, and whenever a living wage is declared by the Board during the currency of an agreement, the Court may vary its wage provisions.

The following statement shows the number of agreements filed in each year since 1902. In December, 1920, there were 107 agreements in force:—

Year.	Agreements Filed.	Year.	Agreements Filed.	Year.	Agreements Filed.
1902	} 28	1909	28	1915	33
1903		1910	21	1916	51
1904	18	1911	27	1917	43
1905	6	1912	45	1918	39
1906	13	1913	36	1919	49
1907	11	1914	50	1920	58
1908	12				

Enforcement of Awards and Industrial Agreements.

Since 1901 breaches of awards and industrial agreements have constituted grounds for prosecution of offences in the Arbitration and lower Courts of the State, the penalties recoverable being subject to some limitations.

In May, 1911, an Investigation Officer was appointed in the Department of Labour and Industry to receive and record complaints as to breaches of awards and agreements, and as to failures to comply with obligations imposed under the Act, to review the reports of inspectors, and to direct prosecutions consequent thereon.

During the year ended 30th June, 1920, 1,156 complaints as to breaches of awards, &c., were received at the investigation office; 173 prosecutions were initiated; and 151 convictions were recorded.

Proceedings before the Court of Industrial Arbitration for the enforcement of the provisions of the Industrial Arbitration Act included 3 cases in respect of strikes during 1919-20, and 2 convictions were recorded.

The following statement relates to cases under the Industrial Arbitration Acts, heard by the Industrial Magistrates during the two years ended 30th June, 1920:—

Classification.	1919.		1920.	
	Cases.	Con- victions.	Cases.	Con- victions.
Non-payment of Wages Awarded ...	162	41	137	37
Non-payment of Fines and Subscrip- tions to Union	350	225	351	158
Breach of Award or Industrial Agree- ment	492	330	347	268
Failure to Keep Time-sheets and Pay- sheets of Employees	38	37	40	36
Failure to Exhibit Copy of Award ...	18	18	22	21
Obstructing Inspector... ..	...	...	2	2
	1,000	651	899	522

Conciliation.

In October, 1911, an active policy of conciliatory intervention between industrial disputants was inaugurated, and concurrently with the procedure for the enforcement of awards, etc., the Investigation Officer of the Department of Labour and Industry was engaged in mediatory services wherever disputes or dislocations were known to be pending.

Statutory authority was given to this process of intervention with the initiation of the Industrial Arbitration Act, 1912, and a Special Commissioner for Conciliation was appointed on 1st July, 1912; but the range of his work was limited on account of a judgment delivered in the Industrial Court in March, 1914, to the effect that parties to a dispute could not be compelled to meet in conference when a strike or a lockout had actually occurred. This limitation was removed by the amending Act of 1918.

The Industrial Arbitration Act provides for the notification by proclamation of certain industrial districts for which may be constituted conciliation committees, consisting of a chairman and two or four members equally representing employers and employees. The chairman may be a judge appointed by the Minister, or a person chosen by the unanimous agreement of the other members, or appointed by the Governor.

Conciliation committees may be constituted also for any other district in which more than 500 employees are engaged in the mining industry, and for any other occupation in which more than 100 employees are employed.

A conciliation committee may inquire into any industrial matter within its district; it has no compulsory powers, but if an agreement is made and registered it has the effect of an industrial agreement.

Conciliation committees have been constituted for the following industries:—Employees of the Municipal Council of Sydney; Employees of Shire and Municipal Councils, outside the city of Sydney; Wharf Labourers, Port Jackson; the Iron and Steel Works Employees, Port Waratah; the Sydney Coal Lumpers; the Country Gas Makers; the Storemen and Packers, Newcastle; and the Shop Assistants, Northumberland, Raymond Terrace, and Stockton.

THE BOARD OF TRADE.

Under the Industrial Arbitration (Amendment) Act, 1918, a Board of Trade was created in June, 1918. It is composed of a president (who is a judge of the Court), a deputy president, four commissioners, and four additional commissioners to represent rural industries. The last-mentioned sit with the Board only when matters directly affecting rural industries are under consideration. The Minister, as an associate commissioner, may take part in the deliberations of the Board, but may not vote in connection with its determinations. In its investigations the Board has the powers of a Royal Commission.

The Board, after public inquiry as to the increase or decrease in the cost of living, declares annually the rates of living wage for adult employees of each sex; the declarations may be varied or rescinded at any time.

A separate public inquiry must be made into the cost of living of employees engaged in rural occupations, and a separate declaration as to the living wage of such employees and deductions therefrom for board and residence, and for any customary privileges or payments in kind. The Board must take into consideration the condition of the rural industries and their ability to bear additional burdens in wages, and should it think fit, may refrain from declaring the living wage for these employees.

The Board of Trade has the administration of matters relating to apprenticeship. The Act requires it to encourage and create councils of employers and employees to provide for proper apprenticeship, and the welfare of juvenile labour; to acquire and disseminate knowledge with a view to improving the industrial relationship between employers and workers; to propound schemes for welfare work; to report as to insurance against loss by unemployment or sickness or accident, prices of commodities, the existence of monopolies, the productivity of industries, the organisation of the labour market, better housing, and any other matter referred to it by the Minister; to encourage the establishment of mutual welfare committees and industrial councils in different industries, and of subsidiary shop committees for individual enterprises; to assist schemes for mutual co-operation and profit-sharing between employers and employees; to encourage the establishment of hostels for women workers, and workmen's clubs and libraries; to collect statistics of industrial and other matters.

THE COMMONWEALTH SYSTEM OF INDUSTRIAL ARBITRATION.

The Constitution of the Australian Commonwealth empowers the Federal Parliament 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 first Act was passed in 1904; the existing legislation is embodied in the Commonwealth Conciliation and Arbitration Act 1904-20, the Arbitration (Public Service) Acts, 1911 and 1920, and the Industrial Peace Acts, 1920.

The main objects of the Conciliation and Arbitration Act are:—
 (a) To prevent lockouts and strikes in relation to industrial disputes;
 (b) to constitute a Court of Conciliation and Arbitration having jurisdiction for the prevention and settlement of industrial disputes;
 (c) to provide for the exercise of the jurisdiction of the Court by conciliation, with a view to amicable agreement between the parties; (d) in default of amicable agreement between the parties to provide for the exercise of the jurisdiction of the Court by equitable award; (e) to enable States to refer industrial disputes to the Court, and to permit the working of the Court and of State industrial authorities in aid of each other; (f) to facilitate and encourage the organisation of representative bodies of employers and of

employees, and the submission of industrial disputes to the Court by organisations, and to permit representative bodies of employers and of employees to be declared organisations for the purposes of this Act; (g) to provide for the making and enforcement of industrial agreements between employers and employees in relation to industrial disputes.

Strikes and lockouts in relation to industrial disputes are prohibited, but the prohibition does not apply to anything proved to have been done for good cause independent of a dispute. Persons or organisations bound by award are prohibited from participating in a lock-out or strike.

Organisations of employers and of employees, representing at least 100 employees, may be registered under the Act on compliance with prescribed conditions, registration being a necessary qualification to entitle unions to submit disputes to the Court, or to be represented in proceedings relating to disputes.

The Court of Conciliation and Arbitration consists of a President and Deputy-Presidents appointed by the Governor-General. The President is appointed from among the Justices of the High Court; Justices of the High Court or Judges of the Supreme Court of a State may be appointed as deputies to the President to exercise such powers and functions of the President as the Governor-General assigns.

The Court or the President acts according to equity, good conscience, and the substantial merits of the case, without regard to technicalities or legal forms, and is not bound by any rules of evidence.

The President is charged with the duty of endeavouring to reconcile the parties to industrial disputes, and to prevent and settle industrial disputes whether or not the Court has cognisance of them, in all cases in which it appears to him that his mediation is desirable in the public interest. In the discharge of these duties he may convene compulsory conferences.

The Court has cognisance, for the purposes of prevention and settlement, of industrial disputes certified by the Industrial Registrar as proper to be determined by it in the public interest, or submitted by an organisation or plaintiff or by a State industrial authority, or referred by the President after a compulsory conference at which no agreement has been reached.

When a case is submitted to the Court application may be made to the High Court of Australia to determine questions of jurisdiction and of law. This provision was made in 1914 to obviate difficulties which had arisen when these matters were challenged subsequent to the determination of a case by the Industrial Court.

The Court endeavours to induce the settlement of disputes by amicable agreement, or, failing an agreement, determines the disputes by award. Industrial agreements, when filed, are binding on the parties thereto. The awards and agreements are made for a specified period up to a maximum of five years, and after the expiration of the definite period an award continues until a new award is made, unless the Court orders otherwise; agreements continue unless rescinded, or terminated by notice.

Awards are binding only on the parties to a dispute, and the Court has no power to make an award a common rule of the industry, as the clause of the Act authorising it to do so was declared by the High Court to be unconstitutional.

A State law or an award or order of a State industrial authority becomes invalid if inconsistent with an award or order of the Commonwealth Court of Conciliation and Arbitration.

The extensive powers conferred upon the Federal Court include the power to vary orders or awards, to impose penalties for breach or non-observance of orders, &c., and to refrain from determining a dispute if it appears that it should be dealt with by a State industrial authority, or that further proceedings by the Court are not desirable in the public interest. The Court is authorised to grant preference for members of organisations, but it is the usual practice to refuse to order preference in cases of respondents who undertake not to discriminate against members or officials of the associations. No award, order, or agreement may operate to prevent the employment of returned soldiers or sailors.

The Court may exercise any of its powers on its own motion, or on the application of any party to a dispute, or of any organisation or person bound by an award; but an order or award may not be varied and a question may not be reopened except on the application of an organisation or person affected or aggrieved thereby, or of the Attorney-General.

The Court may appoint Boards of Reference to deal with matters relating to an award, and their appointment tends to promote mutual understanding between employers and workers for the adjustment of industrial relations.

The determination of rates of pay and conditions of employment in the Public Service of the Commonwealth became a function of the Commonwealth Court of Conciliation and Arbitration in terms of the Arbitration (Public Service) Act, 1911; but in 1921 the function was transferred, in terms of the Public Service (Arbitration) Act, 1920, to an arbitrator appointed by the Governor-General.

At 30th June, 1920, there were 104 Commonwealth awards and 706 industrial agreements in force, of which 77 awards and 213 agreements applied in New South Wales.

Important alterations to the Federal law relating to industrial arbitration and conciliation were made in 1920 by the enactment of the Industrial Peace Acts.

Provision is made for the formation of a Commonwealth Council of Industrial Representatives, consisting of a chairman, chosen by the other members, and six or eight persons equally representing the employers and the recognised organisations of employees; in default of agreement as to a chairman he may be appointed by the Attorney-General. The Council is empowered to consider matters relating to industrial disputes or affecting industrial peace; to inquire into any industrial matter brought before it by a member, or referred to it by the Governor-General, and to declare its opinion thereon; to confer with any persons or associations as to matters affecting the prevention or settlement of industrial disputes; to appoint committees of the Council for the purpose of any inquiry or conference; to summon persons for the purpose of conference or of giving evidence; and to make reports to the Governor-General concerning any industrial matter.

Similarly District Councils may be constituted for any State or part of the Commonwealth. District Councils are authorised to inquire into any industrial matter brought before it by a member or referred to it by the Commonwealth Council or by employers or employees; to summon conferences as to matters affecting the prevention or settlement of industrial disputes; to appoint committees of its members for the purpose of inquiry or conference; and to make reports to the Commonwealth Council concerning industrial matters.

Sittings of the Commonwealth Council or of a District Council may be convened by the chairman whenever he thinks fit, or at the request of the Minister, or of a majority of members. Two-thirds of the members form a

quorum, and the chairman has a casting vote if the voting is equal, otherwise he may not vote.

The Industrial Peace Act provides also for the appointment of special tribunals with powers to deal with industrial disputes similar to those exercised by the Court of Conciliation and Arbitration or by the President of the Court. A special tribunal consists of an equal number of representatives of employers and employees, with a chairman chosen by them, or, in default, appointed by the Governor-General. A tribunal, or the chairman thereof, or the Minister may convene compulsory conferences for the purpose of preventing or settling industrial disputes; if, at a conference, agreement is not reached as to the whole of a dispute it may be referred to the special tribunal. Disputes may be referred also by the parties thereto.

In relation to a special tribunal, local boards may be appointed to exercise jurisdiction within defined limits for the settlement or prevention of disputes, their determinations being subject to review by the special tribunal.

An award or order of a special tribunal, or an agreement made at a conference and filed with the Industrial Registrar, is binding on the parties, and may be enforced as an award of the Court; and the Court may not make an order or award inconsistent with a determination of a special tribunal or of a local board.

INDUSTRIAL DISLOCATIONS.

Under the State law, the Industrial Arbitration Act of 1901 prohibited acts of strike or lockout before a reasonable time had elapsed for reference to the Court of a matter in dispute, or during the pendency of proceedings in the Court in relation to an industrial dispute.

This limited prohibition was made absolute under the provisions of the Industrial Disputes Act, 1908, and the penalties were made more severe in 1909, when the Industrial Disputes Amendment Act provided for a penalty of twelve months' imprisonment for any attempt to instigate or aid in anything in the nature of a strike or lock-out or discontinuance of work in any industry.

The Industrial Arbitration Act, 1912, repealing previous Acts, aimed at the repression, and not at the absolute prohibition, of strikes and lock-outs, and substituted a pecuniary penalty instead of imprisonment. Any person, including a union, taking part in a strike or lock-out, became liable to a fine, the maximum for lock-out being £1,000, and for strike £50 against a person, and £1,000 against a union. The Court was authorised to grant a writ of injunction to restrain any person from continuing to instigate or to aid in a lock-out or strike, the maximum penalty being imprisonment for six months.

The Industrial Arbitration Amendment Act, 1918, repealed the provisions of the 1912 Act regarding strikes and established the principle that, with certain exceptions, strikes may be recognised as lawful, the following, and no others, being illegal:—

- (a) Any strike by employees of the Government or its Departments, or of any city, shire, or municipal council, or by employees engaged in military or naval contracts.
- (b) Any strike by employees in an industry of which the conditions are regulated by award or industrial agreement: Provided that where an award has been in operation for at least twelve months a union of employees may decide to withdraw from its conditions by a majority vote taken at a secret ballot, in which not less than two-thirds of the members take part.
- (c) Any strike which has been commenced prior to the expiry of fourteen days' notice to the Minister.

When a strike is contemplated or at any time during the currency of a strike the Minister may direct that a secret ballot be taken of the members of any industrial or trade union, or of any association of employees, in order to ascertain whether the majority is or is not in favour of the strike.

Any trade union whose members are taking part or aiding or abetting an illegal strike may be fined £500, and a penalty not exceeding £50, or six months' imprisonment, may be imposed on any person aiding or instigating an illegal strike or obstructing a ballot. Penalties are imposed also for picketing in connection with an illegal strike or for inducing persons to refrain from handling any commodity during the currency of a strike.

The Commonwealth Conciliation and Arbitration Act prohibits strikes and lockouts in relation to industrial disputes. The prohibition does not apply to anything proved to have been done for good cause independent of the dispute, but in case of prosecution the onus of such proof lies on the defendant; a prosecution under this section may not be instituted without the leave of the President of the Court. Lockouts and strikes by persons or organisations affected by awards of the Commonwealth Court are prohibited absolutely. The penalty for lockout or strike is £1,000.

The following statement shows, so far as can be ascertained, the number of workers involved, and the time lost by industrial dislocations contingent upon disputes in each year since 1914. In calculating the working days lost, only actual working days, viz., days on which work would ordinarily be performed, have been counted, but apparently no allowance has been made for intermittency of employment. Particulars are shown separately regarding dislocations which originated during the year specified, and those which commenced at an earlier date:—

Year.	Dislocations.			Workers Involved.			Working Days Lost during Year.		
	Anterior.	New.	Total.	Anterior.	New.	Total.	Anterior.	New.	Total.
1914	6	313	319	631	75,256	75,887	9,418	747,737	757,155
1915	7	314	321	3,716	94,346	98,062	164,035	470,207	634,242
1916	5	344	349	5,144	157,102	162,246	261,887	895,338	1,157,225
1917	5	289	294	1,294	144,704	145,998	18,813	2,857,515	2,876,328
1918	1	152	153	340	38,652	38,992	4,080	186,344	190,424
1919	7	306	313	1,949	123,174	125,123	19,484	2,113,114	2,132,598
1920	9	411	420	10,023	151,018	161,041	1,558,634	741,744	2,300,378

The total loss of working time during 1920 amounted to 2,300,378 days, of which 1,558,634 days were in respect of dislocations which originated in 1919. The most important dispute commenced at Broken Hill, in May, 1919, with the mine engine-drivers, firemen, &c., and afterwards extended to the miners; the dispute remained unsettled until November, 1920; 6,375 workers were involved and 2,706,493 working days were lost.

The industrial dislocations which commenced during the five years 1916-1920 numbered 1,502, the number of workers involved was 614,650, and the working time lost in respect of these dislocations amounted to 8,619,277 days. The records of the previous quinquennium show particulars regarding 968 dislocations in which 263,119 workers were involved and 2,463,829 working days were lost, but the figures are exclusive of 61 dislocations, of which details are not available. Making allowance for this defect, it is apparent that there has been an extensive increase in industrial unrest during recent years.

Further particulars regarding the new dislocations in each year since 1914 are shown below:—

Year.	Dislocations.			Workers Involved.			Working Days Lost.		
	Mining.	Non-mining.	Total.	Mining.	Non-mining.	Total.	Mining.	Non-mining.	Total.
1914	220	93	313	56,372	18,884	75,256	573,641	174,096	747,737
1915	225	89	314	66,211	28,135	94,346	309,507	160,700	470,207
1916	209	135	344	129,920	27,182	157,102	649,292	246,046	895,338
1917	185	104	289	77,147	67,557	144,704	1,184,594	1,677,001	2,861,595
1918	106	46	152	30,246	8,406	33,652	101,990	84,354	186,344
1919	228	78	306	86,778	36,396	123,174	1,480,416	632,698	2,113,114
1920	351	60	411	109,464	41,554	151,018	313,379	428,365	741,744

Information is not available to enable a reliable estimate to be made of the cost of the dislocations, especially during a period of abnormal industrial conditions and frequent changes in rates of wages, etc. The records are deficient in regard to the sex and age of the workers involved, and the extent to which losses of wages during a dislocation are compensated by higher rates of pay after resumption.

The number of workers affected by dislocations lasting one day or less during 1920 was 94,035, and the loss of working days 89,337. Thus these brief dislocations accounted for approximately 51 per cent. of the total number, 62 per cent. of the workers involved, and 12 per cent. of the working days lost.

More complete information is given in the following table regarding the duration of the dislocations which originated during the year 1920:—

Duration in Days.	Dislocations.	Workers Involved.	Working Days Lost.
Under 1 day	34	8,723	4,025
One day	228	85,312	85,312
Over 1 and not exceeding 7 ...	113	29,243	86,293
" 7 " " 14 ...	21	6,774	61,534
" 14 " " 21 ...	6	19,533	384,169
" 21 " " 28 ...	4	247	5,914
" 28 " " 35 ...	...	...	.....
" 35 " " 42 ...	1	27	1,107
87	1	330	28,710
90	1	290	26,100
101	1	492	49,692
189	1	47	8,883
Total	411	151,018	741,744

An analysis of the causes, as set down by the participants, reveals that over three-fourths of the dislocations during 1920 were the result of disagreement as to working conditions. The following statement shows the causes, the workers affected, and the time lost. Dislocations arising from the employment of non-union labour are included in the category, employment of persons, etc.; but those pertaining to the recognition of a union and the

enforcement of union rules are classified under the head of "Trade Unionism."

Cause.	Mining.			Non-Mining.			All Industries.		
	Disloca- tions.	Workers in- volved.	Work- ing days lost.	Disloca- tions.	Workers in- volved.	Work- ing days lost.	Disloca- tions.	Workers in- volved.	Work- ing days lost.
Wages	72	23,090	111,745	22	2,317	0,370	94	25,407	121,115
Hours	41	8,985	9,381	7	31,391	397,063	48	40,376	406,444
Working Conditions ..	105	26,742	65,501	4	234	339	109	26,976	65,840
Employment of Persons or Classes of Persons..	45	10,761	65,933	15	3,263	18,862	60	14,024	87,795
Trade Unionism	15	4,003	12,726	3	137	301	18	4,140	13,027
Sympathy	3	1,154	4,453	..	..	..	3	1,154	4,453
Miscellaneous	51	28,173	31,295	8	4,162	2,280	59	32,335	33,575
Not Stated	19	6,556	9,345	1	50	150	20	6,606	9,455
Total.. .. .	351	109,464	313,379	60	41,554	428,265	411	151,018	741,744

Of the 411 dislocations during 1920, 344 were brought to a conclusion by direct negotiation between the parties; 3 were settled by arbitration, 4 by replacement, and 60 by other methods.

The following statement shows the workers involved and the time lost classified according to the results of the dislocations; 60, or 15 per cent., resulted in resumption of work with modified conditions, more or less in accordance with the workers' claims. In 271, or 66 per cent., no modifications were granted, and the results of the remaining 80 cases were not recorded.

Over 68 per cent. of the workers involved, and 26 per cent. of the time lost, was in respect of dislocations in which no modifications were granted.

Year.	Modification.			No Modification.		
	Disloca- tions.	Workers involved.	Working days lost.	Disloca- tions.	Workers involved.	Working days lost.
1914	120	23,822	286,308	158	40,205	613,465
1915	171	51,063	306,188	136	42,355	162,441
1916	152	49,708	621,017	156	99,050	244,234
1917	94	19,345	82,554	155	118,745	2,762,492
1918	31	7,889	17,251	89	22,431	151,574
1919	58	19,303	552,627	214	93,229	1,493,553
1920	60	13,004	84,567	271	103,166	191,361

During the period of seven years reviewed above 5,619,120 days were lost in respect of dislocations in which no modification of conditions was made, and the total time lost was three times greater than in respect of dislocations by which some modification was gained.

HOURS OF WORK.

The 8-hour day has been recognised for many years as the standard working day in New South Wales, although the standard is more correctly expressed as the 48-hour week, the usual working time being $8\frac{3}{4}$ hours on 5 days and $4\frac{1}{2}$ hours on Saturday; though some factories complete the week's work in 5 days, leaving Saturday a whole holiday. The 8-hour principle was established in 1855 when, after a strike, it was conceded to the operative masons, and the movement spread gradually until 48 hours became the standard maximum in the majority of industries.

Since 1896 the Factories and Shops Act has prohibited the employment in factories of youths under 16 and of women for more than 48 hours in any

week, though overtime not exceeding 3 hours in any day is allowed on 30 days in a year, or by written permission of the Minister, on 60 days. Hours of employment in shops are restricted by the Early Closing law which came into operation in 1900. Except in the case of specified shops, only one late shopping night is allowed, when the closing hour must not be later than 10 o'clock; on four days a week the shops must close at 6 o'clock, and on one day at 1 o'clock. In the Metropolitan and Newcastle districts, and in the country shopping districts in the county of Northumberland, the shops are subject to the Saturday Half-holiday Act, and the late closing night is on Friday, and the 1 o'clock closing on Saturday; in other districts the half-holiday is either on Wednesday with the late night on Saturday, or on Saturday with the late night on Friday.

In nearly all the important industries the hours of work are fixed by the industrial awards and agreements and special rates must be paid for time worked in excess—usually 25 or 50 per cent., and in some trades 100 per cent. higher than the normal rate of wages. Until recently the standard working week of 48 hours was observed generally, but a shorter working week is prescribed for those trades which are recognised as unhealthy, such as rock-chopping and sewer-mining—for which the hours vary according to the working conditions, the lowest being 25 per week—stone-masonry, and metalliferous mining (underground); and for industries in which the majority of workers are women, such as the clothing trades. The workers whose hours exceed 48 per week are mainly in the domestic group, including hotel, club, and restaurant employees; in the transport group, *i.e.*, carters distributing food supplies; and in factories involving continuous process where seven shifts of 8 hours are allowed.

In the railway, tramway, and ferry services the prescribed hours are usually 96 per fortnight, and in the coal-mining industry the hours were fixed by a special tribunal as follow:—Eight hours bank to bank, inclusive of one-half hour for meal time, on Monday to Friday, and six hours bank to bank, inclusive of one-half hour for meal time, on Saturday, Sunday, and holidays, the usual number of shifts being eleven per fortnight.

In regard to awards and agreements under the Industrial Arbitration Acts the provisions of the Eight Hours Acts must be observed. The principal Act passed in 1916 provides that the working hours must not exceed the following:—

Mining Industries—workmen underground—Coal: Fireman, examiner, &c., 96 hours in 14 days; men engaged in handling and transit of coal, 48 hours in 6 days; others, 8 hours during 24. Metalliferous: 8 hours during 24 hours, or 88 hours in 14 days. In underground occupations a shift may not exceed 6 hours if, during 4 hours, the temperature is above 81 degrees Fahrenheit.

Other Industries.—(1) 8 hours per day on 6 days, (2) 48 hours per week, or (3) 96 hours in 14 days—as determined by agreement or award.

Recently there has been a movement towards the reduction of the standard working time. In May, 1920, some of the building trades and iron trades unions made a claim for the abolition of Saturday work. In September, 1920, the State Government appointed a judge of the Court of Industrial Arbitration, who is also the President of the Board of Trade, as a Royal Commissioner to inquire into the effect of a reduction of the working hours to 44 per week in the iron trades and the building trades in the county of Cumberland, and in all industries subject to the jurisdiction of the State Court of Industrial Arbitration. In his report the Commissioner recommended that the 44-hour week be adopted in the building trades, except for workmen engaged in factories, who should be required to work the ordinary hours of the establishments; and stonemasons working under cover, for whom

a 5-day week of 40 hours was recommended for reasons of health. The Commissioner favoured the reduction of hours to 44 per week for the iron trades also, but recommended that the change should not be brought into operation for a period of six months on account of the shortage of skilled mechanics.

For each industry the Commissioner urged the formation of an industrial council representative of the employers and the workmen to co-operate for the better organisation of the industry, so that any diminution of output resulting from the reduction of working time might be recouped by the creation of more intimate relationship between the management and the workers, as well as by improved methods of production.

With reference to Saturday work it was recommended that the hours be 8 on 5 days and 4 hours on Saturday, with the proviso that it may be agreed between any employer and his workmen, or prescribed by award for any industry, that the time be worked in 5 days of 8½ hours.

In consequence of this report the Eight Hours Act was amended to provide for the constitution of a special court by a judge of the Court of Industrial Arbitration to inquire into the working hours in any industry within its jurisdiction upon the application of the employees' unions, and to consider any application for a reduction of the working hours fixed by the Eight Hours Act, 1916. Recommendations made by the special court may be applied by proclamation to the industry concerned, the provisions of the proclamation being binding in the same manner as an industrial award. Unless it is proclaimed to the contrary, wages fixed by award upon a weekly basis may not be reduced by reason of a proclaimed reduction in hours, and wages fixed upon a daily or hourly basis must be increased so that each employee working full time, as reduced, will receive the same amount of wages as for working full time under the award.

The Court was constituted in February, 1921. At the preliminary sitting the Judge announced his intention of adopting the standard of 44 hours per week, and the onus of proving the necessity of working longer hours lay on the employers concerned. As the result of recommendations made by the Court a 44-hour working week has been proclaimed in respect of the following industries:—Building trades, flour-milling, starch and condiment making, furniture trades, saw-milling, iron trades (except in metalliferous mines and ore treatment works), printing and paper making, soap and candle making, breweries, bridge and wharf carpenters (Metropolitan and Newcastle), rail-coachmaking, coopers, dressmakers, white workers and milliners, electrical trades, and leather trades (except bootmaking).

In the Commonwealth Court of Conciliation and Arbitration a claim for a maximum of 44 hours per week was granted in 1919 in respect to the tailoring industry, in which the women workers greatly outnumber the men, on the ground that these are appropriate hours for women. In November, 1920, the Court decided to adopt 44 hours per week as the standard for all industries within its jurisdiction, and granted a claim by the timber workers for a reduction from 48 hours per week to 44 hours. Seeing that any reduction of hours in this industry would affect other industries the Court invited the Federal Government and the employers and employees' organisations to send representatives to take part in the hearing of the claim, and allowed certain large industrial undertakings to be represented.

PREFERENCE TO UNIONISTS.

In the majority of the State industrial awards a clause has been inserted granting preference to unionists, subject to the provisions of the Returned Soldiers' and Sailors' Employment Act of 1919. In occasional cases preference has been made subject to restrictions providing that the existing

employment of non-unionists should not be prejudiced, and that preference should not be extended to women. In a few cases the preference clause is in the nature of a prohibition of discrimination against unionists.

Preference may not be granted to members of a trade or industrial union who shall have taken part in, aided, or abetted an illegal strike after the passing of the Industrial Arbitration (Amendment) Act, 1918; and any declaration granting preference may be cancelled by the Court if the union, or any substantial number of its members, takes part in a strike. If any lesser number takes part in a strike, the Court may suspend the declaration.

The Commonwealth Court considers preference only when industrial peace is prejudiced by discrimination against unionists, and refuses to grant the claim when employers undertake not to discriminate.

In accordance with the Returned Soldiers and Sailors Employment Act of 1919, preference in employment must be given, notwithstanding any industrial award or agreement, to members of the military and naval forces who have returned from active service abroad.

APPRENTICESHIP.

Under the Apprentices Act, 1901, any person resident and trading in New South Wales may take apprentices under certain conditions regulating the apprenticeship, *e.g.*, as to age limitation and probation before completion of indentures. The Act limits the working time of apprentices to 48 hours per week, with saving clauses as to rural industries and domestic service. An amendment of the Apprentices Act was made in 1915 to protect the interests of apprentices enlisting for active naval or military service.

The minimum age of apprentices is 14 years, and limitations upon the proportion of apprentices to adults are fixed in many cases in industrial awards. Information is not available as to the total number of persons now serving in this State under indentures of apprenticeship (which are three-party contracts binding the employer, the employee, and his guardian), nor as to the extent of instruction imparted, and premiums usually paid.

The Board of Trade is authorised, under the provisions of the Industrial Arbitration (Amendment) Act, 1918, to exercise the powers previously vested in the Industrial Arbitration Court in regard to apprenticeship, and the provisions of awards relating to such matters will cease to have effect upon the publication of regulations by the Board.

The Board is empowered to determine in what occupations and industries apprenticeship shall be a condition of employment; to fix the hours, wages, and proportionate number of apprentices, and the conditions of apprenticeship; and to facilitate technical education. It is required also to maintain an apprenticeship register, and to protect the interests of apprentices and trade-learners.

In 1918 the Board appointed a committee of its members to consider the question of apprenticeship, and to report as to the principles to be adopted in organising the system. The report was completed in 1920, and was published as a basis for the consideration of the question of apprenticeship at a public inquiry to be held by the Board.

Referring to the decline of apprenticeship the committee states:—"It is inadequate to indicate the attraction of the high wages available to boys as a reason for that decline when the living wage principle recognises a responsibility on the part of parents limited to the maintenance of their children until the age of 14 only. When wages in all industries are related to a living wage which is based upon the average cost of living, as determined by the average requirements of the lowest paid class of workers, and those requirements are restricted to the needs of a family of husband and

wife and the average number of dependent children in such class, it is obvious that no provision at all is made to secure the interests of the young worker who has reached the age of apprenticeship."

The burden of providing for the supervision, general or special training, for the future prospects in industry of the adolescent members of the family, "must logically fall upon the State, and as the duty of the State it cannot have relation only to a restricted or favoured class, but must apply to all young workers."

In the case of industries in which it is practicable to revive the old system of apprenticeship with alterations to suit modern conditions, the committee recommended new general regulations to ensure to the employer regular and conscientious service, and to the apprentice adequate general and technical training, and to make provision in respect to the following:— Supervision by the State of the terms of contract and of the mutual personal relations of master and apprentice; arbitration in disputes; proportion of apprentices to adult employees; rate of wages definitely related to cost of subsistence during the period of apprenticeship; records of the practical work and experience of the apprentices; and transfer of apprentices from master to master. In addition special regulations would be necessary to meet the requirements of the standard skilled trades.

The committee submitted alternative plans for safeguarding the interests of juvenile workers in uneducative industries. The first proposal entails the introduction of legislation on the lines of the English Education Act of 1918, which makes attendance at a continuation school, or its equivalent, compulsory between the ages of 14 and 18 years. In addition it would be necessary to organise a system of compulsory record and registration which will enable the State to use its influence in securing for young persons leaving school suitable employment with appropriate wages, supervision of contractual relations, and assistance in regard to employment at the end of minority.

As the alternative to the adoption of the compulsory continuation school system it was proposed to offer inducements, by a system of insurance against unemployment, to workers between the ages of 14 and 18 years to register voluntarily with the schools and to submit to their supervision and control. The right to unemployment benefit would depend entirely upon the applicant's industrial record with the schools, as indicating whether he had been earnest in his search for employment, had made proper use of all opportunities offering, and had endeavoured to acquire and maintain a proper degree of efficiency. A condition of the payment of benefits would be attendance at places where provision is made for continued education.

The Board of Trade is taking action for the formation of joint councils of employers and employees to assist the Board in framing regulations on the subject of apprenticeship. It is intended to form a council for each important group of industries.

INSPECTION OF FACTORIES, &c.

The inspection of factories and shops in order to enforce the requirements of the law as to sanitation, safeguarding of machinery, provision of fire-escapes, and the conditions of employment of women and juveniles, is entrusted to the inspectors of the Department of Labour and Industry. In addition to the supervision of factories the inspectors undertake the work in connection with the Early Closing Acts, the Shearers' Accommodation Act, and the Industrial Arbitration Act, and can be called upon to deal with complaints relating to any phase of industrial legislation. A legal officer is attached to the administrative staff of the Department for the purpose of advising and assisting the officer who supervises the work of inspection.

Outworkers.

Under the Factories and Shops Act, 1912, occupiers of factories are required to keep, and to supply to the factory inspectors, full records regarding outworkers employed. Permission to engage outdoor workers is required by certain awards.

Shearers' Accommodation.

Under the Shearers' Accommodation Act, 1901, station-owners are required to provide proper accommodation for shearers; the Act applies only to shearing sheds where at least six shearers are employed. During the year 1920, 1,413 stations were visited, and 1,760 huts inspected, of which 1,574 were regarded as satisfactory.

INDUSTRIAL ACCIDENTS.

In regard to the factories, accidents, fatal or otherwise, are reported from year to year, the responsibility resting upon factory inspectors of seeing that all dangerous portions of machinery are properly and securely fenced and guarded. Special regulations have been made regarding precautions against the risk of accident in connection with the use of steam boilers and other pressure vessels.

The following table shows in comparative form the accidents reported in factories during the years 1918 and 1919, and the accident rate per 10,000 employees:—

Accidents.	Number.		Rate per 10,000 Employees.	
	1918.	1919.	1918.	1919.
Fatal	11	14	1·04	1·13
Partial Disablement	106	122	10·00	9·83
Temporary Incapacitation	549	565	51·81	45·53
Total	666	701	62·85	56·49

On the figures shown above, temporary incapacitation is the result of over 80 per cent. of the accidents; records are not available to show the time lost through these mishaps. The remaining accidents resulted in death or disablement.

The Scaffolding and Lifts Act, 1912, which is administered by the Department of Labour and Industry, regulates the construction and use of scaffolding, lifts, cranes, hoists, and derricks. The Act operates in the Metropolitan Police District and in the Newcastle District. On 31st December, 1919, there were 2,429 lifts under supervision. Fourteen fatal and twenty-nine non-fatal accidents were reported during 1919 in connection with lifts, scaffolding, and cranes.

Particulars of accidents in mines are shown in the chapter "Mining Industry," and of railway and tramway accidents in the chapter "Railways and Tramways."

INDUSTRIAL DISEASES.

Reliable records relating to industrial diseases are not available; but certain occupations are, with good reason, regarded as unhealthy, and provision has been made under the Workmen's Compensation Acts in respect of certain occupational diseases. In the majority of unhealthy or noxious trades the hours are short and the wages are comparatively high. Regulations under the Factories and Shops Act have been framed with a view to minimising the risk of industrial diseases, and the use of white

phosphorus in match factories has been prohibited by the White Phosphorus Matches Prohibition Act, 1915.

The Board of Trade conducts investigations into the incidence of industrial diseases. As the result of its activities a technical commission was appointed in 1919 to report upon the incidence of miners' phthisis and other occupational diseases, and legislation was enacted to provide for compensation in respect to cases of silicosis amongst stonemasons, quarrymen, etc., and cases of pneumoconiosis and tuberculosis amongst the miners of Broken Hill.

WORKMEN'S COMPENSATION.

State Legislation.

The State law relating to workmen's compensation is contained in the Workmen's Compensation Acts, 1916 and 1920, the Workmen's Compensation (Silicosis) Act, 1920, and the Workmen's Compensation (Broken Hill) Act, 1920.

The Workmen's Compensation Acts, 1916 and 1920, relate to all employees whose remuneration does not exceed £525 per annum, the wage limit having been increased from £312 to £525 per annum in 1920; the exceptions are casual hands employed otherwise than for the purpose of the employer's trade or business, members of the Police force, outworkers, and members of the employer's family dwelling in his house.

The Acts apply in respect of certain industrial diseases, as specified in a schedule, and in respect of accidents which cause disablement for at least one week. Seamen employed on ships whose first port of clearance and whose destination are in New South Wales may claim compensation under these Acts, if they agree not to proceed also under the Seamen's Compensation Act of the Commonwealth.

The amount of compensation is:—

(a) Where death results from the injury—

(i) if the workman leaves any dependents wholly dependent upon his earnings, a sum equal to his earnings in the employment of the same employer during the three years next preceding the injury, or the sum of £300, whichever of those sums is the larger, but not exceeding in any case £500. The amount of any weekly payments made under this Act and any lump sum paid in redemption thereof are deducted from such sum, and if the period of the workman's employment by the said employer has been less than the said three years, then the amount of his earnings during the said three years is deemed to be 156 times his average weekly earnings during the period of his actual employment under the said employer;

(ii) if the workman does not leave any such dependents, but leaves any dependents in part dependent upon his earnings, such sum, not exceeding in any case the amount payable under the foregoing provisions as may be agreed upon, or, in default of agreement, may be determined, on arbitration under this Act, to be reasonable and proportionate to the injury to the said dependents; and

(iii) if he leaves no dependents, the reasonable expenses of his medical attendance and burial not exceeding £20.

(b) Where total or partial incapacity for work results from the injury, a weekly payment during the incapacity not exceeding 66⅔ per cent. of his average weekly earnings during the twelve months, if he has been so long employed, but if not, then for any less period during which he has been in the employment of the same employer, such weekly payment may not exceed £3, and the total liability in respect thereof may not exceed £750.

As respects the weekly payments during total incapacity of a workman who is under 21 years of age at the date of the injury, and whose average weekly earnings are less than 20s., 100 per cent. is substituted for 66 $\frac{2}{3}$ per cent. of his average weekly earnings, but the weekly payment may in no case exceed 15s.

Provision is made whereby an employer may contract with his workmen that a scheme of compensation approved by the Registrar of Friendly Societies may be substituted for the provisions of the Acts.

The Workmen's Compensation (Silicosis) Act, 1920, empowers the Government to establish a scheme for the payment of compensation with respect to workmen who suffer death or disablement owing to fibroid phthisis or silicosis of the lung or other diseases of the pulmonary or respiratory organs caused by exposure to silica or other dust. A fund may be established for this purpose, and the employers may be required to contribute to it; the scale of compensation in cases of death or disablement, due to silicosis unaccompanied by tuberculosis, is that prescribed by the Workmen's Compensation Act, 1916, and its amendments; in other cases the rates will be prescribed in the scheme.

When the Technical Commission of the Board of Trade conducted its investigations as to the incidence of miners' phthisis in Broken Hill, the mines were idle owing to an industrial dispute, which lasted from May, 1919, until the matters in dispute were determined by an award of an arbitrary tribunal in November, 1920. The terms of the award include provision for the payment of compensation to employees suffering from occupational diseases; this condition was embodied in the Workmen's Compensation (Broken Hill) Act, 1920, which will remain in force until 30th September, 1928. Compensation is payable in respect of any mine-worker who was on the pay-sheet or in the employ of any of the Broken Hill mines on 1st May, 1919, and who offered himself for re-engagement within three months of the passing of the Act.

The fund established for the purpose is maintained by contributions, one-half from the mineowners and the other half from the State Government, and is administered by a joint committee of two members nominated by the owners and two nominated by the mine-workers, with an independent chairman.

Compensation is payable if death is caused by pneumoconiosis or tuberculosis, or if a mine-worker is suffering from pneumoconiosis or tuberculosis to such a degree that he cannot be employed in the mines, and is thereby rendered incapable of earning the living wage.

The weekly rates of compensation are as follow:—

- (a) Single man or widower £2, and additional payments not exceeding, in the aggregate, £1 17s., viz., mother £1, father £1, sister or brother under 14 years 8s. 6d., each child under 14 years 8s. 6d.
- (b) Married man £2, and additional payment for wife £1, and for each child under 14 years 8s. 6d.
- (c) Widow, until re-marriage £2.

In the case of persons partially dependent the rates are determined by the joint committee. During partial incapacity the weekly payments may not exceed the difference between the living wage and the average earnings which the worker can earn in a suitable occupation. Removal expenses may be allowed to a beneficiary who is compelled to remove from the county of Yancowinna in order to obtain suitable employment; also the funeral expenses of a mine-worker up to £20. Compensation may be paid in a lump sum. Beneficiaries under this Act are not entitled to benefits under any other Act relating to workmen's compensation.

The following statement shows particulars regarding compensation in respect of accidents paid under the Workmen's Compensation Acts during the five years, 1915 to 1919:—

Year.	Accidents.				Compensation.			
	Death.	Disablement Compensated by—		Total.	Death.	Disablement Compensated by—		Total.
		Lump Sum.	Weekly Payment.			Lump Sum.	Weekly Payment.	
					£	£	£	£
1915	52	76	5,778	5,906	12,072	5,426	27,073	44,571
1916	52	123	5,154	5,329	12,431	10,036	29,635	52,102
1917	43	98	4,689	4,833	16,065	7,172	32,462	55,619
1918	96	147	11,529	11,772	32,353	18,353	78,192	128,928
1919	115	194	11,793	12,102	41,206	25,311	91,646	158,233

Compensation was paid in respect of forty-one cases of industrial diseases during 1919, the amount being £3,188; during the previous year the number of cases was seventeen, and the amount £367.

Commonwealth Legislation.

In addition to the general enactments of the State, specific enactments of the Commonwealth provide for compensation to men in a particular class of work which is subject to special risks and to workers in the service of the Commonwealth Government.

The Commonwealth Workmen's Compensation Act, 1912, relates to all workmen employed in the service of the Commonwealth—except those, other than manual workers, employed at remuneration exceeding £500 a year; outworkers; and members of the naval or military forces on active service. The amount of compensation in the case of the death of a workman leaving dependents is a sum equal to three years' earnings or £200, whichever is the larger, but not exceeding £500; the compensation to persons partially dependent may be fixed by agreement or by arbitration or proceedings under the Act. Where there are no dependents, expenses of medical attendance and burial up to a maximum of £30 are payable. Payment in respect of incapacity is 50 per cent. of the average weekly earnings up to £2 per week, but workers under 21 years of age, earning less than 20s., may be paid 100 per cent. of the weekly earnings, up to a maximum of 10s. a week.

The Seamen's Compensation Act, 1911, provides against injuries incurred in the course of employment. It is applicable to seamen (a) on ships in the service of the Commonwealth, other than naval or military service; (b) on ships trading with Australia or engaging in any occupation in Australian waters, and being in territorial waters of any territory which is part of the Commonwealth; and (c) on ships engaged in trade and commerce with other countries or among the States. In the case of ships not registered in Australia, the two last clauses apply only in relation to seamen shipped under articles of agreement entered into in Australia, and while the ships are subject to the law of the Commonwealth. Compensation is not payable in respect to any injury which does not disable the seaman for at least one week. In the case of death the amount of compensation, when deceased leaves dependents, is the equivalent of three years' wages in the particular employment, or £200, to a maximum amount of £500.

The compensation is reducible with the measure of dependence, but the minimum for a seaman leaving no dependents is the cost of medical attendance and burial to the value of £30.

In the case of total or partial incapacity, the amount of compensation is a weekly payment during the incapacity not exceeding 50 per cent. of the average weekly earnings during the twelve months, or for any less period, previous to the injury.

WAGES.

The minimum rates of wages for nearly all classes of adult and juvenile workers are now fixed by industrial tribunals exercising statutory authority.

Juvenile labour is protected also to some extent by a law passed in 1908, providing that a minimum wage of not less than 4s. per week must be paid to factory workers, shop assistants, and others. The Act was designed to prevent the threatened development in unorganised trades of a system under which young workers were being employed without remuneration.

The Living Wage.

In fixing the rates of wages the industrial tribunals distinguish between the basic or living wage for unskilled labour and the secondary wage, which is remuneration for skill or other special qualifications. The principle has been adopted that the lowest wage must be sufficient to secure to the worker a reasonable standard of living. For this reason the question of the cost of living is of primary importance to the wage-regulating tribunals, and investigations have been conducted from time to time in order to fix a standard living wage to be used as a basis for their determinations.

The main object of the introduction of industrial arbitration was not the determination of rates of wages, but the settlement and prevention of industrial disputes; and the early legislation, while empowering the tribunals to fix wages as incidental to the preservation of industrial peace, gave no directions as to the principles to be observed in the exercise of the function. The determination of rates of wages, however, has become the most important task of the tribunals, and it is interesting to trace the gradual development of the principle of a living wage until it became a statutory right.

It is apparent from the following extracts from the judgments of the Court of Arbitration, constituted in New South Wales in 1902, that for a number of years the condition of an industry was the main consideration in determining rates of wages. Thus the first President, Mr. Justice Cohen, adjudicating in a dispute in the confectionery trade in 1902, said, "In fixing the minimum wage at 50s. we necessarily had regard to the existing conditions of the trade and its prospects, of which there was evidence before the Court . . . we think at the present time it would be exceedingly unwise to do anything that would be likely to hamper the successful or the existing operations of the trade."

But the rate of 50s. per week was at that time considered to be above a living wage, and it must not be inferred that the question of a living wage was ignored by the Court, for in 1905 the President, in an award for the bookbinding industry, made the following reference to the principles by which the Court was guided:—"Far and above all is the industry itself: What can the industry afford to pay? And in connection with that we have to consider: are the workmen and workwomen employed in the particular industry underpaid in the sense that they are getting a wage which might be classified as far below a living wage, or as a wage which is below the ruling rates of the industry?"

In July, 1905, Mr. Justice Heydon was appointed President of the Court of Arbitration of New South Wales, and in his first judgment (Sawmill and Timber Yards Employees Award) he stated definitely that in his opinion it was the duty of the Court to provide a living wage. He said that the considerations which should influence the Court "seem to me to be mainly three: first, the duty of assisting to, if possible, so arrange the business of the country that every worker, however humble, shall receive enough to

enable him to lead a human life, to marry and bring up a family, and maintain them and himself with, at any rate, some small degree of comfort. This, which may be shortly defined as the duty to prevent sweating, is, I think, universally recognised in this country, and almost universally acted upon."

The first case in which the Commonwealth Court of Conciliation and Arbitration was required to fix rates of wages was the Merchant Service Guild case in 1906. The question of a living wage was not involved, as the employees concerned were receiving rates of pay much above the living wage, but consideration was given to the cost of living. The President, Mr. Justice O'Connor, decided to adopt as a basis the rates paid on ordinary deep-sea voyages, and to add something for the special conditions of the interstate trade, and to make a further addition "for the increased cost of living, not only by reason of the higher cost of some of life's necessaries, but also by reason of the increased comfort of living and the higher standard of social condition which the general sense of the community in Australia allows to those who live by labour."

In October, 1907, Mr. Justice Higgins, newly appointed President of the Commonwealth Court, delivered his well-known "Harvester judgment"; in this case he not only laid down as a definite principle that the lowest wage should be based on the cost of living, but also determined the standard of living which it should cover, and fixed a standard wage.

The Harvester case was not, strictly speaking, an industrial arbitration matter, but arose from a provision of the Excise Tariff Act of 1906, that certain goods should be exempted from excise duty, if manufactured in Australia under conditions as to the remuneration of labour declared by the President of the Court of Arbitration, to be "fair and reasonable." The manufacturer of "Harvester" machines at Sunshine, Victoria, applied to the Court for such a declaration, and the President, seeking to define the standard implied by the words "fair and reasonable," stated—"I cannot think of any other standard appropriate than the normal needs of the average employee regarded as a human being living in a civilised community."

In 1908 the State system of arbitration was changed by the establishment of wages boards, subject to the oversight of the Industrial Court. At this period prices were rising, and the increased cost of living was the ground of numerous claims for increases in wages. In order to bring about a reasonable degree of uniformity in the decisions of the various boards, and to eliminate the waste of time resulting from a number of boards hearing evidence on the same subject, the Court decided to fix a standard wage for their guidance. With this object an inquiry into the cost of living was conducted by Judge Heydon, and a standard wage was fixed in February, 1914; subsequently the Court increased the rate from time to time to meet increases in the cost of living.

In 1918, under the Industrial Arbitration Amendment Act, the workers were accorded the statutory right to a standard wage, based on the cost of living; and the Board of Trade, established under its provisions, is charged with the duty of determining on this basis annually the living wages for men and for women, the declared rates being the lowest which may be fixed by any industrial award or agreement.

Having recognised the right of the worker to a living wage, the standard of living which that rate should cover becomes a matter for decision. In the Harvester case the standard was based apparently on the needs of a man, his wife, and a family of three children. In reference to this matter, the President of the Court has stated—"I had no evidence on the subject of the actual average; and, as it would be absurd to make the minimum wage depend on the number of persons in each employee's family, as it would

also handicap the man with many children in seeking employment, I thought that a family of 'about five' might fairly be taken as the kind of family to be brought into the calculations."

The evidence submitted in the Harvester case included a small number of household budgets of the workers' wives. The usual rent paid by a labourer appeared to be 7s. per week, and the average expenditure for food, rent, and fuel, as shown in nine budgets, was £1 12s. 5d., but this amount did not cover clothing and miscellaneous items. After reviewing the rates paid to labourers by certain public undertakings, the President hesitated between 7s. and 7s. 6d. per day as a minimum, and decided that 7s. a day was the lowest wage which would be regarded as "fair and reasonable" for unskilled labourers.

It has since been the usual practice in the Commonwealth Court, in making awards as to wages, to use this rate as the basic rate for Melbourne in 1907, and to make allowance for subsequent variations in the cost of living by varying it in accordance with the index numbers of the prices of food and groceries and rent combined, published by the Commonwealth Statistician. This method of adjustment involves the assumption that the prices of clothing and miscellaneous items vary in the same ratio as the items for which the index numbers are computed.

For some years the "Harvester wage" was used as a basis by the State tribunals, but in November, 1911, the Industrial Court of New South Wales decided that on account of the increased cost of necessities the basic wage should be increased to 45s. per week, and later in 1913 decided to conduct an inquiry in order to fix the living wage for the guidance of the wages boards.

At that inquiry, conducted by Mr. Justice Heydon, of the Court of Industrial Arbitration, the standard differed from that of the Harvester case in regard to the size of the average family, and the number of dependent children was taken as two. The living wage was defined as the standard wage which will do neither more nor less than enable a worker of the class to which the lowest wage would be awarded, to maintain himself, his wife, and two children in a house of three rooms and a kitchen, with food, plain and inexpensive, but quite sufficient in quantity and quality to maintain health and efficiency, and with an allowance for miscellaneous expenses.

In regard to the last-mentioned group, the Harvester standard was accepted, the items enumerated by Mr. Justice Higgins in that case being as follows:—Fuel, clothes, boots, furniture, utensils, rates, life insurance, savings, accident or benefit societies, loss of employment, union contributions, books and newspapers, train and tram fares, sewing machine, mangle, school requisites, amusements and holiday, intoxicating liquors, tobacco, sickness and death, domestic help, unusual contingencies, religion or charity.

The evidence placed before the Court included statistical information supplied by the Government Statistician, budgets collected by employers and employees, municipal records, and returns supplied by house and estate agents.

As the result of the inquiry the Court, in February, 1914, assessed the sum of 48s. per week as the standard living wage for adult males in Sydney, but suggested that in view of the prosperous condition of the industries that the boards should award more than the living wage, viz., 8s. 6d. per day for unskilled labour, 8s. 9d. for ordinary work, and 9s. for heavy work. In regard to existing awards the Court directed that application might be made to the boards to increase to 48s. per week all wages under that amount. In December, 1915, the Court raised the minimum wage to 52s. 6d. per week (8s. 9d. per day or 1s. 1½d. per hour), the decision being applicable only to future awards. In August, 1916, the Court fixed the basic wage for

future awards at 55s. 6d. per week (9s. 3d. per day, or 1s. 1½d. per hour), and directed that any wages in existing awards below 1s. 1d. per hour should be raised to 54s. per week (9s. a day, or 1s. 2d. an hour).

At the first inquiry by the Board of Trade in 1918 in connection with the determination of the living wage for men in the Metropolitan area, the Board decided to adopt as a starting point the standard wage as declared by the Court of Industrial Arbitration in February, 1914, and to ascertain the increase or decrease in the average cost of living since that time. By increasing this amount to compensate for the decrease in the purchasing power of money calculated on the cost of food and groceries and rent, it was found that the living wage proper was £2 18s. 6d. per week in September, 1918; but in view of the abnormal conditions of the time the Board added another 3d. per day, and declared the standard wage to be £3 per week.

At its second annual inquiry as to the living wage for men in Sydney, held in 1919, the Board rejected this method of calculating the increase in the cost of living, and decided to examine separately each element of the cost of living, namely, food and groceries, rent, fuel and light, clothing and boots, miscellaneous items.

For food and groceries the Board, after perusal of the judgment of 1914, took 19s. 1d. as the cost at that date of the food regimen, and added 1s. 1d. as a further allowance for fruit and vegetables; to the total, £1 0s. 2d., the index number of food prices was applied, and the allowance for food and groceries was assessed at £1 11s. 4d.

In regard to rent, the Board discarded the basis used in former judgments and adopted the average rental of four-roomed houses in Sydney and suburbs during the six months January to June, 1919, namely, 15s. 7d.

The methods of determining the allowances for fuel and light and for clothing and boots was not disclosed in the declaration; it was stated that the Board "based its findings as to these items on the evidence at the inquiry, and upon inferences from relevant statistics, and assessed them as follows:—Fuel and light, 3s.; clothing and boots, 14s."

In reference to miscellaneous items, the Board compared the results of various household budget inquiries in Australia and in America, and arrived at the conclusion that it seemed impossible to reject the suggestion that the miscellaneous expenditure of a civilised family represents at least 20 per cent. of the total expenditure. Nevertheless, the amount allocated to these items, 13s 1d., represents 17 per cent. of the living wage, which was declared in October, 1919, viz., £3 17s. per week, or 12s. 10d. per day, or 1s. 7½d. per hour.

In October, 1920, the Board of Trade declared the living wage to be £4 5s. per week, which represents an increase of 8s., or 11·4 per cent.; the methods used in arriving at this determination were not disclosed. In his declaration the President of the Board stated that prices had increased by about 18 per cent., and the purchasing power of money was at least 15 per cent. less than when the last declaration had been made. The matter was dealt with substantially on the same lines as in the previous year, and the Board was guided mainly by statistical data as to actual increases in prices, but some consideration was given to the fact that families by rearrangement of their expenditure can economise without lowering their standard of living.

Inquiries into the cost of living in country districts were commenced in 1919, the same principles being pursued and the same methods adopted, as far as possible, as in assessing the living wage for the Metropolitan area in October, 1919. The living wage for the district of Newcastle was declared on 19th April, 1920, as £3 16s. 6d. per week, 12s. 9d. per day, and 1s. 7½d. per

hour; for the South Coast area on 11th May, 1920, at £3 17s. 6d. per week, 12s. 11d. per day, and 1s. 7½d. per hour; and for the Central Tablelands area on 8th July, 1920, at £3 18s. per week, 13s. per day, and 1s. 7½d. per hour.

Subsequently it was decided to discontinue the practice of making separate declarations for defined areas and the living wage, £4 5s., declared in October, 1920, was applied to adult male employees in the whole State excepting the county of Yancowinna, which contains Broken Hill; and after special inquiry it was applied to that county on 9th March, 1921.

In December, 1920, regulations were issued under the Industrial Arbitration Act prescribing that the living wage as assessed by the Board of Trade in each year must be paid to all adult male employees, except in cases where they are provided by their employers with board or lodging or any customary privileges or payments in kind of which the value had not been assessed by the Court of Industrial Arbitration.

The following statement shows the living wage for men, as fixed by the Court of Industrial Arbitration, or as declared by the Board of Trade, since 1914; in 1919 and earlier years the declarations related to the Metropolitan area only:—

Date.	Living Wage for Adult Males.	Increase since 1914.	
		Amount.	Per cent.
	£ s. d.	£ s. d.	
1914—February ...	2 8 0	...	...
1915—December ...	2 12 6	4 6	9·4
1916—August ...	2 15 6	7 6	11·6
1913—September ...	3 0 0	12 0	25 0
1919—October ...	3 17 0	1 9 0	60·4
1920—October ...	4 5 0	1 17 0	77·1

In view of the various issues affected by the large increase of 17s. per week in the living wage as declared in October, 1919, the Government introduced a "Maintenance of Children" Bill. It was proposed that the Board of Trade should declare as the living wage for men the amount sufficient to maintain a man and his wife, and should make a separate declaration as to the additional cost of maintaining a single child, and each additional child in the same household, and that the children of employees should be maintained by means of a fund derived from the contributions of the employers.

For this purpose the Government Statistician was to obtain the necessary information in each year as to the number of employers employing persons of each sex, the number of such employees classified according to the amount by which their wages exceeded the declared living wage, and the number of children dependent on them—that is, boys under 14 years and girls under 15. From these data were to be ascertained the monthly cost per male employee of the maintenance of all children covered by the proposal, and the monthly cost per female employee of the maintenance of the children of female employees, who were not also children of male employees. The employers were to contribute to a Maintenance of Children Fund in accordance with the number of their employees of each sex, viz., the cost per employee ascertained as above multiplied by the average daily number of their employees.

From the fund monthly payments were to be made to mothers in accordance with the cost of maintenance as declared by the Board of Trade for a single child, and for each additional child in the same family; the payments were to be reduced by one-twelfth for each 5s. or part thereof by which the wages of the parent exceeded the living wage, so as to vanish in the case of employees receiving £3 in excess of the living wage. No payments were to be made in respect to children of employees engaged in a strike. The bill did not apply to persons whose earnings exceeded £8 per week or £400 per annum. After passing through the Legislative Assembly the bill was amended in the Upper House in respect of one of its vital principles, and its further consideration was postponed indefinitely.

In regulating industrial wages the State and Federal Courts act broadly on the same principles, but use different methods in fixing the basic rates. Though it is a guiding principle of the State Court not to interfere in cases subject to the jurisdiction of the Commonwealth Court, there are some industries in which awards of both Courts are in operation; for instance, if having secured a Federal award which binds only the persons cited before the Court, it is desired to bind all the persons engaged in the industry, application is made to the State industrial authority. In such cases the State award usually embodies the terms of the Federal, but if the State award prescribes higher rates of wages they must be paid by all employers, including the parties to the Federal award.

In the Commonwealth Court the basic rate is calculated for each case as required. The Harvester wage, which is used as a standard, related to the cost of living of a man, his wife, and three children, *i.e.*, one more than the average adopted by the State Court, and until 1919 the basic rate allowed by the Commonwealth Court for Sydney was usually about 6s. per week higher than the living wage fixed by the State tribunal. But the living wage rates as declared by the Board of Trade in 1919 and 1920 were much higher than the basic rates calculated at those dates in accordance with the method used in the Federal Court.

The Judges of the Commonwealth Court frequently have expressed their dissatisfaction with the method of assessing the basic wage, and in response to their requests a Royal Commission (with Mr. A. B. Piddington, K.C., as Chairman) was appointed in December, 1919, to inquire into the following matters:—(1) The actual cost of living according to reasonable standards of comfort, including all matters comprised in the ordinary expenditure of a household, for a man with a wife and three children under 14 years of age, and the several items and amounts which make up that cost; (2) the actual corresponding cost of living during each of the last five years; (3) how the basic wage may be automatically adjusted to the rise and fall from time to time of the purchasing power of the sovereign.

In its reports the Commission pointed out that previous inquiries into the cost of living by the Arbitration tribunals had depended, more or less, upon the Harvester judgment. That decision was evidently accepted as reasonable at the time it was made, for the rate and the grounds on which it was based remained unchallenged by either employers or employees until 1917, though the method of adjustment in accordance with the rising cost of living had been frequently the subject of objections. Nevertheless the decision had been given without ascertaining the cost of living, except to a partial extent; for instance, the rent of 7s. a week was apparently for houses in Sunshine, then a small suburb about 8 miles from Melbourne, the cost of food and groceries was deduced from nine household budgets, and no evidence was taken as to the cost of clothing and miscellaneous requirements.

Therefore the Commission decided to disregard all previous inquiries, and to ascertain section by section and item by item the cost of living according to a reasonable standard of comfort in 1920.

The size of the family was defined by the Letters Patent, and the Commission decided to take the children as a boy of 10½ years, a girl of 7, and a boy of 3½ years, and to determine the reasonable standard of comfort, not by reference to any type or group of employees, but in accordance with the needs which are common to all employees, with the accepted principle that there is a standard below which no employee should be asked to live. The cost of food was calculated on a standard sufficient to provide 3,500 calories per man, and the requirements of the family were taken as equal to 3·3 "man-units," the allowance for the wife being 80 per cent of the man's, and for the children 60 per cent., 50 per cent., and 40 per cent. respectively. The rent was for a five-roomed house in sound condition, with bath, copper, and tubs, not actually cramped as to allotment, and situated in decent surroundings. The clothing was required to be of good wearing quality, with a good standard of appearance and fit, but without regard of-fashion. For miscellaneous expenses the following items were included, viz., fuel and lighting, groceries, other than food, renewals of household utensils, household drapery, crockery, glassware and cutlery, union and lodge dues, medicine and dentist, newspapers, stationery and stamps, recreation, smoking, domestic assistance, barber, fares, and school requisites.

The findings of the Commission in regard to question (1) referred to it, viz., as to the actual cost of living for a man, his wife, and three children in each capital city in 1920 and in 1914 are shown below:—

Metropolitan Area.	Amount per Week.	
	1914.	1920.
	£ s. d.	£ s. d.
Sydney	3 12 11	5 17 1
Melbourne	3 7 9	5 16 6
Brisbane	3 4 0	5 6 2
Adelaide	3 11 2	5 16 1
Perth	3 12 9	5 13 11
Hobart	3 6 9	5 16 11

For the automatic adjustment of the basic wage, according to the rise and fall of the purchasing power of the sovereign, the Commission recommended the establishment of a Bureau of Labour Statistics to collect data for the review of the cost of living from quarter to quarter, and to declare at quarterly intervals the actual cost upon an average of the prices of the preceding four quarters, these declarations to be used as the basic wage by the Commonwealth Court of Arbitration in such manner as Parliament might prescribe.

At the request of the Government, the Chairman prepared a memorandum in reference to the findings of the Commission, in which he indicated that while the standard wage is based on the cost of living of a man, his wife, and three dependent children, families with more than three children suffer privation, and families with less than three children and unmarried men receive more than necessary for the living wage; also that, as the actual average number of dependent children is less than three, the industries are required to pay for a large number of non-existent children. He estimated that a basic wage of £5 16s. would be distributed as follows:—(1) Man and wife, £4 per week; (2) three dependent children, £1 16s., or an average of 12s. each. Assuming that the basic wage in the Commonwealth at the time was £4 per week—though probably it was about 2s. less—he stated that the increased burden on industry from raising

the basic wage to £5 16s. per week was estimated at £93,000,000 per annum, but he suggested an alternative scheme which would cost £64,920,000 less than that amount, viz., that unmarried men and married men without children should receive a basic wage of £4 per week, and that the Commonwealth Government should pay an endowment of 12s. a week in respect of all dependent children, the cost of endowment to be covered by a tax on employers for each person employed by them—estimated at 10s. 9d. per week per employee. This proposal was very similar to that already described on page 550 in regard to the "Maintenance of Children" Bill submitted in New South Wales.

No action has been taken to bring into operation the recommendations of the Commission, though in regard to employees in the service of the Commonwealth the Government decided to raise the basic wage for married men and for single men with dependents to £4 a week, and to pay to married officers an allowance of 5s. a week for each dependent child.

Living Wage in the other States.

It is interesting to compare the living wage for Sydney with that in the Metropolitan areas of the other Australian States. In Queensland and South Australia the standard wage for unskilled workers is fixed by an Industrial tribunal; in Victoria and Tasmania there is no uniformity in regard to the determinations of the Wages Boards, the rates being fixed by collective bargaining between the employers and the employees in the industry concerned, and the wages for unskilled labour vary accordingly. Under the industrial legislation of Western Australia and of the Commonwealth the court adjudicates in cases of disputes only, and a rate is assessed for each case, having regard to any special conditions of the industry, e.g., continuity or intermittency of employment, or the comparative laboriousness of the work.

The rates shown in the following statement for Melbourne and Perth are those awarded for unskilled labour in cases determined at or about the respective dates to which the table relates; the quotation for Hobart represents the average of the rates for unskilled workers under the Wages Board determinations which were in force in 1914 and in 1921. In the Commonwealth Court the basic wage, 51s., quoted for 1914, was adopted in an award for employees in the tanneries of New South Wales, Victoria, and Queensland in May, 1914, and again in September, 1914, for workers in felt hat factories in New South Wales, Victoria, and Queensland. In September, 1920, the basic rate of 78s. was used in determining the rates of pay for the Merchant Service Guild of Masters and Officers.

Metropolitan Area.	Living Wage—Adult Males.		
	1914 (July).	1920-21.	
		Rate.	Date of Determination.
	£ s. d.	£ s. d.	
Sydney	2 8 0	4 5 0	October, 1920.
Melbourne	2 5 0	3 18 0	December, 1920.
Brisbane	2 2 0	4 5 0	March, 1921.
Adelaide	2 8 0	3 15 0*	July, 1920.
Perth	2 14 0	4 0 0	February, 1921.
Hobart... ..	2 8 0	3 15 0	February, 1921.
Commonwealth	2 11 0	3 18 0	September, 1920.

*Living wage fixed at 79s. 6d. per week in July, 1921.

Living Wage for Women.

The principle of a living wage was not applied to women's wages under the State industrial arbitration system until the provisions of the amending Act of 1918 came into operation, and the Board of Trade conducted its first inquiry into their cost of living in 1918.

The standard adopted was the minimum wage which would cover the cost of living of the adult female worker of the poorest class, but having no other responsibility and living away from home in lodgings. Accordingly the living wage for women workers in the Metropolitan area was fixed in December, 1918, at 30s. a week, or 5s. a day, or 7½d. an hour; in 1919 the rate was increased to 39s. a week, 6s. 6d. a day, or 9¼d. per hour.

On 23rd December, 1920, the rate of 43s. per week, 7s. 2d. per day, or 10¾d. per hour, was declared as the living wage for women in the whole State except in the county of Yancowinna, and on 9th March the same rate was applied to women workers in that county.

Following upon the determination of the living wage in December, 1918, regulations were issued under the Industrial Arbitration Act which prescribe that the living wage as assessed by the Board of Trade in each year must be paid to all adult female employees in the Metropolitan district, except in cases where they are provided by their employers with board or lodging or any customary privileges or payments in kind, the amount of which has not been assessed by the Court of Industrial Arbitration. Thus all women workers, with the exceptions noted above, are entitled to have their wages raised to the living wage, even if engaged in occupations which are not subject to awards, and without application to the Court.

A living wage for women workers has not been fixed by the Commonwealth Court except in particular industries. In September, 1914, employees in the felt hat factories of New South Wales, Victoria, and South Australia were awarded 30s. a week—the full amount claimed; in May, 1917, a minimum Federal wage of 35s. per week was awarded for unskilled labour by women employed as ticket-sellers, cloakroom attendants, &c., in theatres and picture shows; in July, 1919, the basic rate for women in the clothing trades was fixed at 35s. per week for all States except Western Australia.

Secondary Wage.

Having ascertained the basic rates of wages for unskilled labour, the assessment of the secondary wage is a matter to be considered separately in connection with each occupation. It is the usual practice, under both State and Federal systems, when wages are increased on account of the increased cost of living, to preserve unaltered the recognised margin between the skilled and the unskilled workmen in an industry, and to increase all rates of wages by the same amount which has been added to the basic wage.

During the period of the war the State Court decided to depart from this practice, and new rules for the guidance of the industrial boards were contained in the "margin judgment" delivered in November, 1916. The following extracts from statements by the Judge of the Court indicate the procedure adopted:—

"We have resolved that where an industry appears to be benefiting by or during the war, the abnormal conditions created by the war shall be taken not to affect it, and the general rule to be observed as to its wage scale shall be that the current living wage shall be the basic wage for male adults, and, unless good reason appears to the contrary, all their wages appearing in the former award shall be increased by the same amount as has been added to the living wage. Thus: If upon hearing any claims it shall appear that the living wage has been increased by 3s. a week, all adult male wages in that

industry will ordinarily be also increased by 3s. a week. Where, however, an industry has not benefited by or during the war, it must be taken to come under war conditions, and the scale must be subject to diminishing rates of increase."

"The Board in these cases should diminish the increases throughout the scale in rates above the living wage, or fix the amount of wage at which the increases should vanish, and then arrange in their scale of wages, according to their discretion, increases diminishing in amount, so as to vanish at the ascertained point."

These rules were general rules, and were not intended to restrict the right of the Court or the Boards to consider any special circumstances which appeared to affect particular wages, either upwards or downwards.

The "margin judgment" was abrogated by a judgment of the Full Bench of the Court of Industrial Arbitration in November, 1918, and the former rule was restored.

When making renewal awards to replace those which have expired, the Court goes back to the date of the original award and adds to the rates therein the total amount by which the living wage has been increased since that time. Thus the Court restores to the secondary wages any reductions which resulted during the war period from the operation of the "margin judgment."

The amendment of the Industrial Arbitration Act passed in December, 1919, provides that when a living wage declaration is made by the Board of Trade, application may be made to the Court for the variation of current awards as to wages; previously the Court varied only those rates below the living wage by raising them to that amount and other rates remained unaltered, unless a proviso had been inserted in the award entitling the employees to have the whole award re-opened; in such cases all the rates were raised by the same amount as the living wage.

On account of the issue of regulations covering the matter, it has not been necessary to apply to the Court for increases in rates below the living wage since December, 1918, in regard to women's wages, and since December, 1920, in the case of men's wages.

RATES OF WAGES.

The following tables show the rates of wages in the principal industries at the end of each of the last five years as compared with the pre-war rates. Except where otherwise specified the figures indicate the minimum amount payable for a full week's work of 48 hours, on the basis of the weekly, daily, or hourly rates specified in the industrial awards or agreements. These tables relate to a limited number of occupations only, but the award rates are published annually in greater detail in the "Statistical Register of New South Wales." When labour is plentiful the award rates become general, but with a scarcity of labour competent employees command higher remuneration.

It will be noticed that some of the rates in the State awards at the end of 1919, as stated in the tables, were lower than the living wage, 77s. per week; this is due to the fact that a number of variations of current awards made by the Court subsequent to the living wage declaration of October, 1919, had not come into operation at the end of the year. In 1920 the rates below the living wage were raised to that amount in accordance with the living wage regulations.

Building Trades.

Employees in the building trades are paid according to hourly rates, and the following amounts, which have been calculated by multiplying the award

rates by forty-eight, except the rates for stonemasons, who worked 44 hours per week:—

Occupation.	Weekly Rates of Wages.						Increase, 1914 to 1920.	
	1914.	1916	1917.	1918.	1919.	1920.	Amount.	Per cent.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Bricklayers ...	72 0	78 0	84 0	84 0	84 0	108 0	36 0	50
Carpenters ...	66 0	80 0	80 0	80 0	80 0	108 0	42 0	64
Painters ...	64 0	75 0	75 0	79 6	79 6	104 0	40 0	62
Plasterers...	66 0	78 0	84 0	84 0	84 0	106 0	40 0	61
Plumbers ...	66 0	72 0	80 0	80 0	80 0	110 0	44 0	67
Stonemasons (44 hours)...	69 8	77 11	77 11	77 11	89 10	112 6	42 10	61
Hod-carriers ...	62 0	66 0	72 0	72 0	72 0	99 0	37 0	60
Other Labourers...	54 0	60 0	68 0	63 0	68 0	95 0	41 0	76
	to 62 0	to 62 0							to 99 0	to 37 0	to 60

These rates of wages were increased between July, 1914, and December, 1920, by amounts varying from 36s. to 44s. per week, or from 50 to 76 per cent. There was a scarcity of skilled labour in the building trades during 1920, and competent workmen were paid wages considerably in excess of the award rates.

Engineering, Ironworks, &c.

The weekly wages in the engineering and metal trades were as follow:—

Occupation.	Weekly Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Boilermakers ...	66 0	78 0	78 0	85 6	85 6	110 6	44 6	67
Electrical Fitters ...	74 0	82 0	82 0	82 0	90 0	111 6	37 6	51
„ Mechanics ...	66 0	74 0	74 0	74 0	82 0	103 6	37 6	57
Engineering—								
Blacksmiths ...	72 0	80 0	80 0	87 6	104 6	112 6	40 6	56
Brassfinishers ...	70 0	78 0	78 0	85 6	102 6	110 6	40 6	58
Coppersmiths ...	72 0	80 0	80 0	87 6	104 6	112 6	40 6	56
Fitters and Turners ...	70 0	78 0	78 0	85 6	102 6	110 6	40 6	58
Patternmakers ...	74 0	82 0	82 0	89 6	106 6	114 6	40 6	55
Ironmoulders ...	70 0	72 0	72 0	72 0	85 6	110 6	40 6	58
Tinsmiths...	60 0	66 0	66 0	73 0	91 6	99 6	39 6	66
General Labourers ...	45 0	54 0	54 0	63 0	77 0	88 0	43 0	96

In the engineering workshops the wages of the skilled workmen were raised by 40s. 6d. per week, and the increase per cent. during the period under review ranged from 55 to 58; an increase of 43s. per week in the rate for general labourers represents 96 per cent. Boilermakers received increases amounting to 44s. 6d., or 67 per cent., and ironmoulders 40s. 6d., or 58 per cent.; in the electrical trades the rates for fitters and for mechanics were raised by 37s. 6d.

Bootmaking and Clothing Trades.

The local manufacture of boots and of ready-made clothing increased considerably during the war period owing to the demand for military supplies and to the restriction of imports; increases in the wages of employees are shown below:—

Occupation.	Weekly Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Bootmaking—Men ...	54 0	66 0	66 0	72 0	72 0	98 6	44 6	82
Women ...	28 0	31 0	31 0	34 0	39 0	44 0	16 0	57
Tailoring (Order)—								
Tailors ...	60 0	64 0	65 0	65 0	75 0	92 0	32 0	53
Tailoresses—Coats ...	30 0	30 0	33 0	38 0	44 0	49 0	19 0	63
Trousers	25 0	25 0	29 0	30 0	40 0	45 0	20 0	80
Tailoring (Ready-made)								
Tailors ...	60 0	60 0	67 6	67 6	75 0	92 0	32 0	53
Tailoresses—Coats ...	25 0	25 0	29 6	30 0	40 0	45 0	20 0	80
Trousers	23 0	23 0	28 0	30 0	39 0	45 0	22 0	96
Woollen-mill Hands—								
Men ...	48 0	55 6	55 6	60 0	77 0	85 6	37 6	78
Women	21 0	31 0	31 0	31 0	39 0	43 0	22 0	105

The wages of journeymen in the boot trade were raised by 82 per cent. between 1914 and 1920, and the award rates of the women employees by 16s. a week or 57 per cent.

In the tailoring industry the majority of the employees work under an award of the Commonwealth Court, and the prescribed hours per week are 44. Many workers in the clothing trade are paid piece-work rates, which are fixed by award.

In the woollen mills the wages of the men employed as general hands were increased by 78 per cent., and the rate for women was more than doubled.

Food and Drink Factories.

The wages in the principal industries in connection with the food supply were as follow:—

Occupation.	Weekly Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Bread—Bakers ...	50 0	70 0	70 0	70 0	70 0	102 6	52 6	105
	to	to	to	to	to	to		
Carters (54 hrs)	65 0	75 0	75 0	75 0	75 0	107 6	42 6	65
Brewing—General Hands	52 6	60 0	60 0	60 0	77 0	97 0	44 6	85
Butter-makers ...	54 0	60 0	60 0	63 0	80 0	90 6	36 6	63
	68 0	68 0	73 0	73 0	77 0	103 0	35 0	51
Flour-millers ...	63 0	74 6	74 6	74 6	90 0	106 0	43 0	68
	to	to	to	to	to	to		
	70 0	82 6	82 6	82 6	104 0	112 0	42 0	60
Jam-factory Hands ...	48 0	54 0	54 0	61 0	77 6	85 0	37 0	77

The increases in the rates for bakers ranged from 42s. to 52s. 6d., the lower rate being 105 per cent. and the higher 65 per cent. above the pre-war level. The weekly wage for bread-carters was fixed at 89s., an increase of 36s. 6d., or 70 per cent. since 1914. The wages of flour-millers were increased by over 60 per cent., and the rate for butter-makers was raised by 51 per cent. during the period covered by the table.

Other Factories and Shops.

The wages in the furniture and printing trades and in other classes of factories are shown below:—

Occupation.	Weekly Rates of Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
Coopers	s. d. 66 0	s. d. 80 0	s. d. 80 0	s. d. 81 0	s. d. 95 0	s. d. 110 0	s. d. 44 0	67
Furniture and Cabinet-makers	60 0	67 0	67 0	79 0	79 0	104 0	44 0	73
Sawyers— Band or Jig	68 0	68 0	74 0	74 0	78 6	106 0	38 0	56
Other	{ 54 0 to 66 0	{ 57 0 to 66 0	{ 60 6 to 72 0	{ 60 6 to 72 0	{ 65 0 to 76 6	{ 94 0 to 104 0	{ 40 0 to 38 0	{ 74 18
Bookbinders	65 0	70 0	70 0	70 0	70 0	102 0	37 0	57
Compositors, Jobbing	65 0	65 0	73 6	73 6	97 0	105 0	40 0	62
Tallowmaker	59 0	66 6	66 6	71 6	77 0	96 6	37 6	64
Tanning— Beamsmen	60 0	63 0	70 6	70 6	73 6	94 0	34 0	57
Carriers	65 0	68 0	75 6	75 6	75 6	99 0	34 0	52
Labourers	51 0	54 0	61 6	61 6	64 6	85 0	34 0	67
Brick Burners	{ 61 6 and 63 0	{ 67 6 and 69 0	{ 67 6 and 69 0	{ 72 0 and 73 6	{ 89 0 and 90 6	{ 93 4 and 101 0	{ 36 10 and 38 0	{ 60 60
„ Pitmen	62 0	63 0	68 0	72 6	80 6	100 0	38 0	61
Quarrymen (44hrs.)	67 10	73 4	73 4	84 4	84 4	107 0	39 2	58
Leatherworkers	54 0	66 0	66 0	66 0	77 0	90 0	36 0	67
Coachbuilders, Road	60 0	67 6	67 6	67 6	77 0	104 0	44 0	73
Jewellers	{ 65 0 to 70 0	{ 65 0 to 70 0	{ 73 6 to 76 0	{ 73 6 to 76 0	{ 73 6 to 76 0	{ 101 0 to 104 0	{ 36 0 and 34 0	{ 55 49
Watchmakers (46½hrs.)... ..	65 0	75 0	75 0	75 0	75 0	103 0	38 0	58
Shop-assistants, General	52 6	{ 54 0 to 62 6	{ 57 0 to 66 6	{ 57 0 to 66 6	{ 77 0 to 77 0	{ 85 0 to 99 6	{ 32 6 and 47 0	{ 62 90

Coopers have gained increases equal to 44s. a week or 67 per cent. In the furniture and coachbuilding trades the increases up to December, 1920, amounted to 44s. a week or 73 per cent. The rates for sawyers shown above were

fixed in 1920 by an unregistered agreement between the Timber Workers' Union and a number of employers; the 44-hour week for timber workers, awarded by the Commonwealth Court, came into operation as from 1st January, 1921. Bookbinders received increases amounting to 37s. or 57 per cent., compositors 40s. or 62 per cent. a week; and tallowmakers, 37s. 6d. a week or 64 per cent. above the 1914 rate. In the tanning industry the weekly rates are now 34s. above the pre-war level. Jewellers were awarded increases ranging from 34s. to 36s. per week, and quarrymen 39s. 2d.; and the rates for shop-assistants ranged from 85s. to 99s. 6d. in 1920 as compared with 52s. 6d. in 1914.

Coal-mining.

The particulars in the following statement indicate the increases in the wages of employees in the coal-mining industry since 1914. The miners are paid piece-work rates, which vary according to the conditions of the seams or places where the coal is mined, and the table shows the hewing rates per ton, and not the weekly wages as in the case of other occupations:—

Occupation.	Weekly Rates of Wages.						Increase, 1914 to 1920.		Per cent.
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.		
Miners (hewing rate per ton) ...	s. d. 2 3½	s. d. 2 3½	s. d. 2 7½	s. d. 2 7½	s. d. 3 0¼	s. d. 3 6½	s. d. 1 3½	55	
	to 4 2	to 4 2	to 5 2½	to 5 2½	to 5 11½	to 6 11½	to 2 9½	67	
Wheelers ...	51 0	56 0	63 0	63 0	78 0	93 6	42 6	83	
	to 60 0	to 60 0	to 75 6	to 75 6	to 91 0	to 109 0	to 58 0	114	
Engine-drivers— Loco. and Winding	66 0	66 0	76 0	76 0	96 0	114 0	48 0	73	
	to 78 0	to 80 0	to 88 0	to 88 0	to 108 0	to 126 0	to 48 0	62	
Other... ..	60 0	60 0	69 0	69 0	87 6	105 6	45 6	76	
	to 75 0	to 75 0	to 80 0	to 80 0	to 102 0	to 120 0	to 45 0	60	
Labourers ...	48 0	54 6	65 5	65 5	81 0	99 0	51 0	101	
	to 54 0	to 60 0	to 72 0	to 72 0	to 87 6	to 105 6	to 51 6	96	

Increases amounting to 15 per cent. for miners and 20 per cent. for off-hand labour were awarded, as from 1st January, 1917, by a special tribunal appointed under the War Precautions Act, and the working hours were fixed as follow:—Eight hours bank to bank, including half-an-hour for meal time, on Monday to Friday, and six hours on Saturdays, Sundays, and holidays. The miners do not work on alternate (pay) Saturdays, and the number of shifts per fortnight is eleven. In May, 1919, the tonnage rates were further increased by 15 per cent., and 2s. 7d. per day was added to the wages for off-hand labour. In September, 1920, a coal-miners' tribunal, appointed under the Commonwealth Industrial Peace Act of 1920, increased the rates for all contract work by 17½ per cent., and for off-hand labour by 3s. per day.

Intermittency due to slackness of trade, blocks in the transport system, and industrial disputes, is an outstanding feature of the coal-mining industry, therefore, the actual earnings are generally lower than the weekly rates quoted above, which are calculated on the basis of a full week's work.

State Railway Services.

The wages of employees in the traffic branch of the Government Railways and of pick and shovel men engaged in railway construction are shown below:—

Occupation.	Weekly Rates of Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	
Traffic--								
Engine-drivers...	72 0 to 96 0	72 0 to 96 0	72 0 to 96 0	74 6 to 96 0	84 0 to 108 0	109 0 to 133 0	37 0 37 0	51 39
Firemen ...	57 0 to 66 0	57 0 to 66 0	57 0 to 66 0	60 6 to 70 0	77 0 to 78 0	91 0 to 103 0	34 0 37 0	60 56
Guards ...	54 0 to 72 0	58 6 to 75 0	60 0 to 75 0	60 0 to 75 0	66 0 to 84 0	91 0 to 109 0	37 0 37 0	69 51
Porters... ..	48 0 to 57 0	55 6 to 60 0	55 6 to 60 0	55 6 to 60 0	60 0 to 66 0	85 0 to 91 0	37 0 34 0	77 60
Signalmen ...	66 0 to 78 0	66 0 to 78 0	66 0 to 78 0	66 0 to 78 0	66 0 to 90 0	94 0 to 115 0	28 0 37 0	42 47
Construction— Pick and Shovel Men ..	56 0	56 0	60 0	64 0	85 6	94 6	38 6	69

The rates of wages in the railway services are determined by awards of the Court of Industrial Arbitration under State legislation. The highest increase since 1914, viz., 38s. 6d., is shown in the rate paid to navvies, which rose from 56s. to 94s. 6d. for a full week's work of 48 hours, with no lost time. The increases in wages of employees in the traffic branch ranged from 28s. to 37s. per week.

Shipping.

The wages of seamen, cooks, and stewards on vessels engaged in interstate trade are shown below, monthly rates being quoted; victualling and accommodation is provided in addition to wages:—

Occupation.	Monthly Rates of Wages.						Increase, 1914 to 1920.	
	1914.	1916.	1917.	1918.	1919.	1920.	Amount.	Per cent.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	
A.B. Seamen ...	8 0	9 5	11 10	12 5	14 0	14 0	6 0	75
Boatswains ...	9 0	10 5	12 0	13 5	15 0	15 0	6 0	67
Firemen ..	10 0	11 5	13 0	14 5	16 0	16 0	6 0	60
	7 10	8 10	8 10	9 10	10 10	10 10	3 0	40
Cooks ...	to	to	to	to	to	to		
	14 10	15 10	15 10	16 10	18 5	18 5	3 15	26
	5 10	8 10	8 10	8 10	9 15	13 10	8 0	245
Stewards ...	to	to	to	to	to	to		
	7 10	10 10	10 10	10 10	12 5	15 10	8 0	207

These rates have been determined by Federal award or by agreement operating throughout the Commonwealth. The hours of seamen are 8 per day at sea, but leave of absence equivalent to 4 hours for each week employed

is allowed when in port, thus the hours are, on the average, 52 per week. The cooks receive overtime pay for hours exceeding 10 in any one day; and the hours of stewards at sea are 10 per day within a spread of 15 hours, in intermediate ports 9 per day, and in terminal ports 8 per day. The wages of seamen were raised by £6 per month during the period under review, the percentage increases ranging from 60 to 75. The rates for the cooks are classified according to the tonnage of the vessels on which they are employed; those quoted above apply to vessels of less than 4,000 tons gross register, and show increases ranging from £3 to £3 15s. per month, or from 40 to 26 per cent.

The rate for wharf-labourers engaged by the week was increased from 52s. 6d. to 61s. 6d. in 1916, and to 91s. in 1921; for casual labour the rate which, since 1914, had been 1s. 9d. per hour, was raised in 1919 to 2s. 3d., and in 1921 to 2s. 9d., with extra for special cargoes such as wheat, explosives, or frozen meat.

Rural Industries.

The rates of wages in the rural industries are shown below; rations and lodging are provided in addition to the amount stated:—

Occupation.	Weekly Rates of Wages.								Increase, 1914 to 1920.								
	1914.		1915.		1916.		1917.		1918.		1919.		1920.		Amount.	Per cent.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	
Boundary Riders {	20	0	20	0	20	0	20	0	40	0	40	0	40	0	20	0	100
	to	to	to	to	to	to	to	to									
Cooks (Station) {	25	0	25	0	25	0	25	0	72	0	72	0	72	0	22	0	44
	50	0	50	0	60	0	72	0									
Farm Hands {	20	0	20	0	20	0	20	0	35	0	40	0	40	0	15	0	60
	to	to	to	to	to	to	to	to									
Harvesters ... {	30	0	30	0	30	0	40	0	50	0	60	0	60	0	20	0	50
	to	to	to	to	to	to	to	to									
Milkers ... {	40	0	40	0	40	0	50	0	36	6	36	6	36	6	11	6	46
	20	0	20	0	20	0	25	0									
	25	0	25	0	25	0	30	0	35	0							

These rates show considerable increases since 1914; they are not subject to regulation by the industrial tribunals, except the rates for pastoral workers, which are fixed by an award of the Commonwealth Court. Shearers, who are not provided with rations, were paid in 1914 at the rate of 24s. per 100 sheep; in 1917 the rate was increased to 30s.; and in 1920 to 40s.

All Industries.

The previous tables illustrate the changes in the rates of wages in regard to individual occupations; and in order to show the extent to which the increases affected the wages in all industries or in the various groups of industries, the average rates are shown in the following tables. These rates have been determined for New South Wales by the Commonwealth Statistician, and as they are in close agreement with averages determined by the author, they have been adopted for the sake of uniformity.

For these computations particulars were obtained as to the wages in respect of 874 occupations; the industrial awards and agreements were the main sources of information, and for occupations not subject to the industrial determinations, the ruling or predominant rates were ascertained from employers and from secretaries of trade unions. The occupations were classified into fourteen industrial groups, and the tables were compiled on

the basis of the weekly rates payable to adult male employees in the Metropolitan district, except in regard to the mining, shipping, and rural industries, which are conducted for the most part outside the Metropolitan area.

In determining the average wage in each group an arithmetic mean was taken, that is, the sum of the rates was divided by the number of occupations, no detailed system of weights being applied owing to the difficulty of obtaining satisfactory data as to the number of persons employed in each occupation. In computing the average for all the industries combined, the average for each industrial group was weighted in accordance with the relative number of all male workers engaged in that group.

The average weekly rates of wages payable to adult males in each group of industries, and the weighted average for all groups combined in each of the last five years in comparison with 1914, are shown below. In the shipping, pastoral, and domestic industries, where food and lodging are supplied, the value of such has been added to the monthly rates:—

Classification.	Average Weekly Rates of Wages.						Increase, 1914 to 1920.								
	1914.		1916.		1917.		1918.		1919.		1920.		Amount.	Per cent.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	
Wood, Furniture, Saw-mill, Timber Workers, &c.	58	1	65	1	67	6	69	6	76	6	101	1	43	0	74
Engineering, Shipbuilding, Smelting, Metal Works, &c.	57	11	64	0	65	11	68	11	82	5	97	6	39	7	68
Food, Drink, & Tobacco Manufacture and Distribution	56	0	62	3	64	1	66	1	79	3	94	0	38	0	68
Clothing, Hats, Boots, Textiles, Rope, Cordage, &c.	54	4	60	2	61	6	63	3	76	11	91	6	37	2	68
Books, Printing, Book-binding, &c.	66	1	67	9	72	2	75	2	86	0	105	11	39	10	61
Other Manufacturing	56	4	63	6	65	0	67	3	79	4	95	6	39	2	70
Building	68	1	71	4	75	6	76	0	78	10	101	3	33	2	49
Mining, Quarries, &c.	63	8	72	6	75	5	75	7	86	2	105	4	41	8	65
Railway and Tramway Services	61	5	65	2	65	11	67	8	81	11	98	6	37	1	60
Other Land Transport	51	10	59	4	59	7	62	1	78	3	93	0	41	2	79
Shipping, Wharf Labour, &c.	49	9	58	4	60	1	63	5	76	1	89	10	40	1	81
Pastoral, Agricultural, Rural, Horticultural, &c.	49	11	55	10	61	1	62	3	71	8	89	9	39	10	80
Domestic, Hotels, &c.	46	5	53	3	56	9	57	2	71	5	88	10	42	5	91
Miscellaneous	53	7	59	7	60	3	62	1	73	3	88	10	35	3	66
All Industries	56	2	61	11	64	5	65	11	76	9	94	0	37	10	67

In 1914 the highest average rates were in the building trades, 68s. 1d.; printing, etc., 66s. 1d.; mining, 63s. 8d.; railway and tramway services, 61s. 5d.; and the lowest rates were in the domestic group, 46s. 5d.; shipping, 49s. 9d.; and rural industries, 49s. 11d. In 1920 the highest rates were in the mining group, 105s. 4d.; the printing group, 105s. 11d.; the building group, 101s. 3d.; railways and tramways, 98s. 6d. The domestic group, with an average of 88s. 10d., remained at the bottom of the list, notwithstanding the fact that this class showed the highest rate of increase, 91 per cent.

The building trades, which had the highest average in 1914, showed the lowest increase during the period, viz., 33s. 2d., or 49 per cent., and in 1920 the average rate, 101s. 3d., was exceeded in two other groups; but, owing to an increase in building activities during 1920, many of these skilled employees commanded wages much above the award rates, on which the averages, shown above, were computed.

The average rate for all the groups combined was increased by 37s. 10d., or by 67·4 per cent., between 1914 and 1920, viz., from 56s. 2d. to 94s. The increase in each year was as follows:—

Year.	Average Rate per week.	Increase from Year to Year.		Increase since 1914.	
		Amount.	Per cent.	Amount.	Per cent.
1914	s. d. 56 2	s. d. ...	...	s. d. ...	...
1915	57 7	1 5	2·5	1 5	2·7
1916	61 11	4 4	7·5	5 9	15·3
1917	64 5	2 6	4·0	8 3	14·7
1918	65 11	1 6	2·3	9 9	17·4
1919	76 9	10 10	16·4	20 7	36·6
1920	94 0	17 3	22·5	37 10	67·4

The increase of 37s. 10d. in the average weekly rate since 1914 is greater by 10d. per week than the increase in the standard wage.

The foregoing tables relate to the nominal rates of wages, that is the actual amounts of money payable in return for labour, but in order to show the effective value of these amounts it is necessary to consider them in relation to the purchasing power of money. Food and rent are the only elements of expenditure of which satisfactory records as to variations in the purchasing power of money are available, and in the following statement the relation between the cost of these items and the average rates of wages is illustrated. For this purpose the average rates of wages have been reduced to index numbers, and have been divided by the index numbers of food and rent; the results indicate the variations in the effective wage:—

Year.	Average Nominal Wage per Week.		Index Number of Food and Rent Combined.	Index Number of Effective Wage.
	Amount.	Index Number.		
1911	s. d. 51 5	1000	1000	1000
1912	54 3	1055	1116	945
1913	55 9	1084	1112	975
1914	56 2	1092	1155	945
1915	57 7	1120	1261	838
1916	61 11	1204	1328	907
1917	64 5	1253	1356	924
1918	65 11	1282	1375	932
1919	76 9	1493	1502	994
1920	94 0	1828	1752	1043

In 1912 the effective wage was reduced by 5·5 per cent.; in the following year the index number of food and rent dropped slightly, and the effective wage rose by 3·2 per cent.; it fell considerably during the years 1914 and 1915, and the index number was 11 per cent. lower than in 1911. Since 1915 the increase in wages has been greater than the increase in the cost of food and rent, and the effective wage index number has risen in each year, but it was not until 1920 that the nominal wage had the same purchasing power as in 1911.

PRODUCTION OF LOCAL INDUSTRIES.

The value of production, as shown in this section, relates to the **primary industries**—Pastoral, Agricultural, Dairying and Farmyard, Mining, Forestry, Fisheries, and Wild Animals—and to the secondary or Manufacturing industries.

The values in regard to the primary industries—except mining—are stated as at the point or place of production, on the basis of the prices to the producers, which are therefore somewhat less than the wholesale prices in the Metropolitan market. No deduction has been made on account of the cost of items, such as seed, fertilisers, containers, fodder for animals, machinery, etc.

Some of the quotations are known to be understated, for instance, the values as estimated for agricultural and farmyard produce are deficient, because records are not available as to production (which in the aggregate must be large) on areas less than one acre in extent; the production from fisheries includes only the catches of licensed fishermen; and the return from forests for the years prior to 1906 is believed to be understated.

In regard to mineral production it has been stated in the chapter "Mining Industry" that the records are incomplete; in the case of some products the value of exports only is recorded, and in other cases values are assessed at different stages of production, *e.g.*, the value quoted for the product of the silver-lead mines represents the net value as declared by the producers upon export, the bulk of the ores being sent out of the State for treatment.

The value of the manufacturing production is taken as the value at the factory of the manufactured goods less the cost of raw materials and fuel; but returns are not collected as to the production in small establishments employing less than four hands and not using machinery, nor from bake-houses or butchers' smallgoods factories.

The aggregate value of production as stated should not be assumed to be the total fund available as the wages fund of the State or as remuneration for the agents of production in the form of wages, rent for land, and interest on capital invested. The values quoted for the specified industries do not include the value added by reason of transportation to market and distribution to the consumer, nor, in the case of exports, carriage to the point of shipment. Moreover the earnings of many important activities, such as the building industry, of which records are not available, or from railway construction or commercial and other pursuits are not included.

It will thus be seen that the amounts quoted have several shortcomings; nevertheless they are valuable as indicating the increase or decrease in production from year to year, and as being the principal means available of measuring the growth of the national income.

The following statement shows the estimated value of production of the specified industries, at the place of production, at intervals since 1871. After 1913 the values are quoted for the years ended 30th June, except those relating to the mining industry, which relate to the calendar years ended six months later. The difference between the quotations for the manufacturing production in this table, and in the chapter "Manufacturing

Industry," represents the value of production from factories dealing with milk products, which is included here in the returns of the dairying industry.

The values quoted in this table are not exact, especially in the earlier years, but may be considered to be the best estimates to be made from the data available.

Year.	Primary Industries.							Manu- facturing Industries.	Total, All Industries.
	Rural Industries.				Forests, Fisheries and Wild Animals.	Mining.	Total, Primary Indus- tries.		
	Pastoral.	Agri- cultural.	Dairying and Fannyard.	Total, Rural Industries.					
£ 000	£ 000	£ 000	£ 000	£ 000	£ 000	£ 000	£ 000	£ 000	
1871	7,609	2,220	1,110	10,939	324	1,626	12,889	2,490	15,379
1881	10,866	4,216	2,285	17,367	492	2,138	19,997	5,183	25,180
1891	14,725	3,615	2,735	21,075	758	6,434	28,267	7,799	36,066
1896	11,774	5,374	2,546	19,694	715	4,465	24,874	7,302	32,176
1901	12,447	7,060	3,188	22,695	986	5,681	29,362	9,742	39,104
1902	10,636	4,139	3,601	18,376	1,113	5,102	24,591	10,000	34,591
1903	12,682	8,359	3,676	24,717	1,112	5,958	31,787	9,601	41,388
1904	13,226	5,414	3,468	22,108	1,200	6,243	29,551	9,899	39,450
1905	16,942	6,543	4,255	27,740	1,521	6,897	36,158	10,631	46,789
1906	19,711	7,518	4,506	31,735	1,969	7,913	41,617	11,906	53,523
1907	22,281	6,588	4,586	33,455	1,964	10,295	45,714	13,481	59,195
1908	18,846	8,319	5,301	32,466	1,872	8,384	42,722	13,633	56,355
1909	19,040	10,908	5,321	35,269	2,142	7,403	44,814	14,536	59,350
1910	21,028	9,493	6,007	36,528	2,516	8,455	47,499	16,794	64,293
1911	19,434	9,749	6,534	35,717	2,213	9,410	47,340	19,143	66,483
1912	19,440	11,817	7,192	38,449	2,347	11,229	52,025	22,464	74,489
1913	20,738	12,378	7,063	40,179	2,644	11,651	54,474	23,482	77,956
1914-15	18,848	10,031	7,846	36,725	2,074	9,603	48,402	24,011	72,413
1915-16	21,576	20,362	7,649	49,587	2,603	10,516	62,706	24,927	87,633
1916-17	26,842	13,012	9,419	49,273	3,055	12,564	64,892	26,748	91,640
1917-18	28,435	13,685	10,635	52,755	3,737	13,941	70,433	29,117	99,550
1918-19	29,865	12,280	11,073	53,218	3,708	9,445	66,371	32,226	98,597
1919-20	33,972	13,582	11,793	59,347	7,760	10,612	77,719	38,628	116,347

The total value of production increased by £10,000,000 in each decade from 1871 to 1891; during the early nineties there was a decline from which the recovery was slow; in 1901, however, the value of production was £3,000,000 higher than in 1891. Recovering rapidly from the effects of the drought of 1902-03, the State entered upon a period of industrial expansion, and the value of production rose in each year, except 1907, until 1914-15, when the combined effects of drought and war caused a serious decline. With the growth of settlement and the development of the manufacturing industries the State is not so dependent upon seasonal conditions as in the early nineties, and the decline of £5,500,000 in 1914-15 was succeeded by a rise of over £15,000,000 in the following year. An increase of £8,000,000 was recorded in 1917-18; next year a decline in mining production caused the total value of production to fall by £1,000,000, but in the year 1919-20 an increase of nearly £18,000,000 brought the aggregate to £116,347,000, which is the highest on record, being nearly twice the value of ten years ago.

In 1901 the total value of production was £39,104,000, of which the primary industries yielded £29,362,000, or 75 per cent., and manufacturing £9,742,000, or 25 per cent.; and the yield from rural industries represented 58 per cent. of the total. In 1911 the proportions were, rural industries 54

per cent., all primary industries 71 per cent., and manufacturing 29 per cent. In 1919-20 the rural production was valued at £59,347,000, or 51 per cent.; total primary £77,719,000, or 67 per cent.; and manufacturing £38,628,000, or 33 per cent.

The variations, the reasons for which are mostly seasonal, in the value of production of the various industries are apparent readily from the table. Reviewing the rural industries as a group, it will be seen that the value of production increased substantially during the twenty years 1871 to 1891, viz., from £10,939,000 to £21,075,000, but the financial crisis and bad seasons impeded progress during the next decennium. The drought of 1902 was followed by favourable seasons, and the rise in value was fairly steady until 1913, when the total rural production was valued at £40,179,000. In the following season there was a decline of over £3,400,000, but in 1915-16 there was a remarkable recovery owing mainly to an increased yield in the agricultural industry, and the total value was £49,587,000. In 1916-17 agricultural production dropped to a normal level, but the advance in the other rural industries kept the total value above £49,000,000. The rise in the value of pastoral and dairying production continued during the next two seasons, and in 1919-20 the rural industries provided a return of £59,347,000.

The development of the rural industries can be traced more conveniently by reviewing the average annual return over a period of three seasons, so as to eliminate the effect of abnormal seasons. Thus a comparison of the average return during the three seasons ending in each year from 1903 to 1919-20 will show that during the two successive periods, 1901-03 and 1902-04, the value of rural production was slightly under £22,000,000. In the three succeeding periods there was a marked increase, and the rise continued though at a slower rate during the next six periods until in the three years 1911-13 the average amounted to £38,100,000. The mean annual value during the three seasons ending 1914-15 was only about £400,000 higher; then the average rose by £3,700,000 in the period 1913 to 1915-16, by £3,000,000 in the next period, and by £4,700,000 in the three seasons ending June, 1918, when the average value was £50,500,000. In the three seasons ending June, 1919, there was only a slight increase in the average, but in the three seasons ending June, 1920, the average return was equal to £55,100,000.

The value of rural production represented over 70 per cent. of the total production in 1871, but with the advance in the manufacturing industry its relative importance declined slowly. In 1891 and in 1901 the proportion was less than 60 per cent.; in 1911 it represented 54 per cent., and the proportion has since declined to 51 per cent. of the total value of production.

In the mining industry the production of metals fluctuates with the state of the oversea market, but the demand for coal has increased steadily with the increasing use of power-machinery, and it has become one of the most important items of primary production.

The mining industry, after a period of rapid development, suffered a decline as the outcome of the financial conditions of the nineties. In 1901 the prices of metals were low, and the mining activities were affected also in the following year by scarcity of water, and there was a further decline. From 1903 to 1907 the mining industry experienced a period of prosperity owing to a substantial rise in the prices of metals and the satisfactory output of coal. In 1907 the value of production was nearly £10,300,000, but in the latter part of the year prices began to decline as a consequence of the financial crisis in America, and this caused a check to mining for

industrial metals. In 1909 labour disputes affected the trade in metals and in coal, and the annual production declined in value to £7,403,000. In the succeeding years the value of mining production rose steadily, until in 1912 and 1913 it was over £11,600,000. On the outbreak of war restrictions were imposed on the export of metals and coal, but as the war progressed arrangements were made for marketing the products and high prices were obtainable, so that in 1918 the value rose to nearly £14,000,000, which is the highest on record. During the last two years the output decreased owing to an industrial dispute at Broken Hill which caused a cessation of work on this important field from May, 1919, to November, 1920. The production from mining usually represents about 14 per cent. of the total production, but during the last two years it was only 9 per cent.

The figures relating to the manufacturing industries disclose a steady advance from the beginning of the period under review, when it was less than £2,500,000, and only 16 per cent. of the total production. In 1901 the return was four times this amount, and it represented 25 per cent. of the total value of production. Since 1903 the value of manufacturing has increased in each year, and in 1912 it exceeded the value of pastoral production for the first time in the history of the State. During the first two years of the war period the rate of increase was slower, but in each of the last four years there has been a marked increase in the value of the output, and in 1919-20 it reached the amount of £38,628,000. Since 1901 the value of production has increased fourfold, and its relative importance has risen from 25 per cent. to 33 per cent. of the total production from all industries.

Value of Production per Head.

The foregoing remarks relate to the actual value of production; in the following table the values per head of population are shown:—

Year.	Primary Industries.								Manufacturing Industries.	Total, All Industries.
	Rural Industries.				Forests, Fisheries, and Wild Animals.	Mining.	Total, Primary Industries.			
	Pastoral.	Agricultural.	Dairying and Farm-land.	Total, Rural Industries.						
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1871	14 19 5	4 7 5	2 3 8	21 10 6	0 12 9	3 4 0	25 7 3	4 18 0	30 5 3	
1881	14 4 0	5 10 2	2 19 9	22 13 11	0 12 11	2 15 11	26 2 9	6 15 6	32 18 3	
1891	12 17 10	3 3 4	2 7 11	18 9 1	0 13 3	5 12 8	24 15 0	6 16 7	31 11 7	
1896	9 5 4	4 4 7	2 0 1	15 10 0	0 11 3	3 10 4	19 11 7	5 14 11	25 6 6	
1901	9 2 1	5 3 3	2 6 8	16 12 0	0 14 5	4 3 1	21 9 6	7 2 6	28 12 0	
1902	7 13 3	2 19 7	2 11 10	13 4 8	0 15 1	3 13 6	17 14 3	7 4 0	24 18 3	
1903	9 0 3	5 18 9	2 12 3	17 11 3	0 15 9	4 4 8	22 11 8	6 16 5	27 12 3	
1904	9 5 2	3 15 9	2 8 7	15 9 6	0 16 9	4 7 5	20 13 8	6 18 7	27 12 3	
1905	11 12 11	4 9 11	2 18 6	19 1 4	1 0 11	4 14 10	24 17 1	7 6 2	32 3 3	
1906	13 5 6	5 1 3	3 0 9	21 7 6	1 6 6	5 6 7	28 0 7	8 0 5	36 1 0	
1907	14 13 7	4 6 9	3 0 5	22 0 9	1 5 11	6 15 8	30 2 4	8 17 7	38 19 11	
1908	12 3 10	5 7 8	3 8 7	21 0 1	1 4 2	5 8 6	27 12 9	8 16 5	36 9 2	
1909	12 1 5	6 18 4	3 7 6	22 7 3	1 7 2	4 13 10	28 8 3	9 4 4	37 12 7	
1910	13 0 3	5 17 6	3 14 4	22 12 1	1 11 1	5 4 8	29 7 10	10 7 9	39 15 7	
1911	11 13 6	5 17 2	3 18 6	21 9 2	1 6 7	5 13 1	28 3 10	11 10 0	33 18 10	
1912	11 3 8	6 15 11	4 2 9	22 2 4	1 7 0	6 9 2	30 18 6	12 18 5	42 16 11	
1913	11 9 3	6 16 9	3 18 1	22 4 1	1 9 3	6 8 9	30 2 1	12 19 7	43 1 8	
1914-15	10 2 3	5 7 7	4 4 2	19 14 0	1 2 3	5 3 1	25 19 4	12 17 8	38 17 0	
1915-16	11 10 10	10 17 10	4 1 10	26 10 6	1 7 11	5 12 6	33 10 11	13 6 8	46 17 7	
1916-17	14 7 9	6 19 6	5 1 0	26 8 3	1 12 9	6 14 9	34 15 9	14 6 9	49 2 6	
1917-18	15 0 8	7 4 8	5 12 6	27 17 10	1 19 6	7 7 5	37 4 9	15 7 11	52 12 8	
1918-19	15 9 3	6 7 2	5 14 8	27 11 1	1 18 4	4 17 10	34 7 3	16 13 7	51 0 10	
1919-20	16 19 11	6 15 11	5 18 0	29 13 10	3 17 7	5 6 2	38 17 7	19 6 6	58 4 1	

It will be observed that the value of production per head from the pastoral industry was considerably greater in 1871, 1881, and 1891 than in subsequent years, and, if allowance were made for increased prices, the volume of production per head would appear to have contracted. In the early years sheep-raising was the staple industry of the colony, as the export trade in wheat did not begin until 1898. Further, while the area of land available for pastoral pursuits has become actually less since 1871, owing to the development of agriculture, the population of the State has entered into other activities, and it is natural that the development of the pastoral industry should have proceeded more slowly than formerly.

The development in the manufacturing industries in 1871, and particularly in 1881, as measured by the value of output per head of population, was not so great as the figures appear to indicate. Firstly, there was included the output from several classes of machines used in connection with the agricultural industry and not, strictly speaking, manufactories; secondly, most of the industries were subsidiary to agricultural and pastoral activities, viz., boiling-down works, fellmongering, woolwashing, grain-mills, chaff-cutters, soap and candle works. There were no ironworks, and the output of cloth from woollen and tweed mills was a small proportion of what it is now. Sugar mills, flour mills, tobacco factories, soap and candle works, distilleries and breweries only were, considering the population, well advanced in 1891.

Since 1901 there has been a fairly steady increase, except in abnormal seasons, in the return per head from rural industries, the dairying and farmyard industries showing the greatest proportionate increase. A comparison of the return per head from each of the rural industries over a period of three years shows that the annual value per head of pastoral production during the period 1911-13 was £11 8s. 9d. as against £9 8s. 10d. in the three years ended 1901, the increase being 21 per cent.; from agriculture the corresponding return was £6 10s. 3d. as compared with £4 1s. 2d., or an increase of 60 per cent.; while the value per head of dairy and farmyard production was almost doubled, as it rose from £2 0s. 4d. to £3 19s. 9d. The average annual value of production from rural industries was £15 10s. 4d. per head during the three years ended 1901, and it rose to £21 18s. 9d. during the seasons 1911-13. Thus the increase in the value of rural production was 41 per cent. greater than the increase in the population during the fourteen years which preceded the war; in the mining industry the increase in production was 55 per cent. greater, and in the manufacturing 88 per cent. greater. The value per head of the production from all industries in 1913 amounted to £43 1s. 8d., which was nearly £14 10s. or 51 per cent. greater than in 1901.

There was a relative decrease during the first year of war, which was an exceptionally dry season, and the aggregate value of production showed a decrease on the year 1913 equal to £4 4s. 8d. per head of population. But in 1915-16 all the industries showed an increased value per head, especially agriculture, which advanced to £10 17s. 10d., as compared with £5 7s. 7d. in the previous year. In 1916-17 the agricultural production dropped to the normal level, being about £6 19s. 6d. per head, but in the other industries substantial increases were recorded. In 1917-18 all the industries showed an increase as compared with the previous year. A decrease in 1918-19 was caused by a marked decline in the mineral production, but in 1919-20 the value per head rose to £58 4s. 1d., which was the highest during the period under review.

Value of Production per head—Index Numbers.

The increase in the production from the various industries in relation to the population may be seen readily in the following table of index numbers,

to obtain which the values per head of the different industries in 1911 were called 1000 and related to the corresponding values per head in the other years.

Year.	Primary Industries.						Manu- facturing Indus- tries.	Total All Industries.	
	Rural Industries.				Forests, Fishes and Wild Animals.	Mining.			Total, Primary Indus- tries.
	Pastoral.	Agricul- tural.	Dairying and Farm- yard.	Total, Rural In- dustries.					
1871	1282	746	556	1003	479	566	892	426	758
1881	1216	940	761	1058	486	495	919	589	824
1891	1104	540	610	860	498	996	870	594	791
1896	794	722	511	722	423	622	688	500	634
1901	780	881	594	774	542	735	755	620	716
1902	656	508	660	617	605	650	623	626	624
1903	772	1013	665	818	592	748	794	593	736
1904	793	646	619	721	630	773	727	602	691
1905	998	767	745	889	788	838	874	635	805
1906	1137	864	774	996	998	942	985	697	903
1907	1257	740	769	1027	976	1200	1059	772	976
1908	1044	919	873	979	910	959	972	767	913
1909	1034	1181	860	1042	1023	829	999	801	942
1910	1115	1003	947	1053	1170	925	1033	903	996
1911	1000	1000	1000	1000	1000	1000	1000	1000	1000
1912	958	1160	1054	1031	1017	1142	1052	1123	1073
1913	982	1167	995	1035	1101	1138	1058	1129	1079
1914-15	866	918	1072	918	837	912	913	1120	973
1915-16	989	1559	1043	1236	1051	995	1179	1159	1174
1916-17	1232	1191	1287	1231	1232	1191	1223	1247	1230
1917-18	1288	1235	1433	1300	1487	1304	1309	1339	1318
1918-19	1324	1085	1460	1284	1443	865	1208	1450	1278
1919-20	1456	1160	1503	1384	2920	939	1367	1680	1457

In 1919-20 the per capita value of production from the rural industries was 34 per cent. higher than in 1913; the return per head from agriculture was almost the same in both years, and the pastoral and dairying industries showed an advance of about 50 per cent. In the mining industry there was a decline of 16 per cent., and in the manufacturing an increase of 48 per cent., the return per head from all industries being 35 per cent. higher. As compared with the previous season, the value per head was 14 per cent. higher in 1919-20, when all industries yielded a higher value, viz., rural 8 per cent., mining 9 per cent., and manufacturing 16 per cent.

It is interesting to compare this table of index numbers with the index numbers on page 573, which relate to the volume of production per head.

Production Price Index Numbers.

The foregoing tables which relate to the actual value of production in each year do not afford any indication of the changes in the two factors which determine the value, viz., quantities produced and prices obtained.

The variations in the prices obtained in each year since 1901, are illustrated in the following table of production price index numbers. In computing the index numbers the standard used as a basis of measurement was the annual average production during the ten years 1906 to 1915-16. The prices of all the commodities included in ascertaining the value of production were not used, as it is not possible to relate them all to a unit of quantity, but the commodities which were used account for 75 or 80 per cent. of the value of production.

For each of the primary industries the average annual quantity of each of the principal commodities produced during the period 1906 to 1915-16 was multiplied by the average price obtained in each year, and the aggregate value of the items in each year thus calculated is the basis of the price index number of the industry. Similarly the sum of the aggregate values of each industry in the groups—rural and primary—forms the basis of the price index numbers of those groups.

The wholesale price index numbers of all commodities as shown in the chapter "Food and Prices," were taken as indicating the movement of prices in the manufacturing industries. As there was no information available regarding the quantity-production in many branches of the manufacturing industries, the total value of production in each year from 1906 to 1915 was divided by the wholesale price index numbers for the same year, and the resulting quotients were assumed to represent the quantity of goods produced in the year. From these the mean annual quantity production of the ten years was obtained, and this was multiplied by the wholesale price index number for each year since 1901 to give the aggregate value of production on the same basis as the values for the primary industries.

The values so obtained were added to the values calculated for the primary industries, as described above, and the aggregate values of the year 1911 were adopted as base, and divided into the aggregates of the other years to obtain the index numbers.

Year.	Primary Industries.							Manufacturing Industries.	Total, All Industries
	Rural Industries.				Forests, Fisheries and Wild Animals.	Mining.	Total, Primary Industries.		
	Pastoral.	Agricultural.	Dairying and Farm-yard.	Total, Rural Industries.					
1901	793	1204	946	933	792	1002	940	904	929
1902	865	1672	1293	1158	791	956	1107	1072	1097
1903	1083	812	1088	1005	812	963	989	1042	1005
1904	1037	856	843	958	817	915	945	911	935
1905	1127	876	952	1030	891	930	1007	933	985
1906	1169	834	925	1039	892	1017	1029	955	1007
1907	1201	1280	944	1190	874	1058	1154	1001	1109
1908	1044	1063	1044	1049	904	975	1030	1085	1046
1909	972	953	993	969	979	975	971	1014	984
1910	994	837	998	949	1045	980	958	997	970
1911	1000	1000	1000	1000	1000	1000	1000	1000	1000
1912	1089	962	1173	1063	1084	1080	1067	1129	1085
1913	1103	979	1105	1067	1181	1078	1074	1092	1079
1914-15	1092	1611	1182	1255	977	1159	1227	1247	1233
1915-16	1367	1105	1342	1287	1190	1405	1304	1504	1363
1916-17	1752	1047	1439	1505	1412	1620	1521	1568	1535
1917-18	1814	1202	1498	1593	1710	1650	1608	1839	1691
1918-19	1718	1494	1703	1651	1534	1752	1664	1996	1762
1919-20	1815	2849	1908	2129	2527	1984	2120	2326	2181

The price of wool is the main factor in the production price index numbers of the pastoral industry, though the price of meat also influences it. The chief products of the agricultural industry are wheat and hay; in a good season the price of wheat depends on the price in the world markets, but in the event of a scanty harvest the total yield is needed for local

consumption, and the price is higher. The average price of butter, the principal dairy product, does not usually fluctuate from year to year to the same extent as the prices of other primary products.

In the mining industry the principal metal products, silver and lead, are exported, and the prices depend on the condition of the oversea markets; the price of coal, which represents on the average about one-third of the annual value of mineral production, is dependent mainly on local conditions, as the bulk of the output is consumed within the Commonwealth.

The index numbers for the manufacturing industries, *i.e.*, the wholesale price index numbers, have been discussed in detail in the chapter "Food and Prices."

Volume of Production.

In order to measure from year to year the volume of production, it is necessary to state the values as they would have been if the same prices had been obtained in each year throughout the period under review.

The annual values of the products from 1901 to 1919-20, computed on the 1911 prices, are shown in the following statement; they were calculated for each industry by dividing the actual value of production in each year by the production price index number of the year as shown in the preceding table:—

Year.	Primary Industries.							Manu- facturing Industries.	Total, All Industries
	Rural Industries.				Forests, Fisheries and Wild Animals.	Mining.	Total Primary Indus- tries.		
	Pastoral.	Agri- cultural.	Dairying and Farmyard.	Total Rural Industries.					
£000	£000	£000	£000	£000	£0:0	£000	£000	£000	
1901	15,696	5,864	3,370	24,930	1,245	5,670	31,845	10,777	42,622
1902	12,296	2,475	2,785	17,556	1,407	5,337	24,300	9,328	33,628
1903	11,710	10,294	3,379	25,383	1,369	6,187	32,939	9,214	42,153
1904	12,754	6,325	4,114	23,193	1,469	6,823	31,485	10,866	42,351
1905	15,033	7,469	4,470	26,972	1,707	7,416	36,095	11,394	47,489
1906	16,861	9,014	4,871	30,746	2,207	7,781	40,734	12,467	53,201
1907	18,552	5,147	4,858	28,557	2,247	9,731	40,535	13,468	54,003
1908	18,052	7,826	5,078	30,956	2,071	8,599	41,626	12,565	54,191
1909	19,588	11,446	5,359	36,393	2,188	7,593	46,174	14,335	60,509
1910	21,155	11,342	6,019	38,516	2,408	8,628	49,552	16,845	66,397
1911	19,434	9,749	6,534	35,717	2,213	9,410	47,340	19,143	66,483
1912	17,851	12,284	6,131	36,266	2,165	10,397	48,828	19,897	68,725
1913	18,801	12,644	6,392	37,837	2,239	10,808	50,884	21,504	72,388
1914-15	17,260	6,227	6,638	30,125	2,123	8,286	40,534	19,255	59,789
1915-16	15,783	18,427	5,700	39,910	2,187	7,485	49,582	16,574	66,156
1916-17	15,321	12,428	6,546	34,295	2,164	7,756	44,215	17,059	61,274
1917-18	15,675	11,385	7,099	34,159	2,185	8,449	44,793	15,414	60,207
1918-19	17,384	8,220	6,502	32,106	2,417	5,391	39,914	16,145	56,059
1919-20	18,717	4,767	6,181	29,665	3,071	5,349	38,085	16,607	54,692

The volume of production almost doubled during the period 1902 to 1910, and continued to rise until it reached the highest level in the year 1913; the rural industries yielded a larger output in 1910, the year of maximum pastoral production, and in 1915-16, with the largest yield of agricultural products; but the production of the mining and manufacturing industries was greatest in 1913. In the first year of the war there was a decline of 17 per cent. in the total production; in the following year there was a

marked improvement as the result of the abundant wheat harvest, then the volume declined rapidly until 1919-20, when it was not much greater than in 1903.

Since 1913, the year of maximum production, there has been a decline of 24 per cent. in the volume of production, but the increase in prices has been so great that the actual value of production in 1919-20 was 49 per cent. higher than in 1913.

Volume of Production per head.

In order to show the volume of production, or the productive activity, in relation to the population, *i.e.*, the quantity produced per head, the values in the foregoing table are stated below on a per capita basis:—

Year.	Primary Industries.							Manufacturing Industries.	Total, All Industries.
	Rural Industries.				Forests, Fisheries, and Wild Animals.	Mining.	Total, Primary Industries.		
	Pastoral.	Agricultural.	Dairying and Farmyard.	Total, Rural Industries.					
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	
1901	11 9 8	4 5 10	2 9 3	18 4 9	0 18 2	4 3 0	23 5 11	7 17 8	31 3 7
1902	8 17 1	1 15 8	2 0 1	12 12 10	1 0 3	3 16 11	17 10 0	6 14 5	24 4 5
1903	8 6 5	7 6 3	2 8 0	18 0 8	0 10 6	4 7 11	23 8 1	6 10 11	29 19 0
1904	8 18 6	4 8 7	2 17 7	16 4 8	1 0 7	4 15 6	22 0 9	7 12 1	29 12 10
1905	10 6 8	5 2 8	3 1 6	18 10 10	1 3 6	5 1 11	24 16 3	7 16 8	32 12 11
1906	11 7 2	6 1 5	3 5 7	20 14 2	1 9 9	5 4 10	27 8 9	8 7 11	35 16 8
1907	12 4 5	3 7 10	3 4 0	18 16 3	1 9 7	6 8 3	26 14 1	8 17 5	35 11 6
1908	11 13 7	5 1 3	3 5 9	20 0 7	1 6 9	5 11 3	26 18 7	8 2 7	35 1 2
1909	12 8 5	7 5 2	3 7 11	23 1 6	1 7 9	4 16 3	29 5 6	9 1 9	38 7 3
1910	13 1 10	7 0 4	3 14 6	23 16 8	1 9 9	5 6 9	30 13 2	10 8 6	41 1 8
1911	11 13 6	5 17 2	3 18 6	21 9 2	1 6 7	5 13 1	28 8 10	11 10 0	39 18 10
1912	10 5 4	7 1 4	3 10 6	20 17 2	1 4 11	5 19 7	28 1 8	11 8 11	39 10 7
1913	10 7 10	6 19 9	3 10 8	20 18 3	1 4 9	5 19 6	28 2 6	11 17 8	40 0 2
1914-15	9 5 2	3 6 10	3 11 3	16 3 3	1 2 10	4 8 11	21 15 0	10 6 7	32 1 7
1915-16	8 8 10	9 17 2	3 1 0	21 7 0	1 3 5	4 0 1	26 10 6	8 17 4	35 7 10
1916-17	8 4 3	6 13 3	3 10 2	18 7 8	1 3 2	4 3 2	23 14 0	9 2 11	32 16 11
1917-18	8 5 9	6 0 5	3 15 1	18 1 3	1 3 1	4 9 4	23 13 8	8 3 0	31 16 8
1918-19	9 0 0	4 5 1	3 7 4	16 12 5	1 5 0	2 15 10	20 13 3	8 7 2	29 0 5
1919 20	9 7 3	2 7 8	3 1 10	14 16 9	1 10 9	2 13 6	19 1 0	8 6 2	27 7 2

As the bulk of the production comes directly or indirectly from the rural industries, the volume is affected greatly by seasonal conditions. It is noticeable that the production per head was higher in each of the five years preceding the war than at any time during the last twenty years. The maximum rate per head was in the year 1910, though the total volume of production, as shown in the previous table, was greatest in 1913. In 1914-15 there was a decrease which affected nearly all industries; an improvement in 1915-16 was followed by a decline, which persisted throughout the remainder of the period. In 1919-20 the production per head was lower than in any year of the period, except 1902; the decline is noticeable in regard to all the important industries.

Taking the annual average during the last three seasons, the volume per head of the production from the rural industries was 22 per cent. lower than in the three years 1911-13; the volume per head of pastoral production was 17 per cent. lower, agricultural was 37 per cent. lower, and dairying was 7 per cent. lower.

Volume of Production per head—Index Numbers.

The variations from year to year, in the volume of production per head, or relative productive activity, in each industry and group of industries may be seen in the following statement, in which the per capita rates in the

preceding table are shown in the form of index numbers, the value per head in 1911 having been taken as a basis, and called 1,000:—

Year.	Primary Industries.							Manufacturing Industries.	Total, All Industries
	Rural Industries.				Forests, Fisheries and Wild Animals.	Mining.	Total Primary Industries.		
	Pastoral.	Agricultural.	Dairying and Farmyard	Total Rural Industries.					
1901	983	732	628	850	685	734	819	686	781
1902	759	304	511	589	762	680	615	584	606
1903	713	1249	612	840	732	778	823	569	750
1904	765	756	734	757	773	845	775	661	742
1905	885	877	783	864	883	902	872	681	817
1906	973	1037	836	965	1118	927	965	730	897
1907	1047	579	815	877	1113	1134	939	771	891
1908	1000	864	834	933	1008	984	947	707	878
1909	1064	1239	866	1075	1043	852	1029	790	961
1910	1121	1198	949	1111	1121	944	1078	906	1029
1911	1000	1000	1000	1070	1000	1000	1000	1000	1000
1912	879	1206	898	972	937	1058	987	995	990
1913	890	1193	900	975	931	1057	989	1033	1002
1914-15	793	570	907	753	857	786	765	898	803
1915-16	723	1683	777	995	880	708	933	771	886
1916-17	703	1137	894	857	873	735	833	795	822
1917-18	710	1028	956	842	869	790	833	709	797
1918-19	771	727	858	775	941	494	727	727	727
1919-20	802	407	788	692	1156	473	670	722	685

The year 1901 was generally favourable to the rural industries, but it was followed by a drought which affected practically the whole State, and the relative productive activity declined by almost one-third. From 1904 onward the rural industries expanded rapidly; and, except for a decline owing to the failure of the wheat crop in 1907, the index number of productive activity rose in each year, attaining the maximum of the period in 1910. In the year 1911 the progress of dairying continued, but the season was not so favourable to the pastoral and agricultural industries and the index number declined by 10 per cent.

During 1912 there was a further decline of 3 per cent.; the pastoral industry, which is the chief source of rural production, suffered severely owing to drought in the grazing areas during the first six months of the year, and the number of sheep was reduced by nearly 6,000,000. The dairying industry also was affected by the dry weather, but the agricultural areas benefited by abundant rains during the latter part of the year.

In 1913, although cultivation was extended, the average yield per acre of the principal crops was somewhat lower than in the previous year. The season was not, on the whole, favourable to the pastoralists and dairy-farmers, but the volume of their production did not decrease.

In 1914-15 the index number of rural productive activity was the lowest since 1902, being 25 per cent. lower than in 1911. A severe drought affected a large portion of the State, and many crops failed entirely; the pastoralists experienced serious losses, and the number of sheep in June, 1915, was 12,000,000 less than at the end of 1911. The drought was not so severe in the dairying districts, and there was a slight increase in the rate of production.

In 1915-16 the relative productive activity in rural industries showed an increase of 32 per cent. as compared with the previous year. The improvement was due to increased agricultural production, as large areas were

brought under wheat cultivation to supply the demand for export; high prices were obtainable, and the ploughing season was favourable. This improvement was minimised by a further decrease in pastoral production, owing to a shortage of stock resulting from the drought, and by a marked decline in the dairying production.

In 1916-17 the high rate of agricultural production was not maintained, owing to the unsettled state of the market, the difficulties as to disposal of the harvest, and the shortage of labour owing to war enlistments, added to which the ploughing season was unfavourable. The decline in pastoral production continued; dairying, however, showed a substantial improvement.

In 1917-18 the dairying and pastoral industries showed slightly increased production, but there was a further decline in agricultural production; and the index number of productive activity was somewhat lower than in the previous year. In 1918-19 it declined by 9 per cent.; the season was very dry, the area under crop declined by about 570,000 acres, and the dairy production showed a marked decline. The pastoral industry, though affected severely by drought, showed somewhat better results.

The season 1919-20 was disastrous to the agricultural industry, and the rate of production was the lowest since 1902, being 60 per cent. lower than in 1911. The dairy production declined also, but the pastoral industry showed a slight improvement. The index number of the rural industries as a group has declined by 30 per cent. during the last four seasons.

Briefly, the pastoral industry, after the drought of 1902-3, entered upon a period of steady expansion, the productive activity being greater during the five years 1907 to 1911. The subsequent decline may be attributed to the heavy losses of live stock through drought during 1912 and 1914-15. No season since 1911 has been generally favourable to the pastoralists, but this class of industry has received greater attention during recent years, owing to the high prices and the facilities for marketing the products. The index number of productive activity in the agricultural industry was high throughout the period 1909 to 1917-18, except in the season 1914-15. It reached a maximum in 1915-16, and the subsequent decline was caused by the disturbance of the oversea trade, the difficulty in disposing of the harvests, the scarcity of labour during the war period, and the prospect of better returns from sheep-farming. The dairy industry showed steady improvement from 1903 to 1911; fluctuations in production since 1911 were due mainly to seasons, though difficulty in obtaining shipping space affected the industry to some extent.

The returns from forestry and fisheries are relatively small, as these industries have not been developed, and employ comparatively small numbers of men.

The production from forestry, fisheries, and wild animals increased slowly from 1901 to 1905, then the rapid development of rabbit-trapping as an industry led to a more rapid increase. Progress in forestry and fisheries, however, did not keep pace with the increase in the population, and the relative productive activity had been decreasing for some years prior to the war. The decline continued during the early years of the war period, but high prices for rabbit and marsupial skins have since stimulated activity in this branch of industry.

As to mining, the prices of the industrial metals were low during the opening years of the period under review, and production was somewhat restricted; as prices advanced activity in mining increased until in 1907 it reached the maximum of the period 1901 to 1920. Prices of metal dropped in the latter part of 1907, and the index number declined in the two following

years. From 1910 onwards prices improved gradually, and the productive activity increased, so that in 1912 and 1913 it was 24 per cent. higher than in 1909. A serious decline occurred in 1915 owing to the war; it became necessary to restrict the oversea export of coal, and the cessation of trade with the belligerent countries closed the main outlet for the metal products, and caused a curtailment of operations in metalliferous mines. As the war continued, the demand for industrial metals increased, and prices rose considerably, but the rate of production decreased in 1916 owing to industrial unrest at Broken Hill and Cobar; also in the coal-mining districts, where the mines were idle from October to December owing to a strike. In the following year industrial troubles caused a further decline, and the rate of productive activity was 31 per cent. below that of 1911.

In 1918 there was a marked improvement as the result of high prices and the absence of serious disputes; but in 1919 the relative production dropped to a point nearly 52 per cent. below the basic year. The Broken Hill mines closed in May on account of a labour dispute, which was not settled until November, 1920; the drought militated against the exploitation of the mineral deposits in many districts; and the seamen's strike affected the export trade in coal. In 1920 the output of coal was the highest on record, but metal mining showed no improvement.

The rate of production in the manufacturing industries rose in each year except 1908 during the period 1903 to 1911; it declined slightly in 1912, but rose above the former level in the following year. The trade dislocations following the outbreak of war caused a great decrease in the output of the factories, while many industries were affected also by drought, and the relative volume of production declined in 1914-15 and in 1915-16. A slight improvement took place in 1916-17, when many factories were engaged continuously in the production of war materials. In the following year, however, the productive activity reached the lowest level since 1908, the index number being 29 per cent. below that of 1911; the output was reduced to some extent during this year by the strike which commenced in the railway workshops in August, 1917. A slight improvement took place in 1918-19, but the volume of production was 27 per cent. below that of 1911. The rate was practically the same in the following year, notwithstanding a decline in the productive activity in the majority of primary industries.

The foregoing tables show that the volume of production, which had been rising steadily for eight years, has declined in a marked degree since 1910 and 1911. As stated above, the main causes in regard to the rural industries were unfavourable seasons and shortage of labour, owing to war enlistments, and in the mining industry trade dislocations and industrial disputes. The manufacturing industries reflect to a considerable degree the diminished production of the primary industries. The shortage of labour and the scarcity and high cost of raw materials affected the output of many factories, while the absence of men on war service and the high prices caused a reduction in the demand for the products. These industries are more or less domestic concerns, making necessaries for local consumption; there is practically little or no export of manufactured articles, except foods.

Relative Production—Principal Commodities.

It is not possible to quote the production per employee in the various industries, as, except in the manufacturing industries, the number of employees is not recorded accurately. In the chapter, "Manufacturing Industry," particulars are given in regard to a few factories, but the records in many cases are deficient as to the "quantities" produced. The following statement shows, in regard to the principal commodities, the average annual

production, absolute and per head, during the three-year periods, 1901-03 and 1918-20, in comparison with the three pre-war years, 1911-13, which also were years of high production:—

Product.	Average Annual Production (000 omitted).			Average Production Per Head.		
	1901-03.	1911-13.	1918-20.	1901-03.	1911-13.	1918-20.
Wool, Greasy lb.	251,497	352,112	295,481	181·2	202·6	152·3
Tallow cwt.	312	698	509	·2	·4	·3
Meat, Frozen (Exported)—						
Beef lb.	5,963	11,120	4,230	4·3	6·4	2·2
Mutton „	27,427	63,828	27,160	19·7	36·8	14·0
Leather „	14,378*	13,373	18,074	10·4	7·7	9·3
Butter „	35,912	79,198	69,871	25·9	45·6	36·0
Cheese „	4,245	5,845	6,848	3·1	3·4	3·5
Bacon and Ham „	9,314	15,940	17,342	6·7	9·2	8·9
Wheat bush	14,576	31,865	20,142	10·5	18·3	10·4
Maize „	4,577	4,691	3,215	3·3	2·7	1·7
Potatoes cwt.	844	1,824	869	·6	1·1	·4
Hay „	10,741	18,612	14,123	7·7	10·7	7·3
Coal ton	6,088	9,664	9,470	4·4	5·6	4·9
Coke cwt.	2,775	9,217	14,807	2·0	5·3	7·6
Gold oz.	233	200	67	·2	·1	·0
Silver „	872	2,117	1,133	·6	1·2	·6
Silver-lead, Ore, &c. ... cwt.	7,647	7,167	2,546	5·5	4·1	1·3
Zinc „	151	10,290	1,536	·1	5·9	·8
Timber, Sawn sup. ft.	127,509*	169,078	145,753	91·8	97·3	75·1
Fish, Fresh lb.	14,532	15,499	19,336	10·5	8·9	10·0
Rabbit Skins (Exported) lb.	756*	5,305	9,008	·5	3·1	4·6
Iron, Pig cwt.	150	771	1,567	·1	·4	·8
Portland Cement „	372	2,374	2,038	·3	1·4	1·1
Beer and Stout gal.	14,420	21,665	25,811	10·4	12·5	13·3
Tobacco lb.	3,668	6,370	9,642	2·6	3·7	5·0
Biscuits „	10,122*	24,175	45,094	7·3	13·9	23·2
Boots and Shoes pairs	3,016	3,752	3,751	2·2	2·2	1·9
Bricks No.	180,887	366,985	271,857	130·4	211·2	140·1
Candles lb.	3,364	5,511	4,414	2·4	3·2	2·3
Gas 1,000 cub. ft.	2,311	4,878	8,924	1·7	2·8	4·6
Jam lb.	19,498*	27,767	40,313	14·0	16·0	20·8
Soap „	22,748	31,670	37,478	16·4	18·2	19·3
Sugar, Refined cwt.	1,190	1,834	2,284	·9	1·1	1·2
Meat, Preserved lb.	15,675	25,501	20,733	11·3	14·7	10·7
Tweed and Cloth yd.	· 516	1,170	2,139	·4	·7	1·1

* Estimated.

The statement shows in regard to 35 staple commodities that the quantity produced per head between 1911-13 and 1918-20 increased in 14 and decreased in 21 cases, and that amongst those which decreased were the important commodities of wool, meat, butter, wheat, coal, silver-lead, and timber; none of the increases has been nearly sufficient to off-set these.

If it had not been that high prices were obtained for all staple products during the last period, the outlook for the State would have been serious.

INDUSTRIAL HISTORY OF NEW SOUTH WALES

FROM 1901 TO 1920.

Introduction.

THE "Industrial History" of the State up to 1899 is described in "The Wealth and Progress of New South Wales," 1897-8. The present history of the twenty years following 1900 is on a somewhat broader basis, in view of the wider outlook which has come with Federation and of the rapid economic development of the State, which began early in the present century.

The matters which have influenced the industrial history of the State since 1900 have been treated from time to time in the various editions of the "Official Year Book," but a connected account of the whole period has not hitherto been published. The account here given is not put forward as an exhaustive analysis of the various movements of these eventful years. Its aim is rather to expound the facts than to discuss them. Controversial statements have been avoided, it being left to the reader to draw his own conclusions, either from the facts before him or from further research.

* * * * *

The conditions existing in New South Wales at the beginning of the twentieth century became suddenly, by a peculiar combination of circumstances, very different from those which had prevailed in the period which preceded it.

The era of prosperity and rapid expansion which had begun in 1873 reached its culmination in the late 'eighties, and ended disastrously in the banking crisis of 1893. Then followed a period of stagnation, marked by low prices, low wages, and restricted enterprise. The bottom of the downward trend had been reached and passed by 1899, and an upward movement in wages, prices, and business activity was in progress. This movement, at first slow and halting, and retarded by the recurrent bad seasons which hampered primary production from 1895 to 1903, steadily gained momentum, and became the most potent factor in determining the future course of events.

Two movements of import were under weigh in the politics and government of the State. The rise of the Labour Party as a power in Parliament had almost synchronised with the growth of the movement which led to the federation of the six Australian States, and the progress of the two movements, though proceeding independently, advanced almost step for step. The proposed Federal Constitution was accepted by the electors of New South Wales in June, 1899, only three months before the Labour Party in Parliament was able to assert its weight definitely in the affairs of government, by replacing the Reid Ministry with a party more amenable to its will.

Meanwhile, in 1896, the abolition of nearly all import duties virtually restored to the State a policy of freetrade, but when Federation was accomplished finally, and the administration of Customs was transferred to the Commonwealth, the prolonged party dissensions on the fiscal policy of the State ceased.

The banking crisis of 1893 had produced drastic changes in the conduct of private finance. A system of easy credit was replaced by a policy of the utmost watchfulness and caution on the part of the associated banks, which acted effectively in checking excessive speculation. This altered policy safeguarded the community from the danger of another financial disaster in the long period of prosperity which began in 1903, and facilitated the easy monetary conditions which existed during the War.

Important consequences to trade and industry resulted from causes which began to operate in the last century. The perfection of the system of cold storage enabled the transport of meat, butter, and other perishable goods over long distances to foreign markets, while the development of agriculture produced, in 1898, the first surplus of wheat for export oversea. In this way the number of exportable articles was increased, and the volume of exports became less dependent upon the fluctuations of the wool seasons. New South Wales now tended to become more closely linked with international markets, and the vicissitudes of its progress were determined more than in the past by the influence of world markets and world finance.

One of the most powerful influences operating in the conduct of trade and industry in the last twenty years—trade-unionism in its new and bolder phase—was absent prior to 1900. After the unsuccessful strike of 1890, and during the depressed period which followed, the cause of unionism did not progress. The great scarcity of employment rendered the times unpropitious for organising employees, and claims for improved conditions or even for maintenance of former standards were rendered nugatory by the fact that men usually were glad to obtain employment under any tolerable conditions. Though by 1896 trade conditions were improving, and it was becoming possible again to promote the spread of unionism, few new bodies were organised to replace the many which were decaying.

During the five years prior to 1900 a demand sprang up for a measure of arbitration which would contain more substance than the shadowy enactment of 1892. The opposition of the employers and the action of the Legislative Council for some years kept the movement in check. Mr. Reid's bill of 1894-5 failed to pass the Legislative Council, while the Act of 1899, which was principally conciliatory, was passed without any provision for the enforcement of awards. This half-hearted measure, however, gave no satisfaction, and agitation for a more comprehensive enactment continued.

The industrial history of the State during the last twenty years falls more or less naturally into three periods—the first from 1901 to 1909, during which the State progressed rapidly while a cautious spirit governed its finance; the second beginning in 1910, when productive activity reached its highest point and remained high until 1914—a period in which the annual expenditure of loan money more than doubled; the third a period of decline through the effects of drought and war, during which high prices and a heavy governmental expenditure produced an appearance and many of the effects of prosperity.

1901—1909.

It was in the circumstances just briefly described that the movement towards union among the Australian States, which had been discussed intermittently since 1847, was consummated. The bill embodying the proposed Constitution of the Commonwealth was approved by the Australian electors in 1899, and transmitted to the Home Government for consideration. With minor modifications it received the Royal Assent on 9th July, 1900, and came into operation on 1st January following.

This Constitution established in Australia a new political community with a wide range of powers as plenary as the Imperial Parliament could bestow. These powers were enumerated, and in a large measure regulated, by the provisions of the Constitution, and, except where it was provided that they should be exclusive of the powers of the States, were concurrent with them. To some extent a duplication of the machinery of government resulted. The powers of the State Legislatures continued undiminished in most respects, but it was provided that a law of the State should be invalid to the extent of any inconsistency with a law of the Commonwealth. Subject to the Constitution and to the supremacy of the British Parliament, both the Commonwealth and the several States were to possess sovereign powers, and all laws of the States continued in force until superseded by valid Federal enactments.

A Federal High Court was established in 1903 as a superior court for all Australia, and it began the important work of elucidating the principles of the new Federal Constitution. From its successive decisions the line of demarcation between State and Federal powers has gradually become clearer.

As a natural sequence to Federation and the surrender of legislative powers, there arose a demand for a reduction in the number of members of the Legislative Assembly, and following a referendum in 1903, the number was reduced from 125 to 90.

In 1904 an expansion of Commonwealth activities affecting the State occurred when the control of patents and trade-marks was transferred, and the Commonwealth Court of Conciliation and Arbitration was established with jurisdiction in interstate industrial matters. The growth of the unions and their tendency to create disputes in several States simultaneously gave this Court ultimately an important place among the agencies affecting industrial conditions in New South Wales.

Federation produced one immediate outstanding effect on the trade and policy of New South Wales, when, by the imposition by the Federal Government of uniform customs and excise duties throughout Australia on 8th October, 1901, interstate freetrade was established, and the newly-adopted policy of "virtual free-trade" was supplanted by a "moderate protection."

The weight of the new taxation fell chiefly on sugar, agricultural produce, groceries, oils, paints, earthenware, drugs, wood, jewellery, and leather.

Through the provision of the Federal Constitution that at least three-quarters of the Customs revenue of the Commonwealth should be returned to the States in which it was raised, a large increase in the revenue of New South Wales occurred. As, however, new influences in Parliament had induced a more liberal policy in the Government, requiring an expanded revenue, the Land and Income Taxes, which had been imposed in 1896 to replace the remitted Customs Duties, remained, and the total taxation imposed on the State rose from £1 18s. per head in 1898-9 to £3 0s. 6d. per head in 1903-4, practically the whole increase being due to the new tariff.

This increased rate of taxation was maintained in order to finance the Old Age Pensions scheme, which required £500,000 yearly, while equal sums were necessary to pay the increases in interest charges on the public debt, and the State's share of the cost of Federal Government. The buoyant condition of the revenue and the rapid improvement in trade, encouraged a revival of the policy of development, involving the expenditure of loan money on a large scale. A sudden expansion in the building of public works now occurred, and in 1901-2 nearly £5,000,000 of borrowed money were disbursed by the Government.

As a result of the new policy, the public debt increased between 1899 and 1903 to nearly £77,000,000, a rise of £15,000,000 in four years; in the same period the annual amount of taxation (State and Federal) collected in the State increased from £2,500,000 to £4,500,000, while a long-standing deficit, approaching £3,000,000, continued undiminished.

This policy in regard to the public finances evoked loud protest, and led to the formation of a Taxpayers' Union early in 1902, to secure economy in expenditure.

Industrial activity was now rapidly increasing in New South Wales, and the Legislature had become occupied with an increasing volume of labour laws, among the most important of which were the Factories and Shops Act, 1896, and Employers' Liability Act, 1897, the Early Closing Act, 1899, the Truck Act, 1900, and the Industrial Arbitration Act, 1901, while a Workmen's Compensation Bill failed to pass in 1902. These measures, the first attempts to regulate conditions of employment locally, were modelled usually on earlier legislation of other countries. General attention, seemingly, had concentrated on making statutory provision for the prevention and settlement of industrial disputes. The new Act was based admittedly on an act passed in New Zealand in 1892, and introduced at one stroke most of the outstanding features of Industrial Arbitration as existent in New South Wales to-day. Its avowed aim was to prevent strikes and lockouts, to regulate effectively the working conditions of industry whenever a dispute arose, and to improve the status of the trade unions.

Under the Act the machinery of the law could be set in motion, in respect of matters embraced by the Act, only by and through an Industrial Union or an employer. In this way unionism received a new and important status.

A marked increase in trade-union activities now occurred, as will be seen from the statement below, which shows the number of trade-unions registered in periods from 1888 to 1903:—

1888-91	...	...	...	...	84
1892-95	...	...	...	...	22
1896-99	...	...	...	...	4
1900-03	...	...	...	...	111

Power to direct that preference in employment be given to unionists was granted to the Court, while strikes and lockouts were prohibited, except after fulfilment of certain conditions. It was not expected that the measure would prevent industrial disputes, but it was anticipated that inquiry and discussion would do much to obviate strikes. This Act remained in force until its expiry by effluxion of time on 30th June, 1908.

As to its efficacy it may be noted that no amendment was made in it, although several were urged strongly in 1905. Again, during the operation of the Act no extensive strike occurred until toward the end of 1907, although an increasing number of smaller dislocations were reported after 1904. But many factors were favourable to the maintenance of industrial peace, and it is possible that the operation of the Court served only to defer trouble. Trade had revived, wages generally were at a much higher monetary level than in the previous decade, employment had improved, and considerable faith was placed in the arbitration system so long as the beneficial effects of the revival in wages continued to counteract the rise in the cost of the necessities of life.

The following statement indicates the movement of wages as compared with the rise in the cost of living. While the analysis is not exhaustive, it

is illustrative of the way in which wages revived after 1896, and it shows that a rapid improvement continued in the nominal wage for adult males. Though, in some instances, the advances were small, the cost of living did not cease to rise, and the effective wage throughout the period under review remained somewhat below the levels of 1896 and of 1911. It was about 1907 that strikes became a common feature of industrial life:—

Trade or Calling.	1896.	1901.	1906.	1909.
	s. d.	s. d.	s. d.	s. d.
<i>Manufacturing—</i>				
Boot Clickers per week	35 0	37 6	43 6	49 4
Tailors (Slop) „	40 0	43 3	59 0	60 3
Boilermakers „	60 0	60 0	60 0	62 0
Moulders (Iron) „	60 0	60 0	60 0	60 0
Fitters and Turners „	60 0	60 0	60 0	64 0
Coppersmiths „	60 0	60 0	60 0	64 0
<i>Building, etc.—</i>				
Carpenters per week	48 0	57 0	60 0	60 0
Bricklayers „	54 0	66 0	66 0	66 0
Stone-masons „	54 0	66 0	66 0	66 0
Plasterers „	42 0	57 0	60 0	60 0
Painters „	42 0	54 0	56 0	60 0
Labourers „	36 0	41 0	42 0	42 0
<i>Rural Industries—</i>				
Boundary-riders per week, with keep	20 0	20 0	25 0	25 0
Farm Labourers... .. „ „	12 6	16 3	25 0	25 0
Milkers „ „	14 0	15 0	16 3	21 0
Shearers per 100 sheep shorn	20 0	20 0	20 0	24 0
<i>Coal-mining—</i>				
Miners per ton (best coal)	2 11	4 2	3 6	4 2
Wheelers... .. per week	36 0	42 0	39 0	45 0
<i>Females, with Board and Lodging—</i>				
General Servants „	11 6	11 0	15 0	15 0
Cooks „	14 0	20 0	17 0	21 0
Index Nos., Year 1911=1000.				
Nominal Wage (Adult Males)	819	855	883	939
Effective Wage (Adult Males)	1057	990	972	973
Cost of Living (Food and Rent)... ..	775	864	908	960

But the operation of the Arbitration Court after 1901 did much to enforce generally the conditions which the unions had sought vainly to secure under less favourable circumstances. The wages of lower-paid workers were raised, the proportion of apprentices was regulated, and the standard week of forty-eight hours became more widely recognised. These considerations and the absence of any marked rise in the cost of living go far to explain why comparative industrial peace was maintained until 1907.

One fact which is sometimes overlooked in estimating the early apparent success of Arbitration in New South Wales is that the system commenced to operate in a period of incipient prosperity, which developed in such a way as to favour for a number of years a continual betterment of the conditions of employment. Trade and commerce had reached their lowest ebb in New South Wales by 1896, except in the pastoral industry, and a general trade revival began from that date, despite the fact that wool-growing, the staple industry of the community, continued to sink under the weight of successive adverse seasons to its lowest point in 1902.

But a complete change had taken place in the condition of the State's oversea trade. The total value of exports had increased steadily after 1886, when it was £5,700,000 less than imports, to a point where in 1894 it was £4,700,000 in excess of imports. An inter-action then occurred, imports increased until in 1901, when there was considerable loading-up in anticipation of the new Federal Tariff, and imports and exports were almost equal. In the succession of prosperous seasons which ensued, a marked growth in the export trade left considerable balances in favour of the State. The extent of the remarkable recovery which was made from the depression due to the bad conditions preceding and following 1893 may be judged from the following table:—

Period.	Average Annual Value of Oversea Trade of New South Wales (000 omitted).		Average Annual Excess of Exports (000 omitted).	Average Annual Loan Expenditure by Government (000 omitted).
	Imports.	Exports.		
1885-89	£ 13,514	£ 10,624	(-) 2,890	£ 2,634
1895-99	12,234	16,986	4,752	1,766
1900-04	15,419	18,880	3,461	3,259
1905-09	18,733	28,265	9,532	2,116

(-) Excess of Imports.

The deductions to be drawn from this table are modified by the facts that considerable sums of capital were imported privately from abroad between 1885 and 1889, and that capital was withdrawn by foreign investors between 1895 and 1902. The general effect of the loan expenditure by the Government was to put into circulation considerable sums of money imported from abroad, and in this way to heighten the prosperity which had resulted from the flourishing condition of the export trade.

A small proportion of the trade balances was due to the increasing popularity of Sydney as a port of transshipment, since a growing volume of merchandise from other States was finding its way thither as a convenient outlet. In the last period, shown above, the average exports of New South Wales produce—oversea and interstate—amounted to £32,779,000.

These favourable developments in the external trade of New South Wales were not without effect on the domestic financial situation. With the improvement in trade, which came toward 1900, the banks steadily won their way back to stability. The withdrawal of foreign banking capital from Australia had proceeded for nine years without intermission, but ceased in 1901. Deposits had maintained regular increases since 1896, while advances had declined from the unhealthy position which they had occupied prior to the crisis, until, in 1904, for the first time since 1880, they were actually less than deposits, and in this position they remained. The proportion per cent. of bank advances to deposits in this period was:—

1901	...	...	105·4	1906	...	...	87·3
1902	...	...	104·8	1907	...	...	87·1
1903	...	...	106·5	1908	...	...	89·5
1904	...	...	98·6	1909	...	...	83·4
1905	...	...	87·5				

The net profits, as reported, of banks operating in Australasia, showed from 1899 onwards a persistent increase, both in their aggregate and in ratio to the paid-up capital, and bank clearances in Sydney expanded by

75 per cent. in the ten years ended 1904. The great improvement in business conditions is shown by the fact that, after the year 1900, bankruptcies were fewer, and less serious. These facts appear from the following table:—

—	1894.	1901.	1904.	1907.	1909.
Trading Banks—					
Deposits £ (millions)	29·8	33·3	33·3	42·8	46·1
Advances „	37·4	35·1	32·8	37·2	38·5
Clearances „	101·2*	167·7	177·8	234·2	240·6
Savings Banks—					
Depositors No. (thousands)	190	306	350	422	460
Deposits £ (millions)	7·2	11·8	13·2	17·5	20·2
Limited Liability Companies—					
Number formed	90	88	127	189	251
Nominal Capital £ (millions)	†	1·8	2·8	3·8	6·8
Bankruptcies—					
Sequestrations No.	1,465	438	461	333	366
Deficiencies £ (thousands)	856	104	188	67	86

* From 18th January.

† Not available.

With this improvement came a revival in investment. The bank rate of interest for fixed deposits for twelve months had been reduced from 5 per cent. in 1892 to 3 per cent. in 1896, where it remained until 1903, when a rise of $\frac{1}{2}$ per cent. occurred.

The withdrawal of English capital from local investments after 1893, and the consequent difficulty in negotiating loans abroad, induced the Government and corporations to make moderate loan issues on the local market, which was already feeling the pressure of an expansion in trade. This growth of private investment and of public borrowing had the effect of hardening what for years had been an easy money market, so that in August, 1901, the State was obliged to raise its rate of interest on funded stock to $3\frac{1}{2}$ per cent. Though the primary industries and the export trade had flourished since 1899, several causes were operating to raise the value of money still further; investment proceeded, British capital remained timid, and the bad season of 1902 resulted in less fresh capital being available for investment.

Thus, early in 1903, a rise in the minimum mortgage rate from 4 to $4\frac{1}{2}$ per cent. occurred, and local issues of Government loans could obtain little better than par for 4 per cent., while borrowing on the English market again became difficult. The benefit of the purging which the State had experienced in 1893 and subsequent years now began to manifest itself in a distinct movement towards development from within. The commerce and industry of the State, instead of being dependent for stability, as it had been in the 'eighties, on the injudicious introduction of large amounts of borrowed capital, both public and private, tended, for a time, to find a surer support in the accumulations which resulted from the high productive activity of the community, favoured by good seasons.

The great economic changes which had come over the Old World did not manifest themselves in industry in New South Wales until toward the end of the nineteenth century, when a transformation was wrought in the condition of the community. Manufactories developed rapidly, and, while the population increased in all divisions, the rate of growth was faster in the towns than in the country, and from 1881 onwards the disparity between urban and rural population grew in a remarkable manner, so that the centre of gravity of the population moved from rural to urban centres. The full importance of this change is difficult to gauge, but a

consideration of its numerical extent is instructive. This is afforded by the following table, which shows the distribution of population and employment at the Census periods from 1891 to 1911 :—

	1891.	1901.	1911.
Urban Population	740,151	933,394	1,227,297
Rural „	378,099	413,326	411,281
Industrial Workers	136,817	146,688	208,014
Primary Producers (excluding Miners) ...	116,027	134,472	164,519

As the State developed, and new forces arose in politics, the question of land settlement received increasing attention at the hands of the Legislature. The virtual failure of the Acts of 1861, 1884, and 1889 to promote genuine settlement, and to prevent the further accretion of large estates, had been brought about by the practice of “dummying,” and by a profitable traffic in land carried on for the most part by the persons whom the Acts were designed to benefit.

The flow of population toward the towns and cities which had commenced during the 'seventies, continued unabated, and the establishment of a large population on the vast areas of under-populated land was steadily becoming a more difficult task, yet a task of more vital importance. An Act of 1895 had introduced some new principles whose operation was beneficial, but it fell far short of a solution of the problem. The grant of homestead selections and of settlement leases, and the imposition of a residential condition on conditional purchases of land, however, had the effect of stimulating some fresh and permanent settlement, and of restricting land speculation which had developed into a recognised evil.

New elements were entering into the land question. The extension of wheat-growing made possible largely by the discoveries of the foremost agricultural experimentalist of the State, William Farrer, the rise of the dairying industry, stimulated by gaining access to markets over sea, the introduction of dry-farming, and of irrigation methods, made possible a large expansion in the primary industries of the State, and rendered the matter of land settlement and utilisation more urgent and more complex.

Effective land settlement involved three things—that plenty of suitable land should be available, that settlers with small means should be assisted financially, and that alienation, which had always tended to swell large estates, should be prevented.

The problem was attacked in a new way in 1901 through the Closer Settlement Act, which empowered the Minister for Lands to acquire private lands or Crown leases offered for sale, and to subdivide and dispose of such lands in small lots on a leasehold tenure. The power of compulsory acquisition was not bestowed and the Act remained practically inoperative. It was repealed in 1904 by a more thorough-going enactment containing provision for compulsory resumption of private lands and for disposal of them in smaller lots, but not necessarily on a leasehold basis.

In 1899 steps had been taken by the sale of inscribed stock to provide a fund from which the State might make advances of money on terms advantageous to settlers in need of assistance. The maximum amount which might be granted to any one settler was raised to £1,500 in 1902. Considerable use was made of this scheme, and in the next six years nearly one thousand advances, on the average, were made annually.

Reconsideration was also given to the condition of the occupiers of land in the less-favoured Western Division, who, it was felt, required generous

treatment in view of the especial difficulties confronting them. The administration of these lands was placed under a separate authority, and a lease tenure of forty years' duration granted at a low annual rental, based on the carrying capacity of the land.

The occurrence of unfavourable pastoral seasons had synchronised with low prices, and had depressed the wool industry and through it the general prosperity of the State, in the late years of the nineteenth century.

The value of wool had fallen over a period of thirty years, inasmuch as the average price per pound realised for greasy wool in London during the three preceding decades had been :—

1871-80	...	...	...	d.
				11·1
1881-90	...	...	...	9·4
1891-1900	...	...	...	8·6

After 1900 the rapidly growing demand for wool changed the direction of the price tendency, and a succession of good seasons, almost unbroken for ten years, were the contributing sources of a markedly increased production of wealth, which was the outstanding characteristic of the years which followed 1902.

The extent of the improvement in the wool-trade after 1902 is clear from the following table :—

Year.	Number of Sheep.	Production of Wool.	
		Weight.	Value.
	(millions)	lbs. (millions)	£ (millions)
1897	43·9	303·3	8·1
1902	26·6	217·4	7·4
1907	44·5	367·4	17·2

However, the production of wool was now assuming a less important place among the factors governing the prosperity of the State. It remained dominant, but a considerable alteration had taken place in the nature of the export trade between the years 1896 and 1900, and minerals, wheat, butter, and meat now exerted a favourable influence on the trade balance. The values per head of the principal articles exported oversea in 1896 and 1900 respectively were :—

Articles.	1896.	1900.
	s. d.	s. d.
Wool	117 2	94 0
Meat	8 10	11 4
Wheat and Flour	0 6	3 9
Butter	1 3	6 5
Silver and Lead... ..	27 11	38 3
Coal and Coke	7 4	9 4
Copper	3 2	7 4

The severe drought of 1902 had a disastrous effect on the primary industries, and consummated the series of misfortunes which had beset the State since 1893. The wheat yield reached only one and a half million bushels, and, to meet local requirements, it became necessary to import wheat and flour from abroad on a large scale, so that wheat at 6s. 3d. per bushel

was at a higher price than for twenty-six years. At the same time the absence of wheat for export and the losses of sheep caused a considerable decrease in the total value of the State's exports. To assist the farmers who had lost heavily in the drought, the Government in 1903 acquired and distributed large quantities of seed-wheat.

The heavy yield of wheat in the new season—a yield almost as large as in any two previous years combined—at once made good the losses entailed, and demonstrated that the new industry was established on a sure foundation. The pastoral industry made a slower but none the less remarkable recovery, because, within three seasons, the flocks of the State increased by fifty per cent., while the production of wool showed an even larger proportionate expansion. In the dairying industry a similar improvement appeared, and, since a revival in the prices of metals early in 1903 had stimulated the mining industry, a long period of general prosperity in the primary industries was ushered in. The extent of this improvement may be gauged by a consideration of the value of production per head in various years.

Industry.	1901.			1906.			1910.		
	£	s.	d.	£	s.	d.	£	s.	d.
Pastoral	9	2	1	13	5	6	13	0	3
Agricultural	5	3	3	5	1	3	5	17	6
Dairying and Farmyard ...	2	6	8	3	0	9	3	14	4
Mining	4	3	1	5	6	7	5	4	8
Manufacturing	7	2	6	8	0	5	10	7	9
All Industries	23	12	0	36	1	0	39	15	7

A new Government had been elected in 1904 largely on its declared policy of economy in expenditure, but a temporary curtailment of borrowing had become necessary by considerations other than policy. In 1903 the London money market had hardened to such an extent that further loans could be raised only at prohibitive rates, and the outbreak of the Russo-Japanese War imposed a further strain. A similar condition existed locally. In these circumstances the expenditure of borrowed money fell off precipitately, and from 1903 it declined continuously until 1907, when it reached its lowest point since 1878.

The persistent growth of the financial operations of the Government in these years, the drastic changes wrought in the conduct of the State's finance, and the variations of the general policy pursued, are reflected in the following table:—

Heading.	July to June, 1900-04.	July to June, 1904-08.	July to June, 1908-09.
	£ (thousands)	£ (thousands)	£ (thousands)
Average Annual Revenue... ..	11,041	12,743	13,625
Average „ Expenditure	11,131	12,271	14,692
Average „ Excess of Revenue over Expenditure ... ..	...	472	...
Average Annual Excess of Expenditure over Revenue	90	...	1,067
Average Annual Amount of Loan Money Expended	3,682	1,499	2,907
	1901.	1905.	1909.
Public Debt (<i>per capita</i>)	£ 49·3	£ 56·6	£ 56·8

The large deficit shown for the year 1908-09 was due to the transference of £1,000,000 to the Closer Settlement Fund and of £861,000 to the Public Works Fund during the year.

A careful policy was pursued, with the result that there was after 1905 a series of surpluses of revenue over expenditure after a long and almost unbroken succession of deficits. Provision was made for a sinking fund in 1904, and the first step taken toward the reduction of the accumulated deficiency which had burdened the State's accounts for many years. Continued economy replaced the accumulated deficiency, which in June, 1904, amounted to £2,500,000, with a surplus of nearly £500,000 within a period of four years, at the end of which (in 1908) a considerable remission of taxation was made. The exemption from taxation of earned incomes was raised to £1,000, certain stamp duties were abolished, and the land-tax was given up in favour of the newly established local governing bodies. These remissions in the State sphere were, however, counterbalanced by the imposition on 8th August, 1907, of increased indirect taxation in the form of Customs duties by the Commonwealth Government, and there resulted a considerable increase in the amount of revenue returned to the State.

The existence of a flourishing condition in the Governmental revenue and the prosperous circumstances of the State led to a cautious resumption of public works construction. But after 1908, a rapid growth in the expenditure of loan money commenced.

Other factors operated in these years to give questions of finance prominence in public attention. As the Commonwealth Government began to exercise its functions, its growing expenditure left less and less beyond the statutory three-quarters of Customs revenue to be returned to the States, the major portion of whose revenue proper was thus derived. The payment of Customs revenue to the States, above the strict requirements of the Constitution, ceased altogether on 1st July, 1908, and was devoted by the Commonwealth to defence and to the establishment of a trust fund, from which the prospective old-age pension expenditure was to be met.

The policy of the Government elected in 1904, tended to favour rural development, and its comprehensive legislative programme included a range of land measures and amendments, local government extension, the construction of Burren Juck dam and the Murrumbidgee Irrigation Area, while the policy of assisted immigration, which had been dormant for twenty years, was revived in 1905. Under this scheme nearly 41,000 immigrants were introduced in the next seven years. The legislation of the Commonwealth had already put an end to the introduction of coloured labour from the islands of the Pacific, and had prevented effectively the further influx of Asiatics. The protection of Australian industries was also a matter of Federal activity, and although the "New Protection" policy adopted in 1906 led to a large increase in the amount of indirect taxation by the imposition of heavier import duties, yet it secured a considerable benefit to Australian industries, which were assisted further by the grant of bounties on production. The first large iron works in the State were established at Lithgow in 1907.

The manufacturing industry had entered on a period of progress in 1903, which accelerated after 1905. In the nine years ended 1909 more than four million pounds worth of new plant was introduced, 25,000 additional hands were employed, and the value of the output increased by nine-and-a-half million pounds, or by nearly 100 per cent. This rapid expansion occurred chiefly in the textile, metal, and printing trades, and was, therefore, a

genuine extension of manufactories proper, rather than a mere enlargement of existing processes. The development is apparent from the following figures of the manufacturing industry:—

Year.	Number of Establishments.	Value of Plant.	Number Employed.	Value of Output.	Value added to Raw Material.
		£ (thousands)		£ (thousands)	£ (thousands)
1901 ...	3,367	5,861	66,230	24,395	9,742
1905 ...	3,700	8,032	72,175	27,850	10,631
1909 ...	4,581	10,331	91,702	40,242	14,536

Prosperity, however, was not confined to the factories. Splendid seasons had facilitated a speedy improvement in the primary industries after 1902, and the beneficial effects of a rapidly-growing production were emphasised by a steady advance in market prices for wool and metals. The adverse season of 1907 was not severe enough to interfere materially with the general progress, although, concurrently with the restricted output of pastoral and agricultural products, the world market for wool and metals again fell off appreciably during 1908 and 1909, as a result of the American financial crisis of 1907.

The variations in production and prices of primary goods were—

	1901.	1905.	1910.
Production—			
Wool lb. (millions)	310·1	297·1	415·3
Wheat bush. (millions)	14·8	20·7	27·9
Butter lb. (millions)	39·1	53·0	76·6
Coal ton (millions)	6·0	6·6	8·2
Prices—			
Wool, Greasy, Import Value, United Kingdom per lb.	s. d. 0 8 3	s. d. 0 10 2	s. d. 0 10 1
Wheat, Sydney, February ... per bush.	2 7	3 4½	4 1¼
Butter, Sydney average, Wholesale per lb.	0 10·6	0 10·2	0 11 0
Coal, Best, Sydney average, Wholesale per ton	11 9	13 0	13 8

These developments encouraged a condition of trade highly favourable to the State. Between 1902 and 1909 the volume of shipping entered and cleared at New South Wales ports increased by nearly 50 per cent., exports oversea more than doubled, while imports grew by only 33 per cent. For nine successive years a large excess of exports over imports, amounting in all to a value of seventy-five million pounds sterling, was shown. Coupled with a policy of strict economy in Government expenditure, these factors soon produced signs of a large accumulation of money in the State, and, in the absence of heavy investment, produced a condition of monetary ease early in 1905 which lasted until 1908. In April, 1906, the bank rate for fixed deposits for one year was again reduced to 3 per cent., where it remained until 1912. The volume of business transacted by the banks grew rapidly,

while at the same time a rapid increase occurred in the gold reserves, the amount of which, and the proportion to total liabilities to the public, is shown below :—

Year.	Gold Reserve.	Proportion to total Liabilities.
	£ (millions).	per cent.
1890	5·7	15·4
1900	6·1	18·0
1910	13·0	24·8

Prices of raw materials and manufactured goods began to rise in 1899 in the world's markets. There grew up an urgent demand for gold, and the question of the adequacy of gold reserves and coinage facilities assumed a new and more important phase.

In America the financial crisis of 1907 was followed by a short period of stagnation, which induced a temporary fall in the prices of the important staples of the world, including wool and metals, for, of the industrial metals, the United States at this time consumed 44 per cent. of the world's output. In London, Government stocks suffered a further heavy decline, from which they did not recover completely, and increased interest charges on new loans ultimately resulted. The depreciation in stocks may briefly be indicated thus (the quotations are as at July of each year) :—

	1896.	1902.	1907.	1909.
	Highest Point.	Close of Boer War.	American Crisis.	
Consols (2½ per cent.) ...	112¾	95½	82¼	84¼
New South Wales Stocks (3 per cent.)	103	94½	87	88

The new turn of events did not at once affect the general level of prices locally, but the improved markets for Australian produce abroad brought into being the conditions necessary to permit a rise in prices, viz., prosperity and demand. These factors operated fitfully in the first decade of the century, always tending to inflate prices, but not causing any sudden advances such as those which later characterised the war period. It was not until 1906 that the new trend began to assume definite direction, and that the subject of prices assumed a place of leading importance in the economy of the day. That year was described as one of "high average cost of commodities," and discussion arose as to whether a new and higher range of values was being established. To this speculation point was added by the fact that almost every nation of the world was participating in an extraordinary prosperity, while unprecedented industrial activity existed.

New South Wales had recovered but slowly from the financial and industrial upheavals of the early 'nineties. But, when the change set in, it proceeded rapidly, especially after 1905, when the effect of the severe drought of 1902 had worn off. The volume of production in relation to population rose steadily, and reached its highest point in 1910. In this increasing production of wealth lay the keynote of the prosperity of the times, for the value of production to the producers expanded, on the whole, little faster than the productive activity, and prosperity was not due, as in later years, to any rapid rise in prices. These conclusions are apparent from

the following table of index numbers which show the value and relative quantity of production in various years :—

Year.	Value of Production per head. Index Numbers (1911=1000).			Volume of Production per head. * Index Numbers (1911=1000).		
	Primary Industries.	Manufacturing Industry.	All Industries.	Primary Industries.	Manufacturing Industry.	All Industries.
1901	755	620	716	819	686	781
1903	794	593	736	823	569	750
1905	874	635	805	872	681	817
1907	1059	772	976	939	771	891
1910	1033	903	996	1078	906	1029

* The term "volume of production per head," or "relative productive activity," signifies the quantity of production per head of population in each year. It is ascertained by dividing the actual value of production by the production price index numbers of the year, and relating the quotient to the population. (See chapter "Employment and Production").

In addition to this rise of prosperity, other factors, such as general world prosperity, the development of trade unions, and the change in the employment and distribution of the population of New South Wales, were operating to bring about a change in the bases of prices and wages. The effects were not marked at first, but toward the close of this period they began to assume aspects of great importance.

The effects of the altered conditions were first felt in a rise in the prices realised for durable merchandise—manufactured goods, and the raw materials which composed them—while articles destined for direct consumption showed only seasonal variations. This condition was, on the whole, highly favourable to local trade, which depended largely on the prices realised for exports. The increases were somewhat greater in raw materials than in manufactured goods, and for this reason the prices of Australian produce rose more than those of goods which were imported. Considered from the standpoint of consumption in New South Wales, the increases in wholesale prices after 1901 are shown in the following table of index numbers, 1911 being the basic year, and represented by 1000 :—

Commodities.	1901.	1905.	1909.
Australian	903	945	1045
Imported	906	910	955
All Commodities ...	904	933	1014

But a movement in the same direction had also begun locally in 1899 in foodstuffs and in rents, so that some importance now began to attach to considerations of the cost of living. This may be illustrated simply by the retail prices of the more important articles of food and the average rent paid in Sydney.

Commodity.	1899.	1901.	1903.	1907.	1909.
	s. d.	s. d.	s. d.	s. d.	s. d.
Bread, 2-lb. loaf ...	0 3	0 2½	0 3¼	0 3	0 3½
Beef ... ..per lb.	0 3½	0 5	0 5½	0 5½	0 5½
Butter... ..	1 0	1 0	1 2	1 1	1 2½
Sugar	0 2¼	0 2¼	0 2½	0 2½	0 2¾
Tea	1 6	1 3	1 3	1 3	1 3
Milk ... ..per qt	0 4	0 4	0 4½	0 4½	0 4¾
House Rent—					
5 rooms ...per wk.	12 6	13 7	13 8	14 8	14 10

Thus the prosperity of trade was accompanied by an increase in the cost of the necessaries of life, which slowly and inevitably depreciated the purchasing power of wages, so that a new and more compelling force tending to raise nominal wages was now added to the desire to improve the standard of life, which had previously animated unionism in its efforts to secure concessions.

In the earliest decisions of the Arbitration Court the condition of the industry was the principal factor considered in making awards, but a new and important principle of wage-determination was introduced on the advent of Mr. Justice Heydon to the Presidency of the Court of Industrial Arbitration in 1905. A pronouncement was made in favour of fixing wages by reference to the cost of living. This new principle was established definitely in 1907 through a provision of the Commonwealth Parliament that an excise duty should be imposed on agricultural machinery manufactured in Australia, but remitted where the remuneration of labour was "fair and reasonable" as determined by certain authorities. The question as to what was "fair and reasonable" came for determination before Mr. Justice Higgins, President of the Commonwealth Arbitration Court, with respect to Victorian conditions. The test which he applied in the case of unskilled labourers was involved in the question: What wage would suffice to meet "the normal needs of an average employee regarded as a human being living in a civilised community?" On this principle he fixed the fair and reasonable wage for an unskilled labourer at the sum of 7s. per day, assuming an average family of "about five" persons. This rate was known afterwards throughout Australia as the "Harvester Wage."

Although an adverse decision as to the legality of the provisions of the Federal Parliament which authorised this investigation was made shortly afterwards, the rate of seven shillings per day determined upon as a minimum was adopted by the arbitration tribunals of this State as the basis of their awards, and payment was in some measure adjusted to needs, while a standard living wage, that is, a wage based on the reasonable requirements of an assumed average family, was ultimately adopted. Previously, though unskilled labourers usually had been awarded seven shillings per day, in some other unskilled occupations, smaller sums had on occasions been awarded. But these callings now generally benefited, as the new basis came to be adopted in future awards.

The cases quoted on page 581 indicate that the general tendency in wage-adjustment was towards a levelling-up of rates by the improvement of the position of skilled but low-paid workers, *e.g.*, the tailors and boot-clickers obtained in the eight years following the introduction of industrial arbitration increases exceeding 40 per cent., while the wages of bricklayers, carpenters, boilermakers, and labourers, who, in 1900, were all more highly paid, remained almost stationary.

Meanwhile undesirable practices had grown up in the employment of women and young persons in dressmaking and millinery in certain factories and shops. An official return* of the employees in dressmaking and millinery workrooms in the Metropolitan area showed that 137 females, employed nominally as apprentices, received no pay at all, 38 received less than 2s. 6d. per week, and 365 received from 2s. 6d. to 3s. 6d. per week, while in the Newcastle district conditions were even worse. Remedy was applied by the Minimum Wage Act, 1908, which provided that no person within the definition of "workman" or "shop assistant" should be employed at a wage of less than 4s. per week.

The operation of the Arbitration Act had been watched with keen interest, and it soon became clear that it would provide ground for considerable

* N.S.W. *Hansard*, 8th October, 1908, p. 1538.

contention between employers and employees. The latter were anxious to obtain through the Arbitration Court a complete regulation of industry, while in many instances their employers were averse to the extension of the functions of the Court beyond the strict powers conferred by the Act.

As a result, considerable litigation centred round the operations of the Arbitration Court, flaws were discovered in the Act, and the work of the Court was hampered and disorganised; while it had become apparent from the outset that, as constituted, it could not hope to deal expeditiously with the large volume of work with which it was faced.

The general inclination to refer disputes and even matters not in dispute to the Court was manifested by the rush of applications, and until 1904 virtual industrial peace reigned. In that year seven small dislocations of industry occurred; in the following year the number probably exceeded twenty, of which the most important was a strike of wheelers in the Newcastle district. Disputes continued on a small scale throughout 1906, while the year 1907 witnessed an increase both in the number and magnitude of dislocations. The coal trade was frequently disturbed by small disputes, until the general discontent at arbitration delays involved the northern coal fields in a general strike lasting eleven days in November, 1907. This was the first of a series of large disturbances which have occurred so frequently since in this vital industry. The records of strike occurrences point to the existence of a state of continual discontent among mine employees, and to a disposition among them to favour strikes.

It was becoming increasingly apparent by 1908 that the limited scope of the Arbitration Court had availed only to defer trouble in industry, and that delay or failure in obtaining awards was acting as an irritant to the unions, which began to adopt the strike as a method of gaining access to the Court, or of directly attaining their ends.

The discontent in the coal trade culminated in a general strike on all the coal-fields of the State in November, 1909. Twenty thousand coal-miners were involved, and the trouble lasted four months, ending with the reference of the miners' grievances to arbitration. Earlier in that year a strike of 2,500 metalliferous miners occurred at Broken Hill against a reduction of wages in accordance with a fall in the prices of metals. Besides these large strikes many minor dislocations are on record. In all, during 1909 a total of 2,116,000 working days was lost in New South Wales on account of strikes, and this total was not exceeded until 1917.

Thus the first measure providing machinery of arbitration in New South Wales ran its course with unremedied defects, and expired in June, 1908, amid a serious outcrop of strikes. Certain advocates of arbitration claimed that an attempt had been made to nullify the effectiveness of the Act by omitting to amend it as necessity arose. But now the prevailing discontent, the increase in the number of strikes, and the extent of the industrial trouble, were accepted by the Government as evidence that a complete change of system was necessary. To that end the Industrial Disputes Act was passed, introducing a new scheme on the pattern of the Wages Boards of Victoria, the outstanding feature of which had been the settlement of disputes at "round-table" conferences. The scope of the new system was very wide, and aimed not only to provide for the prompt settlement of disputes, but to afford means for the determination of any industrial matter with a minimum of legislation and formality. Stringent penalties were provided against striking or fostering a strike.

But industrial peace was not secured, and the determined measures taken against striking failed to prevent or end the strike of coal-miners in 1909, although several of the leaders were imprisoned. The small deterrent effects

of the prohibition against striking, especially in the mining industry, may be judged from the following statement and from similar figures for later years :—

Year.	Non-mining Industries.		Mining Industries.	
	Number of Dislocations.	Number of Working Days Lost.	Number of Dislocations.	Number of Working Days Lost.
*1907	11	712	30	204,966
1908	51	106,683	130	130,746
1909	43	47,047	85	1,969,920

* July to December.

A considerable development in the organisation of employees took place after 1900. The Act of 1901 had been very effective in promoting the growth of unionism, which hitherto had maintained a struggling existence.

It is probable that not more than sixty unions had survived the trying period of the 'nineties. But in 1901 the whole movement was galvanised into a new life by the advent of the system of arbitration, which brought an improved status to the unions, and enlarged the possibilities which now attached to combined action. New unions were formed rapidly, while existing bodies gained members and recovered their lost vigour. In 1904 there were 152 active trade-unions in existence, with a total membership approaching 80,000.

The force of the new impulse to unionism had exhausted itself by 1905, but a steady and persistent growth then began, of which the principal features were the consolidation and expansion of existing unions. In the five years, 1905 to 1909, the total membership rose from 80,000 to 127,000.

This activity was principally confined to employees. Whereas in 1902 there were 2,302 members of employers' industrial unions, there were only 3,229 in 1907.

But the movement towards organisation in trade and industry did not leave employers of labour and leaders of industrial enterprise disunited, although their associations usually were not registered even when eligible for registration.

Among employers there were two main kinds of associations—those formed to promote combined action in labour matters, which usually were registered, and those formed to facilitate the more effective prosecution of business, which usually were not registered. Since 1900 considerable activity had existed in the latter respect, and, while many associations were formed for the promotion of common interests apart from price-fixing, there continued in existence, or were newly established, price-controlling bodies in the following trades and industries :—Brickmaking, shipping, tobacco, coal, timber, sugar-refining, and jam-making, while powerful interests were, for a time at least, united in the wholesale wheat industry.

A further expression of the tendency to associate in business is to be found in the extension of co-operative societies and the formation of public companies. Between 1901 and 1909 the number of co-operative societies increased from twenty-five to forty, while in the same period 1,466 new limited companies were registered.

The period of progress and prosperity which had continued for ten years and had done so much to restore the State to a sound position, now manifested signs of decline, though some of the important changes which it had induced continued. The exhaustion of the beneficial forces hitherto operating was evident from the facts that the pastoral industry reached in 1910 the highest point attained since 1896 and declined thereafter; the margin of exports over imports diminished rapidly until, by 1911, it had practically

vanished; and the series of good seasons, begun in 1903, were replaced by a succession less propitious. While the fundamental forces necessary to a continued prosperity were failing, there was no serious decline in productive activity until drought and war combined in 1914-15. But subsidiary movements which had taken their rise in the activity of these forces, now exerted a more powerful influence on the trend of events.

The rise in the cost of living, which hitherto had been at a steady rate, accelerated after 1907, and constituted an important element of difficulty in the problem of wage-adjustment. The annual expenditure of loan money on public works expanded rapidly, and Governmental expenditure tended more and more to exceed revenue; a large increase in private spending expressed itself in the form of increased imports, and a period of very considerable investment opened; the formation of new enterprises placed an added drain on the resources of the State, and the rapid increase in State and Federal expenditure led to the imposition of heavier taxation.

At this juncture in the fortunes of the State, Parliament expired, and in 1910 the first Labour Government was elected. Earlier in the year the Labour Party had obtained its first working majority in the Federal Parliament.

1910-1914.

The continued prosperity of the past five years now led to an abandonment of the policy of economy, and encouraged a profuse expenditure, both public and private. In the previous period the volume of production per head had expanded rapidly as the effects of the drought of 1902 wore off. Primary production attained its greatest intensity in 1910, and the manufacturing industry in 1913. Thereafter, both industries lost vitality, and later, during the war, a heavy fall occurred in the relative productive activity of the community.

The decline which ensued was, in a measure, presaged by the trend of events in the period at present under review, which closed amid all the difficulties consequent on the outbreak of war, and the immediate depression of a severe drought. Pastoral production manifested signs of decline, but a shrinkage of the national income was averted by an improvement in the market for metals in 1912, an expansion of the manufacturing and agricultural industries, and a recovery in the wool market. Expenditure, however, tended to grow faster than income, and this period, reaping the benefit of the previous good seasons, showed a greater apparent prosperity than its true basis in production warranted.

This apparent prosperity was due more to a rise in prices—which supported a steady increase in monetary wages—than to any other single factor; and prices henceforth played a very large part in raising from year to year the value of production. The following table illustrates these facts:—

Year.	Value of Production per head. Index Numbers, 1911=1000.			Volume of Production per head. Index Numbers, 1911=1000.		
	Primary Industries.	Manufacturing Industry.	All Industries.	Primary Industries.	Manufacturing Industry.	All Industries.
1910	1033	903	996	1078	906	1029
1911	1000	1000	1000	1000	1000	1000
1912	1052	1123	1073	987	995	990
1913	1058	1129	1079	989	1033	1002

The rapid extension in the construction of public works in the State, which had begun in 1909, was continued, and the expansive policy was

marked in December, 1910, by the authorisation of loans amounting to nearly £5,000,000, including large sums for railway construction, closer settlement, water and sewerage services, and harbour improvements. Railway operations extended to the duplication of existing trunk lines, the construction of the North Coast line, and of a number of shorter lines in the more settled parts of the State.

Throughout the period the loan expenditure by the Government grew rapidly, and perhaps this was opportune for the State. While the value of exports remained stationary, though at a much higher level than it had ever before maintained, the value of imports rose rapidly, until it exceeded considerably that of exports in 1914. The growth of Governmental expenditure now provided some of the means whereby that large circulation of money, formerly due to the flourishing condition of the oversea trade, was maintained, and did much to ward off the danger of a collapse in local prosperity, although it did not prevent a certain hardening in the local money market in 1912. An interesting comparison reflecting the extent of these influences may be made thus :—

Year.	Value of—			Expenditure of Loan Money by Government.
	Imports.	Exports.	Excess of Exports.	Year beginning 1st July.
	£ (million).	£ (million).	£ (million).	£ (million).
1910	23·2	32·0	8·8	3·9
1911	27·3	32·2	4·9	5·5
1912	32·3	33·0	·7	7·7
1913	32·4	32·8	·4	9·1
1914	31·5	29·0	(—) 2·5	7·0

(—) Excess of imports.

The exports in 1911 and 1912 each included an approximate value of three million pounds in gold, bullion, and specie, and the decline in exports in 1914 was due to the combined effects of drought and war. The rapid increase in imports was due mainly to a greater demand for materials needed in the new growth of commercial development, and resulted largely from increased importation of machinery, implements, vehicles, building materials, metals, mineral oils, chemicals, and other manufactures, although large increases occurred also in dress, vegetable foodstuffs, tobacco, and drink. Two main causes operated to prevent a further expansion in the value of the State's exports oversea. The steady diminution in the flocks of sheep, which had set in after 1909, resulted in 1911 and the ensuing years, in a decline in the production of wool, while a heavy fall in metal values had led to a practical cessation of export, which was not resumed until 1912. The largely-increased production of wheat was counteracted to some extent by a fall in values below that of the closing years of the preceding period.

Though the productive activity of the community did not show any further improvement after 1910, it continued on a high plane until 1913, and many of the outward signs of increasing prosperity in the community continued. A large increase in bank advances had taken place, but an expansion almost as great had occurred in deposits, which still continued on a satisfactory scale. Again, the volume of business transacted, as measured by clearances, showed rapid expansion, and a remarkable outburst of business activity was made evident from the formation of many new limited

companies. That this prosperity was general in the community is apparent from the savings bank returns. The development may be indicated in the following way:—

	1910.	1912.	1914.
Trading Banks—			
Deposits £ (millions)	51·9	57·2	62·0
Advances „	40·8	47·7	51·8
Clearances „	274·3	330·6	353·1
Savings Banks—			
Depositors No. (thousands)	478	577	718
Deposits £ (millions)	20·8	26·5	33·2
Limited Liability Companies formed ... No.	329	432	354
Nominal Capital £ (millions)	7·0	13·9	7·4
Bankruptcies—			
Sequestrations No.	325	359	375
Deficiencies £ (thousands)	57	57	182

The growing industrial and commercial activity, coupled with the occurrence of a drought in New South Wales in 1912, caused an appreciable rise in interest rates. The bank rate for fixed deposits for twelve months was raised from 3 to 3½ per cent. early in 1912; the Government Savings Bank rate was raised to 3½ per cent. some months later; and a 4 per cent. loan was raised by the Government of New South Wales in London at 99½, and followed by another at 98 in 1913, and still another at 96 in January, 1914, just before a favourable change in the market in February. Local investments in Government stocks yielded corresponding returns. Some measure of the general rise in interest rates may be made from a consideration of the depreciation of Government stocks. The following London quotations are typical of the decline:—

	July, 1910.	July, 1912.	July 23, 1914.
Consols (2½ per cent.) ...	81	74	75½
New South Wales Stocks (3 per cent.)	86½	84¼	83

Taking into account the increase in imports, the inelasticity of exports, the increasing investment of private capital, the growth of expenditure by Federal and State Governments, coupled with the facts that a bad season occurred in 1912, and that a continued decline in the pastoral industry tended to diminish the national income, it is probable that in these years the community was not only spending the whole of its earnings, but was drawing upon the capital resources accumulated in the preceding period as well. The rapid growth of expenditure is apparent from the following comparisons:—

	1910.	1913.	Increase of 1913 over 1910.
	£ (millions).	£ (millions)	£ (millions).
Commonwealth Total Expenditure in year commencing July ...	13·2	15·6	2·4
N.S.W. Governmental Expenditure in year commencing July ...	6·3	7·4	0·6
Public Debt Total—			
Commonwealth	Nil.	7·4	7·4
N.S.W.	92·5	106·1	13·6
Local Government	4·6	7·1	2·5
Imports, N.S.W. Annual	23·2	32·3	9·1
Nominal Capital of new Companies formed	7·0	12·3	5·3

During these years the relative productive activity of the community did not increase, and the value of exports remained stationary, though the annual value of production rose from £64,300,000 to £77,900,000.

In view of the fast-growing demand for financial accommodation, and the uncertainty in the position of primary production, the only source which might produce new supplies of money, the banks adopted a policy of discouraging excessive speculation by declining to make advances. As capital continued to be invested in the extension of existing enterprises and the establishment of new concerns, investors were forced frequently to realise on some of their holdings, with the result that, though dividends and profits ruled high, the market prices of many stocks exhibited a tendency to decline. The growth of business activity which had proceeded rapidly after 1909 was retarded in 1913, and the threatened development of an excess of company promotion and speculation above the needs of the times was checked, and a period of easy financial conditions commenced early in 1914.

The oversea market for Australian produce had continued to expand, and the export trade was encouraged still further by rising prices. Thus world-prosperity stimulated the export of local produce to favourable markets abroad, and local prices rose still higher. Subsidiary to these considerations were the reactions caused by increases in local prices. As the cost of commodities rose, wages had risen, and two new and important factors were introduced into the situation. Higher wages constituted a permanent element of increase in the cost of producing commodities, while the addition to the purchasing power of the community caused a further demand for goods, and favoured a further rise in prices.

But the alteration in values consequent on the greater activity of international trade continued to manifest itself in a way favourable to Australian trade, and did much to retain in New South Wales an air of prosperity which depended more and more on increasing prices. The prices of Australian produce increased more than those of imported commodities, as is seen from the following index numbers of wholesale prices of commodities locally consumed :—

Commodities.	1911.	1912.	1913.	1914.
Australian	1000	1185	1113	1188
Imported	1000	1023	1054	1041
All Commodities ...	1000	1129	1092	1137

This increase in prices did much to sustain the commerce of the State at a time when the value of its export trade threatened to contract below the level of imports. The magnitude of its effect is shown by the comparison already made on page 594, between value and volume of production per head of population.

The rise in the values of Australian produce which had occurred principally in oversea markets, was also reflected naturally in a rise in the retail prices of foodstuffs, and particularly of meat, at home. The prices of food and groceries now began to rise more rapidly, and, accompanied by a rise in rents, brought about an increase of 20 per cent. in the cost of living, which rendered economic problems more difficult than ever, and constituted a prolific cause of industrial discontent.

The following examples illustrate the rapid rise in the prices of food and in rents after 1910:—

Commodity.	1910.	1911.	1913.	1914.
	s. d.	s. d.	s. d.	s. d.
Bread per 2 lb. loaf	0 3½	0 3½	0 3½	0 3½
Beef—Sirloin per lb.	0 4½	0 4½	0 5	0 5½
Mutton—Leg „	0 3	0 3	0 3½	0 4½
Butter „	1 1½	1 1½	1 1½	1 2½
Milk per quart	0 4½	0 4½	0 5½	0 5½
Sugar per lb.	0 2½	0 2½	0 2½	0 2½
Tea „	1 3	1 3½	1 3½	1 3½
Rice „	0 2½	0 2½	0 3	0 3
House Rent—				
5 rooms per week	15 4	17 1	18 6	18 7

The purchasing power of the sovereign fell rapidly, and with it effective wages depreciated despite a steady increase in the average nominal rate. The movement during this period may be gauged from the following summary of wages as affected by the rising cost of living:—

Trade or Calling.	1910.	1911.	1913.	1914.
	s. d.	s. d.	s. d.	s. d.
<i>Manufacturing—</i>				
Boot-clickers per week	48 0	54 0	54 0	54 0
Tailors (Slop) „	55 0	55 0	55 0	60 0
Boilermakers „	62 0	66 0	66 0	66 0
Moulders (Iron) „	60 0	66 0	66 0	66 0
Fitters and Turners „	64 0	64 0	70 0	70 0
Coppersmiths „	68 0	68 0	72 0	72 0
<i>Building, etc—</i>				
Carpenters per week	66 0	66 0	66 0	70 0
Bricklayers „	72 0	72 0	72 0	81 0
Stonemasons „	72 0	72 0	72 0	78 0
Plasterers „	66 0	66 0	66 0	81 0
Painters „	60 0	60 0	64 0	64 0
Labourers „	48 0	48 0	54 0	60 0
<i>Rural Industries—</i>				
Boundary-riders per week, with keep	25 0	25 0	25 0	25 0
Farm Labourers „	25 0	25 0	25 0	25 0
Milkers „	25 0	25 0	25 0	25 0
Shearers per 100 sheep shorn	24 0	24 0	24 0	24 0
<i>Coal Mining—</i>				
Miners per ton (best coal)	4 2	4 2	4 2	4 2
Wheelers per week	43 6	43 6	50 0	51 0
<i>Females, with Board and Lodging—</i>				
General Servants per week	15 0	16 0	17 6	20 0
Cooks „	21 0	22 0	27 0	30 0
Index Nos., Year 1911=1000.				
Nominal Wage (Adult Males)...	960	1000	1034	1092
Effective Wage (Adult Males) ...	1000	1000	975	945
Cost of Living (Food and Rent) ...	960	1000	1112	1155

It will be observed that, while a steady rise in wages persisted from 1910 to 1914, the cost of living rose faster, with the result that the effective wage actually decreased by 5 per cent. in the period.

It had been found necessary by the Industrial Court of New South Wales in November, 1911, to increase the "Harvester Wage" of 42s. per week, which had received general application as a minimum, to 45s. per week, and a further general advance of wages ensued. But the continued rise in prices and the continuance of industrial discontent led the State Government in 1913 to appoint Royal Commissions to inquire into food supplies

and prices, and to examine the arbitration system of the State. Both Commissions included in their reports a recommendation that some permanent body should regularly determine a living wage in accordance with the cost of living.

This task was undertaken by the Court of Industrial Arbitration, and in February, 1914, a living wage of 48s. per week was declared. The standard wage was defined as "that which will do neither more nor less than enable a worker of the class to which the lowest wage would be awarded to maintain himself, his wife, and two children—the average dependent family—in a house of three rooms and a kitchen, with food, plain and inexpensive, but quite sufficient in quantity and quality to maintain health and efficiency, together with allowance for certain other specified expenses." In this way a principle was introduced into wage determinations which was applied from time to time and operated with some success in keeping the purchasing power of wages nearly constant.

The factory and workmen's legislation of the country had lagged considerably behind that of older countries. The Factories Act of 1896, which had been long delayed, remained substantially the basis of factory legislation. Its benefits had been extended from time to time by supplementary acts, by the Early Closing Acts, the Minimum Wage Act, and the Saturday Half-Holiday Act. A consolidation of factory laws was made in 1912. A measure of Workmen's Compensation had been discussed for a number of years, but bills introduced into Parliament failed to pass until 1910, when a measure closely modelled on an Act passed in England in 1897 was enacted, granting a right to compensation in cases of incapacity or death resulting to workmen from any injuries received in the course of their work.

Serious deficiencies had become apparent in the system of Wages Boards which had been established in 1908 and subjected to some amendment in 1909 and 1913. Provision had been made for the establishment of any required number of boards, and considerably more than one hundred had been set up without co-ordinate principles or effective provision against overlapping. The intention had been that these bodies should be left as free as possible to operate as trade conferences of a conciliatory nature, but they developed into independent quasi-judicial tribunals. There had resulted considerable disorganisation in the system, and both employees and employers were put to considerable expense and trouble in following proceedings before several tribunals concurrently. Moreover, the chairman of these boards were usually engaged in other occupations, and, owing to the intermittency of their sittings, considerable time was lost in making awards.

A change of Government led to another recasting of the system in 1912, when the Industrial Disputes Act was repealed by the Industrial Arbitration Act. Though the structure of the system was changed, the principles of the Act of 1908 remained. Approximately 150 wages boards were in existence, and these were now divided into 27 industrial groups over each of which was placed a chairman charged with the special duty of securing consistency between awards. Definite statutory powers were given to grant preference to unionists, and, while striking was still illegal, the penalties were restricted to fines or to deregistration of the industrial union. The success which had attended the efforts of an investigation officer, appointed in 1911, encouraged the Government to provide special machinery of conciliation.

Once again it was claimed that a prompt hearing was ensured for all grievances, and that less justification existed for determining industrial disputes by strife. To ensure the observance of awards, additional inspectors were appointed, and the rapid increase in importance of industrial matters led to the establishment of a separate portfolio in the Ministry in 1911, and of a State Department of Labour and Industry in 1912.

However much the new and more efficient machinery for enforcing industrial justice operated to prevent disputes and to promote a continuance of work, it cannot be claimed that it was successful in maintaining industrial peace. In the difficult period following 1913, industrial disturbances became more frequent and assumed increasingly greater proportions, although far more disputes continued to come from the mining industry than from all others combined. Dissected in this way the statistics of strikes were:—

Year.	Mining Industry.		Non-Mining Industries.	
	Workers Involved.	Working Days Lost.	Workers Involved.	Working Days Lost.
1910 ...	7,032	61,508	7,204	39,262
1911 ...	10,831	246,875	9,479	110,346
1912 ...	27,389	67,869	3,775	28,100
1913 ...	28,848	237,577	13,378	129,196
1914 ...	56,372	732,295	18,884	179,478

Strikes now tended to arise less from claims for increased wages than from questions involved in working conditions, such as demarcation of work, quantity of work, hours of commencing, employment of non-unionists, and the like. It gradually became clearer that the strike was the customary weapon to secure redress of grievances in the mining industry, and that it was gaining popularity in other industries.

The new and rapid growth of activity among trade unions which had commenced in 1907 continued until 1912, but, though numerical development then slackened, unionism did not cease to progress. Very considerable activity existed in matters of politics, propaganda, and organisation among the many powerful bodies which had grown up. When, in 1912, wages boards were arranged in industrial groups, the formation of larger unions was encouraged. While 116 new unions were formed, so many were absorbed by amalgamation that the number in existence increased by only 45. Moreover, unionism made rapid headway among non-manual and women workers. Trade unions embracing hospital and asylum employees, public school teachers, actors, railway construction inspectors, journalists, railway officers, vaudeville artists, health inspectors, and clerks, were registered in these years; while more women's organisations were formed, and the number of female unionists rose from 2,226 in 1910 to 8,239 at the end of 1914.

Among employers little activity was displayed in forming trade or industrial unions. Combinations among employers proceeded on a larger scale in their capacity as controllers of industry, and additional new organisations were formed for general business purposes, sometimes including the fixing or stabilising of prices. New industrial unions of employers were registered in the following trades:—Butchers, bakers, hairdressers and tobacconists, builders, farriers, and brick-carters.

The popular feeling that much of the rise in prices was due to the operations of combined interests in commerce, led to considerable Government activity in the matter of inquiry. A general investigation into the conditions governing food supply and prices in New South Wales was instituted, while the Federal Government appointed a commission to inquire into the sugar industry, and, finding its powers inadequate in this and other matters, submitted comprehensive proposals to the electors for amending the Constitution, none of which, however, was approved.

The action taken by the State Government was further extended. The manufacture and supply of gas was regulated in 1912 by Act of Parliament, and a large number of State industrial undertakings were established, principally

to supply Government needs, but also, in some cases, to compete with private enterprises. The new undertakings embraced the establishment of brickworks in 1911; limeworks, timber and joinery works, and a clothing factory in 1912; a metal quarry, dockyards, and a building construction branch in 1913; and a bakery, monier-pipe and concrete works in 1914.

The encouragement of local manufactures was not neglected. In addition to the protection given by the tariff, encouragement was directly given in a number of industries by a system of bounties granted by the Federal Government on the production of preserved fish, wool tops, metal manufactures, mineral oils, wood-pulp, and phosphates. An important advance was made in the iron and steel industry by the establishment of extensive works at Newcastle, which were begun in 1914 and opened in 1915. Other manufacturing ventures made rapid headway as is apparent from the following particulars of the manufacturing industry in New South Wales:—

Year.	Number of Establishments.	Value of Plant.	Number Employed.	Value Added to Raw Material.
		£		£
1910	4,821	11,579,000	99,711	17,052,000
1911	5,039	12,511,000	108,624	19,432,000
1912	5,162	13,795,000	115,561	22,681,000
1913	5,346	14,862,000	120,400	23,754,000

The rapid industrial and commercial development accelerated the concentration of population in Sydney and other large centres, and a shortage of small dwelling houses resulted. This shortage steadily became more acute. Owing to this marked shortage of houses, and the rapid rise in rents, a scheme for the construction of small dwelling houses was inaugurated by the Government in 1912. The rate of erection of new buildings in the suburbs of Sydney now exceeded 8,000 per annum.

Concurrently a marked improvement in the rate of growth of the population became apparent from two causes, namely, the policy of assisted immigration, and a higher birth-rate. In the five years 1910–1914 more than 45,000 persons were assisted to immigrate to the State. The birth-rate, which had fallen heavily over a period of twenty-five years, improved noticeably, and the marriage-rate rose higher than it had ever been. The changes in the rates are apparent in the following table:—

Year.	Birth-rate, per 1,000 living.	Marriage-rate, per 1,000 living.
1889	34·97	7·06
1894	31·75	6·25
1903	25·55	6·93
1912	29·90	9·58

The activity of the Government extended to a considerable enlargement of the scope of the education system. Facilities for secondary education were extended, fees at high schools were abolished in 1912, and a generous system of bursaries and scholarships introduced. Access to the University was facilitated by grants of bursaries and of exemptions from fees. The popular desire for higher education was so great that a strain was almost immediately placed on the new system, and in later years it could not expand fast enough to meet the continually growing needs. Concurrently, extensions were made in the system of technical and trade schools, and continuation schools were introduced.

In land settlement new leasehold tenures were devised to replace the alienation of land by conditional purchase, and a more intense development

was produced by the grant of living areas which were inalienable and involved a long term of residence as a condition of the grant. By 1913 the annual number of applications and confirmations of small holdings of land had more than doubled. Work had so far advanced on the Murrumbidgee Irrigation Area that in 1912 the first batch of farms was made available. An interstate agreement respecting a similar scheme on the Murray River was made, though work was not begun until 1919.

The question of the financial relationship between Federal and State Governments had been considered from time to time in various phases, and, in 1910, several important decisions were arrived at. Firstly, the expiration of the "Braddon Clause" at the end of the year placed upon the Federal Government the necessity of determining a new basis for the return of surplus revenue to the States. In view of the expanding Federal expenditure, the cost of the new defence schemes and the increasing amounts required for old-age and invalid pensions, the amount returned was considerably reduced, being fixed at 25 shillings per capita for the next ten years. This new arrangement resulted in a decrease of more than a million pounds annually in the revenue of New South Wales from this source.

Since this reduction in revenue was accompanied by an increasing expenditure, it led to the imposition of a heavier income tax in 1912 and again in 1914, when stamp duties were reimposed. At the same time Local Government rates and charges grew steadily. Considered on a per capita basis the amount of taxation imposed in New South Wales by the various authorities was as follows:—

Authority Imposing Taxation.	1910-11.	1912-13.	1914-15.
	£ s. d.	£ s. d.	£ s. d.
Commonwealth	3 14 9	4 4 1	4 4 4
State	0 15 7	0 19 2	1 14 10*
Local Government	1 3 11	1 6 9	1 12 0
Total	5 14 3	6 10 0	7 11 2

The period had proceeded on a high level until 1914, but there was not a general increase in productive activity, and the expansion of the national income from production depended on further increase in prices. Nevertheless excellent financial conditions had ruled, industry and enterprise abounded, employment and wages were good, and money circulated freely. But indications of decay in the foundations of this prosperity were not wanting. Sheep flocks, which had decreased since 1909, were further depleted by the dry season of 1914, while, at the same time, a decline occurred in the price of metals, and this has usually been the forerunner of a weaker demand for other raw materials.

It is evident that in 1914 the outlook was very different from that of 1909, and that it was far less encouraging. Various forces had operated for a lengthy period to raise the condition of the State to a high level of prosperity, and now they appeared unable to keep it there, so that a decline seemed inevitable. The need for caution in investment and expenditure was rendered more pressing in view of the drought of 1914, and a further decrease in the volume of production. The outbreak of war resulted at first in the closing of markets and a fall in prices, which apparently added the touch needed to consummate the misfortunes of the community, and the period closed with unhappy prospects.

1915-1920.

The first serious effect of the war on the State was to throw it upon its own economic resources. Trade and commerce abroad were disorganised, shipping facilities became more restricted, and markets fell into a chaotic condition when peace-time activities practically came to an end in the belligerent countries. Moreover, production of the goods which the State had formerly imported, decreased, and, owing to the resultant scarcity, the volume of imports, which contracted appreciably in the first year of war, became smaller and smaller until 1918, when they were less than one-half of their pre-war magnitude. Shipping space was so largely devoted to war services, that adequate accommodation could not be obtained to meet the requirements of the export trade, and large quantities of produce were stored for lengthy periods in New South Wales, as in other States.

During these years financial assistance from overseas was less readily obtainable, and, in addition to the unprecedented drain of Government borrowing for war or other purposes, there fell on the local money market the need of financing the huge stocks of wheat and other goods, pending sales and shipment, and of providing the money needed for new enterprises.

The withdrawal of large numbers of men from productive work for war service, and the occurrence of bad seasons in 1914, 1918, 1919, and 1920, together combined to produce a serious decline in the quantity of production, and the State was saved from a crisis only by the extraordinarily high prices which were obtained for its produce. But the air of general prosperity continued with little abatement, and, outwardly, conditions became better toward the close of the period. The appearance of this prosperous condition within the State was heightened by the fact that some economy was enforced by the scarcity of imported goods. But, even so, shipping difficulties would probably have proved a very serious embarrassment but for the sale to the Imperial Government of the wool clips from 1916 to 1920, and of large quantities of wheat, meat, butter, and metals, which were paid for before the time usual in the ordinary course of trade. The immediate general situation was improved by the large loan expenditure of the Government. The salient features of the condition of trade in these years are shown in the following summary:—

Year.	Exports Oversea.			Actual Excess of Exports over Imports.		Loan money Expended by Government.
	Actual Value.		Value if 1911 Prices had Ruled.*	Including Gold.	Excluding Gold.	
	Goods.	Gold.					Goods and Gold.
	£ (millions.)	£ (millions.)	£ (millions.)	£ (millions.)	£ (millions.)	£ (millions.)
1911	27·8	4·4	32·2	+ 4·9	+ 1·8	4·0
1914-15	27·0	1·1	25·1	+ 0·8	- 0·1	7·0
1915-16	31·9	9·1	32·0	+ 7·6	- 1·2	8·2
1916-17	39·2	11·0	34·3	+ 17·5	+ 6·6	6·9
1917-18	36·9	2·8	23·6	+ 10·1	+ 8·5	4·5
1918-19	48·9	2·2	29·0	+ 5·0	+ 5·3	3·9
1919-20	53·3	1·7	30·0	+ 10·4	+ 8·8	8·8

* Commonwealth Statistician's Indexes of Export Values used.

- Excess of Imports.

Despite the difficulties which confronted it in the early years of the war, the Government of New South Wales made strenuous endeavours to maintain its developmental policy. Not only was it felt that a need existed to open up the resources of the State, so that production might not be hampered after the war, but it was also recognised that the slackening of private enterprise, if accompanied by a cessation of construction on Government works, would

produce wide unemployment, and cause embarrassment to the State. To this end a contract was made in 1915 with an English firm, whereby they undertook to construct a number of important public works. However, the financial stringency of the war period rendered the agreement abortive, and its operation practically ceased in May, 1917.

Work had proceeded apace on the Murrumbidgee Irrigation Area, the North Coast Railway, the City Railway, and the construction of the wheat elevators. Though operations were now more restricted, and difficulty was still encountered in raising money, the number of men employed on Government undertakings gradually increased after the strike of 1917, though only 9,000 were then employed, compared with more than 20,000 before the war. In the latter part of 1919 the developmental policy was revived, particularly in railway construction, and the number of employees engaged on Government works again approached 20,000 in November, 1920. This expansion went some distance toward supplying work when conditions of employment were bad on account of the failure of the post-war stimulus, but owing to increasing financial stringency the number had fallen to 15,000 by June, 1921.

After the outbreak of war, a considerable decline in land settlement set in, and proceeded unchecked until 1917, when a revival commenced. No new principle of importance was enacted, except that provision was made for special facilities for the settlement of returned soldiers. New holdings were granted mainly on leasehold tenures, although, after 1917, a considerable increase in conditional purchase grants was also shown.

The progress made with the Murrumbidgee irrigation scheme promoted a new growth of intensive settlement. In all, nearly 1,000 farms were in occupation on the area by 1920, and factories for the treatment of dairy produce and fruit had been established under Government control.

The flow of immigration almost ceased in 1914. The birth-rate declined steadily until June, 1920, and, owing to the departure of soldiers for service oversea, the population showed no increase until 1917, when a steady flow of soldiers returning from abroad commenced and continued until all had returned by the middle of 1920. During the war no rural workers were introduced from oversea, and the drain of enlistments for active service abroad continued. A rapid decline in the number of persons permanently engaged in rural industries continued from 1915 to 1918, but in 1919 the number increased nearly to its pre-war level. The number of employees in factories decreased, at first on account of the dislocation of trade due to the outbreak of war, and then on account of enlistments. The substitution of women for men was not extensive, though in the growth of manufacturing activity the employment of women increased. The basis of a number of new establishments was laid by manufacturers endeavouring to supply local substitutes for goods unobtainable, or costly, oversea; considerable development began at Newcastle in the metal industries, which gave employment to 8,000 men in June, 1921. During this period the manufacturing industry gained rapidly in importance, and assumed a prominent place among the sources of wealth production. The relative progress of the rural and manufacturing industries, and the amounts contributed by each to the value of production in these years, may be indicated thus:—

Year.	Permanent Rural Workers. Males.	Factory Workers.		Value of Production.	
		Males.	Females.	Rural Industries.	Factories.
				£ (millions.)	£ (millions.)
1913	128,000	93,000	27,000	42·8	23·5
1914-15	122,000	90,000	26,000	38·8	24·0
1916-17	116,000	89,000	29,000	52·3	26·7
1918-19	114,000	97,000	31,000	56·9	32·2
1919-20	127,000	110,000	34,000	67·1	38·6

Owing, however, to the absence abroad of more than one-third of the male population of military age and to the occurrence of seasons unfavourable to the primary industries, the volume of production was not maintained satisfactorily in any industry. The relative productive activity or quantity of production per head of population fell heavily, and its effects, which otherwise must have been disastrous, were counteracted partly by the large amount of money expended for war purposes in the Commonwealth, but principally by the rise in prices, which more than compensated for the loss, and enabled the continuance of the outward signs of commercial and industrial prosperity even amid all the adverse circumstances. Expressed in a generalised way, the important effects of prices may be shown thus:—

Year.	Value of Production per head. (Index Nos. 1911-1000.)			Volume of Production per head (Index Nos. 1911-1000.)		
	Primary Industries.	Manufacturing Industry.	All Industries.	Primary Industries.	Manufacturing Industry.	All Industries.
1911	1000	1000	1000	1000	1000	1000
1914-15	913	1120	973	765	898	803
1915-16	1179	1159	1174	933	771	886
1916-17	1223	1247	1230	833	795	822
1917-18	1309	1339	1318	833	709	797
1918-19	1208	1450	1278	727	727	727
1919-20	1367	1630	1457	670	722	685

Though the actual volume of production fell so far below the pre-war level, the value of production per head of population rose under the stimulus of increasing prices, and remained on a much higher level than it had ever occupied since 1871; and it is to be remembered in making the comparison that a succession of unusually prosperous seasons had begun in 1903. The circulation of money was further augmented by the expansion of the Commonwealth note issue, the large expenditure of loan money for war purposes, particularly in the form of military pay, gratuities and home-building loans to soldiers and their dependents, and by increased loan expenditure by the State Government; while, owing to the scarcity of commodities, the volume of imports declined rapidly.

These facts go far to explain the continuance of the appearance of general prosperity, which assumed a more irrational phase after 1917. Money flowed freely, and the continual rise of prices did not operate extensively to check it. Business conditions, on the whole, were excellent, and many business houses were able to amass sufficient reserves to provide fresh capital for the expansion of their enterprises. Moreover, the State was enabled to draw for its development in a greater measure than formerly on the resources of its citizens, who also contributed a very large proportion to the war loans of the Commonwealth Government, which were so successful that nearly two-thirds of the debt contracted by the Commonwealth during the war were payable in Australia. The net proceeds of Commonwealth war and peace loans raised in Australia were:—

Year.	In the Commonwealth.	In New South Wales.	Year.	In the Commonwealth.	In New South Wales.
	£	£		£	£
1915	13,889,440	5,503,200	1919	25,025,370	9,271,200
1916	45,243,330	21,051,690	1920	26,485,410	9,240,940
1917	42,797,800	18,127,620			
1918	87,034,150	37,530,280	Total ...	239,975,500	100,725,020

Over two million pounds were raised by means of War Savings Certificates in New South Wales, and a further sum of £5,130,000 was subscribed during the same period to patriotic funds in the State in aid of soldiers and their dependents.

During the war, also, the State Government and many private employers paid to the members of their staffs who had enlisted the difference between their military and civil pay, and the Friendly Societies kept their soldier members financial by paying their contributions from surplus funds, or, where those were not available, by levying on the other members.

The difficult conditions which affected primary industries as regards production, supply, and marketing, together with considerations of the needs of the Imperial Government for war purposes, led ultimately to a close Government control of the disposal of much of the produce of the State. The whole of the wheat grown in the 1914 season was acquired compulsorily under a special Act of Parliament at a fixed price; and thereafter, from year to year, successive wheat crops were pooled in conjunction with the other wheat-producing States of the Commonwealth, and controlled by a central authority, which negotiated sales abroad, fixed prices locally, arranged the difficult question of shipping accommodation, financed the growers to some extent pending sales, and arranged advances to farmers.

The scarcity of ocean freights led to the accumulation of huge stocks of wheat in the country; but, though considerable losses were experienced from rain and plagues of mice and weevils, and considerable delay occurred in making payments to farmers, it is probable that the system was advantageous to the wheat-growing interests of the State. After the 1915 season, a record crop for New South Wales—exceeding 66,000,000 bushels—was harvested; and, though in the ensuing years farmers did not produce on this large scale owing to the uncertain outlook and the bad seasons, the production of wheat remained much greater than ever before, except in the unfortunate years 1918 and 1919. In 1920, under the stimulus of a high Government guarantee, another unusually large crop was harvested. The increasing importance of wheat-growing is apparent from the following table:—

Season.	Area under Crop for Wheat Grain.	Production of Wheat.	
		Quantity.	Value.
	acres (thousands.)	bushels (thousands.)	£ (thousands.)
1910-14 (average)	2,541	27,263	4,596
1915-16	4,189	66,765	13,353
1916-17	3,807	36,598	5,642
1917-18	3,329	37,712	7,385
1918-19	2,410	18,325	3,589
1919-20	1,474	4,388	2,194
1920-21	3,124	53,716	20,143*

* Estimated at 7s. 6d. per bushel (guaranteed minimum).

Difficulties at first attended the disposal of wool, but by December, 1914, it was apparent that a heavy demand existed for those types suitable for naval and military purposes—mainly crossbred—and for higher grade merino wools. The demand proved so strong that prices moved upward at a rapid rate, breaking previous records, until toward the close of 1916, greasy merino wool realised as much as 27½d. per pound, a record at the time. At this point a sudden break in sales occurred, owing to a coal strike in New South Wales, and the consequent disorganisation of transport facilities.

Before sales were resumed, an offer was made by the Imperial Government to purchase the unsold portion of the clip at a price to be determined by agreement. The offer was accepted, and an average price of 15½d. per pound—55 per cent. above the pre-war average—was fixed as equitable to all interests concerned. The agreement was renewed subsequently under conditions more favourable to the growers, with the result that the Imperial Government purchased all Australian wool produced from 1916 to the middle of 1920, and paid for it on appraisalment. This scheme proved of inestimable benefit to Australia during the war, for it secured a definite outlet at an assured minimum price for the staple product, relieved local interests from embarrassing shipping troubles, and ensured prompt returns to growers, not only for their saleable wool, but also for the large unmarketable proportion of inferior wools.

This method of disposing of the wool-clips produced a very efficient system of appraisalment, by which Australian wools were graded definitely into classes, ultimately numbering 848, which permitted an accurate valuation of all wools grown. It became apparent toward the end of 1920 that the large accumulation of inferior wool would constitute a serious problem in succeeding years. To meet the new emergency, and to control future sales, a new company was formed early in 1921 from the old organisation, and named the British Australian Wool Realisation Association, Limited. Its assets amounted to £22,000,000, and it controlled the disposal of a large proportion of the "carry-over" wools and of the clip of 1920. The immediate difficulties confronting the Association were the weakness of the demand on account of the post-war condition of European countries, and the consequent stagnation of markets. A revival in demand, however, became apparent toward the middle of 1921.

But even with the stimulus of the very favourable market which existed until June, 1920, for both wool and meat, the pastoral industry failed to make headway against the adverse seasons, and a decline is apparent in the following figures, which reveal also the extent of the benefit derived financially from the enhanced prices obtained:—

Year ended June.	Number of Sheep.	Production of Wool.	Export of Meat.	Estimated Value of Pastoral Production.
	(millions.)	lb. (millions.)	£ (millions.)	£ (millions.)
1911-13 (average)	41·3	352·1	1·3	19·9
1915-16	32·6	262·0	·9	21·6
1917-18	38·6	284·1	1·6	28·4
1919-20	29·2	296·6	2·6	34·0

The number of sheep in the State had been declining since 1910, and when the severe drought had terminated in June, 1920, the number was at the lowest point it had reached since 1902. The wool-clip of 1919-20 was shorn in the latter half of 1919, and was not affected materially by the drought.

Steps were taken by the State, at the request of the Imperial Government, in 1915, to secure for its use during the war the whole of the exportable surplus of the meat of the State. This meat was acquired locally through the agency of the Government until toward the end of 1920. The Imperial Government also purchased considerable quantities of local butter by contract.

These gigantic transactions were carried out in a broad spirit of Imperial patriotism, and while they did much to promote the successful issue of the war, they also helped materially to stabilise local conditions at a time of considerable economic danger.

The effect of the war in its early stages on local trade and commerce had been to restrict enterprise and to deaden business. Quotations for stocks, which had advanced in the early part of 1914, fell heavily, and the Stock Exchange was closed to avoid possibility of a panic. Some industries, including metalliferous mining ventures, closed down, while others operated part-time, and employment became bad. It was officially estimated that, at the end of 1914, more than 11,000 persons were unemployed in the State, and that nearly 40,000 more were employed only part time. In the general uncertainty that prevailed the spirit of enterprise disappeared, and business operations were curtailed largely until conditions should assume more definite shape.

The uncertainty continued for more than three years, and there is evidence from bank returns and other sources that owners of capital preferred to allow it to accumulate and to await developments rather than to seek investments. New company registrations fell off rapidly until 1917, shares in local investment companies depreciated, and profits dwindled, but after the end of that year a steady expansion in trade again commenced. By the close of 1919 the general revival had established itself into a virtual boom, which, however, burst towards the close of 1920, when the post-war trade stimulus became exhausted. The possibility of obtaining fresh capital resources was precluded for a time by the decreased production which accompanied and followed the severe drought of 1919-20, and the position was rendered more difficult toward the end of 1920 by the sudden expansion which occurred in the import trade. In a period of nine months following June, 1920, the value of goods imported from overseas was twice as great as in the corresponding period of the previous year, while the export trade showed a shrinkage. In the twelve months ended June, 1921, imports exceeded exports by more than £20,000,000, with the result that exchange on London turned heavily against the State. A forced economy in importation resulted, and the money market hardened.

In the second half of 1920 prices began to fall, unemployment again increased, and industrial conditions generally took a turn for the worse. The heavy commitments abroad of firms which had imported large quantities of goods at high prices, coupled with the general indisposition of the consuming public to buy, led to strenuous endeavours by these firms to realise on their stocks. This process was so successful that serious financial disorder was avoided, even though the banks did not find it expedient to meet all the demands for accommodation made upon them, and credit was restricted.

It was fortunate that the banking position had continued strong, and this fact may probably be explained in two ways. The periods of severe strain had been short, and had interrupted only for a brief space the remarkable condition of prosperity which various causes had contrived to bring about; while the associated banks had maintained a cautious policy, which disciplined finance, and enabled the whole commercial community to meet the crisis with confidence.

The expansion of the note issue and the withdrawal of gold at the beginning of the war had been accomplished without apparent disorganisation, and the restrictions imposed on the export of gold by the Commonwealth Government in the middle of 1917 served to stop the rapid outpouring which had commenced, but did not disturb seriously the commerce of the country, though it prevented any further depletion of the gold reserves of the banks.

Banking transactions during the period practically doubled in magnitude, as expressed in terms of money. Throughout the period, despite the heavy strain put upon the financial resources of the community, a considerable margin was always maintained by deposits above advances, and this conduced to a healthy condition of affairs very dissimilar from that accompanying the

depression of the 'nineties. The pre-war ratio of advances to deposits hardly varied until 1918, in which year, and in 1919, an added demand for financial accommodation to meet the war loans and to combat the ravages of the drought increased the demand for advances. But toward the end of 1919, advances had declined while deposits were increasing. The position became reversed in the second half of 1920, and advances were greater than deposits. This heavy drain on the resources of the banks was due largely to the sudden rush of imports and to the stagnation of business and enterprise caused by the expectation of a fall in prices. A consideration of the Savings Bank returns indicates that throughout the community a considerable surplus of income over expenditure existed, and that increasing numbers of persons were able to save from their earnings. The absolute extent of the banking and commercial development is apparent from the following comparisons:—

—	1913.	1914.	1917.	1919.	1920.
Trading Banks—					
Deposits £ (millions)	58·9	62·0	84·0	93·9	103·4
Advances „	46·9	51·8	63·0	88·8	89·1
Bank Clearances „	348·7	353·1	444·5	590·1	764·5
Savings Banks—					
Deposits £ (millions)	29·6	33·2	40·8	47·0	49·9
Depositors (thousands)	647	718	872	985	1,054
Limited Liability Companies—					
Number formed	444	354	159	267	801
Nominal Capital £ (millions)	12·3	7·4	5·9	9·1	61·7
Bankruptcies—					
Sequestrations (number)	320	375	237	282	289
Deficiencies £ (thousands)	65	182	20	133	65

An important feature of the above statement is the growth of company promotion in 1920. Though the figure of that year was swollen considerably by the reconstruction of many companies to meet the altered conditions of industry, due to the war-time expansion and the rise of prices and wages, there was a remarkable outburst of company promotion. It was estimated by the Registrar-General that 648 entirely new companies were formed during the year, with a nominal capital of £38,700,000, while 291 existing companies increased their nominal capital by nearly £12,000,000. A comparison with corresponding figures for the years immediately preceding the war, when commercial activity had reached a high pitch of intensity, is necessary in order to realise the full extent of this development.

However, not a little of the expansion shown here had its origin in the war prosperity, which existed practically in all countries of the world, and was due to enhanced prices and to the large Government expenditure on armaments and armies. But, of the large expenditure of the Commonwealth on the war, somewhat more than £100,000,000 was raised in New South Wales by loans, and it is probable that an equal or larger sum was spent in the State. With this amount diverted from its normal course and added to the circulation of the country, it is perhaps a matter for less wonder that the absence of so many producers oversea, and the decline in production, failed to check the general condition of prosperity which now had moved from a real to an artificial basis.

One feature of the enormous vogue of borrowing for war purposes, and of the depreciated purchasing power of money, was the fact that interest rates, which had been moving upwards, now rose rapidly, and the movement was reflected in a severe decline in the price of Government stocks. But the

general banking position was so satisfactory that it was found that an advance of $\frac{1}{2}$ per cent. in 1915 in the rate for fixed deposits was sufficient to attract adequate deposits until July, 1920, when the rate was further raised by $\frac{1}{2}$ per cent., and $4\frac{1}{2}$ per cent. was allowed on fixed deposits for twelve months.

This steady position had been maintained despite the fact that a Commonwealth War Loan was placed on the local market at 5 per cent. as early as April, 1918, and previous issues had been at $4\frac{1}{2}$ per cent., free of income tax. Later issues were made at $5\frac{1}{2}$ and 6 per cent., while the Savings Bank rate had been raised to 4 per cent. The extent to which the rise in interest rates and the demand for money affected Government securities, may be seen in the following London quotations for stocks, which also illustrate the way in which war conditions acted to hasten that general decline which had been proceeding slowly since 1896 :—

Date.	Consols ($2\frac{1}{4}$ per cent.)	N.S.W. Stocks (3 per cent.)
1914, 23rd July ...	75 $\frac{1}{4}$	83
1915, July ...	65	†
1916, „ ...	60 $\frac{1}{4}$	76 $\frac{3}{4}$
1917, „ ...	55 $\frac{1}{4}$	71
1918, „ ...	56	72
1919, „ ...	52	70 $\frac{1}{4}$
1920, 30th Dec. ...	44 $\frac{3}{8}$	58 $\frac{3}{8}$

† Not available.

As has already been pointed out, though the volume of production had contracted in New South Wales, increased prices had warded-off the danger of a crisis, and had provided temporarily an income adequate to meet the needs of the community. This rise, so far as it operated in favour of the State, was due to an increased demand for raw materials, which fact, coupled with the scarcity of manufactured goods, led to a rapid rise in the prices of imported goods after 1916. The extent of these increases may be seen from a consideration of the index numbers of wholesale prices of the principal articles locally consumed.

Year.	Commodities of Australian Origin.	Commodities Imported.	All Commodities.
1911... ..	1000	1000	1000
1915... ..	1532	1151	1401
1916... ..	1481	1509	1489
1917... ..	1580	2003	1727
1918... ..	1675	2438	1933
1919... ..	1993	2283	2090
1920... ..	2354	2799	2503

The upward movement in wholesale prices reached its highest point in July, 1920, when the earlier fall of prices abroad, and the breaking of the drought, brought about a steady decline in wholesale prices, which in the next nine months exceeded 25 per cent.

The large increases in the wholesale prices of Australian and foreign products necessarily brought about analogous rises in the cost of living in New South Wales, and though the upward trend of the cost of living was tempered by a slight fall in rents between 1914 and 1918, the cost of the necessaries of life rose far above the pre-war level, but commenced to fall

again in September, 1920. The average retail cost of the more important food commodities and the average rents in Sydney, are shown in the following table:—

Commodity.			1914.	1915.	1916.	1917.	1918.	1919.	1920.
			s. d.						
Bread	...	2 lb. loaf	0 3·5	0 4·25	0 4·0	0 4·0	0 4·0	0 4·2	0 5·9
Beef, Sirloin	...	per lb.	0 5·88	0 9·8	0 11·1	0 11·1	0 10·2	0 11·1	0 11·5
Mutton, Leg	...	"	0 4·75	0 6·25	0 7·8	0 8·2	0 7·8	0 7·8	0 8·8
Butter	...	"	1 2·25	1 5·0	1 5·3	1 6·7	1 7·0	1 9·9	2 4·4
Milk...	...	per qt.	0 5·2	0 5·1	0 5·5	0 6·0	0 6·0	0 7·0	0 7·9
Sugar	...	per lb.	0 2·75	0 2·88	0 3·5	0 3·5	0 3·5	0 3·5	0 5·4
Tea	...	"	1 3·75	1 5·0	1 6·1	1 6·2	1 6·7	1 8·1	2 4·5
Rice	...	"	0 3·0	0 3·0	0 3·2	0 3·3	0 3·4	0 5·2	0 7·4
House Rent—									
5 rooms	..	per week	18 7	18 0	17 11	17 10	18 6	18 11	20 8

This disconcerting rise in the prices of the necessaries of life led to the institution of machinery of State to control the movement. The Government, in 1914, appointed a Necessary Commodities Control Commission to fix prices and to determine by inquiry what variations of price were justified. The Commission operated until July, 1916, when it was superseded by a Commonwealth Prices Adjustment Board under the War Precautions Act, which operated for three years, after which the original Commission was restored, and remained in existence until the creation of a Profiteering Prevention Court in January, 1921.

These authorities had power to regulate the prices of any necessary commodity, of which a very wide definition was given under the Act; but, generally, it was not found practicable to fix prices of articles of clothing, other textiles, boots, meat, nor of certain other commodities of which the quality was not determinable with sufficient accuracy to permit of grading or standardisation. Meat prices, however, were controlled to some extent after the creation of the Metropolitan Meat Industries Board, in 1916, which, among other functions, fixed the wholesale selling prices of beef, mutton, and pork in the Metropolitan area. An attempt was made to extend the powers of the Profiteering Prevention Court over all classes of commodities by the provision of penalties in cases where undue profits were made or sought. The extent of these powers was tested before the Supreme Court, and the decision restricted the powers and functions of the Court.

Important measures were adopted also for the regulation of rents, which had been rising for many years. A Fair Rents' Court was created early in 1915, and was given power to hear complaints concerning, and to regulate, house rents. A "fair rent," was defined generally as that existing on 1st January, 1915. Moreover, a regulation under the War Precautions Act forbade any increase in the rent of tenements occupied by dependents of any member of the Expeditionary Forces.

Partly owing to these provisions, and partly to the slackening in the demand for houses, rents did not rise above the 1914 level until 1919, when, owing to the return of the troops, an active demand sprang up, and it was found that, on account of the slackening of building operations during the war, an acute house shortage existed. This shortage in Sydney was estimated to be nearly 18,000 houses at the close of 1920, despite the fact that building operations had revived to pre-war magnitude, and rents advanced rapidly in 1920 and 1921. The difficulties were accentuated by the heavy increases in the cost of building, it being estimated that a five-roomed cottage of plain design, which could have been built for £400 in 1914, would have cost over £700 in 1920—an increase of more than 75 per cent. This

increased cost, combined with the difficult money market and the shortage of labour, restricted the operations of various Government schemes, and militated against an extension of building operations to meet the needs of the times.

Though the public wage-fixing authorities had adopted definitely the principle of basing their awards on a consideration of the cost of living, the sudden rise in the cost of the necessaries of life did not find the community prepared with machinery to increase wages in the same proportion; nor did the condition of employment and industry in 1915 and 1916 favour any considerable advance in money wages, and until 1920 the average rate of wage in the State did not advance as fast as the cost of living. Expressed in tabular form the developments with respect to wages were:—

Trade or Calling.	1915.	1916.	1919.	1920.
<i>Manufacturing—</i>	s. d.	s. d.	s. d.	s. d.
Boot clickers per week.	60 0	66 0	72 0	98 6
Tailors (Slop) "	60 0	60 0	75 0	85 0
Boilermakers "	72 0	78 0	85 6	110 6
Moulders (Iron) "	72 0	72 0	85 6	110 6
Fitters and Turners "	76 0	78 0	102 6	110 6
Coppersmiths "	78 0	80 0	104 6	112 6
<i>Building, etc.—</i>				
Carpenters per week.	72 0	80 0	80 0	108 0
Bricklayers "	78 0	78 0	84 0	108 0
Stonemasons "	69 8	78 0	90 0	112 6
Plasterers "	78 0	78 0	84 0	106 0
Painters "	68 0	75 0	79 0	104 0
Labourers "	54 0	60 0	68 0	95 0
<i>Rural Industries—</i>				
Boundary-riders per week, with keep.	25 0	25 0	40 0	40 0
Farm Labourers "	25 0	25 0	35 0	35 0
Milkers "	25 0	25 0	36 6	36 6
Shearers per 100 sheep shorn.	24 0	24 0	30 0	30 0
<i>Coal Mining—</i>				
Miners per ton (best coal).	4 2	4 2	5 11	6 11
Wheelers per week.	56 0	56 0	78 0	93 6
<i>Females, with Board and Lodging—</i>				
General Servants per week.	20 0	20 0	25 0	25 0
Cooks "	30 0	30 0	35 0	35 0
Index Nos. Year 1911 = 1000—				
Nominal Wage (Adult Males)	1120	1204	1493	1828
Effective Wage (Adult Males)	888	907	994	1043
Cost of Living (Food and Rent)	1261	1328	1502	1752

Effective wages reached their lowest point in 1915, but the more or less regular living wage determinations made thereafter, and the awards of the Arbitration Courts raised the level of wages, until, following the declarations of the Board of Trade in 1918, 1919, and 1920, the average wage improved at a much faster rate than the cost of living, as measured by the prices of food and rent, and the effective wage in 1919 practically was equal to, and in 1920 rose above, the 1911 level.

The instability of prices produced important effects on labour conditions. The tendency of wages to lag behind advancing prices in the early years of the war, added vehemence to the industrial discontent, which resulted partly from other causes connected with the war, and was fostered by the continued conflict which raged around the question of wage adjustment.

The number of serious strikes within and without the mining industry grew rapidly, and occasioned frequent stoppages of now one, now another,

important public service. The discontent had become so general that it was not allayed by the big advance of wages in 1919. But after the further advance toward the end of 1920, and when conditions of employment became bad, dislocations of industry owing to strikes became far less frequent.

Smaller strikes had become very common, and, though the outstanding causes were wages disputes, other matters, such as questions of hours, protests against awards, employment conditions, demarcation, quantity of work, and union principles, constituted grounds for important disputes.

As a result of many causes, very disturbed conditions had prevailed generally after 1914. The continual decline in the value of wages irritated the workers, employment was more or less intermittent, and the war itself was an unsettling factor. In 1916 many unions were perturbed at the prospect of conscription, which they distrusted, and several one-day strikes were made in protest among the coal-miners and at Broken Hill. Moreover, politics, which had always been an important feature of union life, became embittered, and the conflict which raged around the conscription referendum towards the end of 1916, resulted in a split in the Labour movement, and following upon a coalition of the parties which had favoured conscription, the Labour party was forced to the benches of the Opposition.

The excitement engendered by these events, and the subsequent Federal and State elections of 1917, at both of which the newly-formed National party was successful, contributed further unsettling factors. Moreover, the conviction and imprisonment of thirteen prominent members of a revolutionary body in connection with the outbreak of a series of fires in Sydney in 1916, had been a matter of considerable discussion, and had caused discontent in some directions.

When, therefore, in August, 1917, the employees in Government railway workshops struck in protest against the introduction of a card system of time-recording in connection with their work, there existed, apart from the merits or demerits of the dispute, a disturbed industrial condition which had produced an atmosphere charged with trouble. Union sympathy with the railway employees was widespread, and the strike soon extended into one of unprecedented magnitude, involving in all nearly 77,000 men in an almost general stoppage of industry, and the trouble continued for two months.

The Government took a very serious view of the situation, which it regarded in the light of a challenge to its authority, and severe measures were taken to defeat the strike. A scheme for the maintenance of industry, with the assistance of voluntary workers was devised, and considerable bodies of police were used to protect them. More than 7,000 volunteers were enrolled to carry out necessary portions of the work declined by strikers, and industry was carried on to a limited extent; the operations of the Government extended even to attempts at coal-getting under the special authority of Parliament. The community was considerably inconvenienced by a lack of transport facilities, and a shortage of gas and electricity, but these services steadily improved, and the original dispute ended after five weeks, when the railway men returned to work. Gradually the other strikers resumed, and industrial peace was restored.

The introduction of non-unionists to carry on necessary public services, and the determination of the Government and of some private employers to retain those desirous of remaining in their new employment, led to very considerable friction, which was heightened by the fact that a number of new unions were formed in place of those which had been de-registered as a consequence of their participation in the strike.

This serious disturbance was followed in 1918 by a year of comparative peace, in which only one important dispute occurred outside the mining industry, which also was much more orderly than it had been in any year

since 1912. Harmony was further promoted by the favourable turn of the war after the middle of the year, and its triumphant conclusion on 11th November.

Strenuous endeavours were being made to improve the machinery for determining industrial relationships in the State. In 1916 additional judges had been appointed to the Arbitration Court, with the view of replacing gradually the many existing Wages Boards and of bringing more order and simplicity into the many perplexing determinations which had been made. This development was further facilitated in 1918, and a Board of Trade was constituted, with wide powers of investigation into the condition of industry and commerce, and with special functions to promote harmonious relationship between employers and employees. To it was allotted the important task of determining annually the living wage for the State, and as a result of the new basis adopted and the application of the principle of granting "marginal increases" in the Arbitration Courts, the average wage rose rapidly.

Early in 1920 a claim for the abolition of Saturday work was put forward by certain unions in the building and iron trades, and, subsequently, the president of the Board of Trade was appointed Royal Commissioner to inquire into the effects which would follow from a reduction of the hours of work from the traditional 48 per week. The result of this inquiry was that the reduction in hours to 44 per week was recommended in the iron and building trades. The formation of joint councils of employers and employees in all industries was recommended as a means for the better organisation of industry, to recoup any diminution of output resulting from a reduction of working time. The abolition of Saturday work was not recommended.

Following upon this inquiry, a Special Court was established in February, 1921, to consider claims for a reduction in hours by the employees in any industry subject to the jurisdiction of State Industrial Arbitration Courts. The policy adopted by this Court was to grant a 44-hour week, except in cases where the need of longer hours was proved. As a result, the shorter working-week was granted in the building and most iron trades, and in an increasing number of factories.

It had been popularly anticipated everywhere that the termination of the war would produce a speedy return to the comparatively easy economic conditions which had existed prior to 1914, and, indeed, a temporary easement of the strain did occur toward the close of 1918. But during this brief respite, as the belligerent nations strove to attain a rapid transition from war to peace, all the forces of economic disorder seemingly gathered strength.

Unrestricted competition for the small supply of commodities in world markets led to phenomenal rises in prices; the exchanges which had been stabilised by the operations of the British Government during the war became disorganised; and in the whirl of post-war reconstruction, social discontent assumed a bitter phase, one expression of which was found in the many and widespread strikes of the period. In New South Wales, as in foreign countries, the difficulties of the situation were increased by the rapid rise in the cost of living. During the fifty-two months of war the cost of food and groceries rose by 38 per cent., while rents remained stationary. In the succeeding twenty-two months of peace the additional cost of food and groceries produced a further increase of 46 per cent., while rents advanced by 15 per cent.

The new vigour of the disturbing influences, particularly the great acceleration in the rise of the cost of living, led to greater industrial disorder. The years 1919 and 1920 produced far more and larger strikes in New South Wales than in any other period of the same duration. Operations in the mining industry at Broken Hill were practically sus-

pended from May, 1919, until November, 1920, during a continuous strike of the six thousand miners employed there, and, when the trouble was settled finally, it was found that the low price of metals, consequent on the fall in the world's markets, rendered the resumption of operations unprofitable to the owners, and the mines remained closed.

Amid the difficulties of this trying period trade-unionism lost none of its power in the community. Though it had reached its highest development in 1914, it is probable that the decline, except that which followed the strike of 1917, was due to enlistments. The fluctuations may be shown thus:—

Year.	Number of Unions at end of year.	Number of Unions Registered during year.	Number of Members.	Amount of Income Annually.
				£
1914	219	13	240,800	297,300
1915	219	11	230,600	267,100
1916	215	13	234,300	248,100
1917	233	45	235,400	259,400
1918	225	17	216,200	249,700
1919	213	13	229,100	286,100
1920	215	22	245,100	356,400

Though considerable activity had existed in forming new unions, the gross number did not increase permanently, for the tendency toward the formation of bigger unions through amalgamations continued, and considerable agitation for "One Big Union," or a union of all unions, was raised.

Unions of employers also grew in size, especially after the strike of 1917, and the movement toward the organisation of two more or less hostile groups of unions progressed more rapidly than ever before, and the unfortunate breach between the two became wider. Combination of interests among employers was facilitated by the operations of the Employers' Federation, which aimed at the organisation of all employers in each industry and their association under a central council, with the object of safeguarding employers' interests in their dealings with labour.

The association of allied interests industrially was an outstanding feature of this period, and in no respect was the development more remarkable than among the primary producers. The large schemes of the various Governments for marketing and purchasing primary products, and for fixing prices and wages, had each a very important effect in drawing together persons directly concerned in those industries, and their organisation was encouraged by the Government, so that the dealings might be conducted with representative and not isolated interests. The movement towards association among business men was further stimulated from this source.

During these difficult years very great activity was necessary on the part of the Government, not only in view of the very extensive regulation of industry that was undertaken, but because various urgent problems loomed large in the political situation from time to time—housing, unemployment, finance, the extension of State enterprises, the accommodation of returned soldiers, the strike of 1917, the influenza epidemic of 1919, and the drought of 1919-20; and throughout these years political feeling ran high.

In the midst of the disturbed conditions, a general election was held in March, 1920, under a system of proportional representation. Once more a third party—the Progressives—entered the political field and contested many seats. The National Government was defeated, and a Labour Government assumed office with a small majority.

The cost of Government rose continuously, and increased taxation became necessary. Revenue continued buoyant, but the large deficit of 1913 was not wiped out, although considerably reduced, and in 1920 the combined ill-effects of drought and disease increased the accumulated deficiency to £1,800,000. In the period of six years ended June, 1920, the public debt of the State grew by £40,000,000, or nearly £13 per head, raising the amount of interest payable annually by £2,500,000. In the same period the public debt of the Commonwealth rose rapidly owing to war expenditure, and the State's proportionate share in this new burden exceeded the whole of its pre-war debt. The increased burden on the people of the State is reflected in the following statement of taxation imposed per head :—

Authority Imposing Taxation.	1913-14.	1916-17.	1919-20.
	£ s. d.	£ s. d.	£ s. d.
Federal	4 1 0	6 0 10	9 10 2
State	1 5 5	1 18 11	2 9 7
Local Government ..	1 12 3	1 18 3	2 3 6
Total	6 18 9	9 18 0	14 3 3

At the close of the year 1920, therefore, it was apparent that the State was faced with the difficulties which had arisen out of but had not been caused by the war, and which had been deferred in 1914. Those difficulties were now accentuated. Prices had commenced to fall in international markets toward the middle of the year, and, as a result, the factor that had maintained the local apparent prosperity at so high a level had disappeared, and a decline became inevitable.

The primary industries had already suffered heavily in other ways. The flocks of the State had been seriously depleted in 1919-20 by the severe drought, and pastoral production had been further heavily reduced. The large stocks of wool and meat that had been held in this and other producing countries awaiting shipment during the war militated against the sales of new produce, and the pastoral industry became faced with stagnant markets. The decline in the prices of minerals led to the cessation of metalliferous mining operations, and the employees were thrown out of employment to swell the large numbers of men already seeking work. These difficulties were heightened by the existence of stringent financial conditions, as money was dear and scarce even at high rates. A spirit of caution replaced the previous freedom which had existed in buying, and a tendency grew among consumers to await the long-expected fall in prices. Exports did not continue on the large scale of 1919, and a certain amount of the produce exported had already been paid for. Imports grew to an unprecedented magnitude, so that exchanges with London turned heavily against Australia. The continued abnormality of the exchanges of the world hampered the resumption of international trade and threatened to cause a long delay in the return to normal conditions.

But important alleviating factors existed in the local situation. A very large wheat crop was harvested in 1920-21 and, with the high prices ruling, a considerable benefit resulted financially. This eased the strain caused by the difficulty experienced in marketing the wool-clip. Moreover, the general financial position was very strong, and the large accumulations of the preceding years of extraordinary prosperity were confidently expected to tide the community over the inevitable period of settling-down without undue disorders, even though that process commenced at an inopportune time, so far as concerned the condition of the primary industries.

Conclusion.

Thus ended a lengthy period of new growth in New South Wales, and, perhaps, the most eventful period of its history. These years had been marked by most important features of social, political, and economic development which transformed the problems and outlook of the State. A retrospect of the period is instructive.

In contrast with the last decade of the nineteenth century, the first twenty years of the twentieth were marked by a rapid, though chequered, economic development. In the first ten years the productive activity of the population increased rapidly, and the natural prosperity which resulted was accentuated by a slight rise in prices. Between 1910 and 1913 production did not expand further, but prices rose, so that the value of production continued to show marked advances. The outbreak of war and the occurrence of bad seasons caused a heavy decline in productive activity from 1914 onwards; but prices rose more rapidly than ever, and the value both of production and of exports continued to increase. Thus, the prosperity of the first ten years was natural and well-founded, while that of the years which followed depended on the more or less fictitious basis of rising prices, and the unreal effects were heightened by a heavy expenditure of loan money by the various Governments.

Many important changes accompanied the uninterrupted growth of prosperity. These included a continuous rise of prices, of wages, of interest rates, of costs of all kinds, and of taxation, which, in turn, brought about a number of adjustments with far-reaching effects in finance and industry. Rising prices and the accompanying prosperity led to frequent increases in wages, which were the fruits partly of arbitration proceedings, but also of an ever-growing agitation and many strikes among wage-earners. There resulted a wide extension of industrial arbitration, including the establishment of the principle of the living wage. Unions grew and spread rapidly among all classes of employees; and unionism had its counterpart among the organisations of professional men and of employers. Consequently the tendency of men to associate in order to promote their common interests was an important feature of the period. The functions of government were extended widely into the domain of labour and industry, and into the new provinces of prices and markets, as a consequence of the economic disorganisation which resulted from the war. The rise of interest rates was induced by the growing demand for money for commercial purposes, and by the enormous vogue of borrowing during the war. This rise was accompanied by an unremitting depreciation in "gilt-edged" securities, and the basis of credits and finance was disturbed seriously.

Great changes were wrought by a number of forces in various industries. Chief among these was the extension of the manufacturing industry which was facilitated by the war. Associated with the growth of factories was a disconcerting drift of population from rural to urban localities. Moreover, though the great pastoral industry, which, for forty years, had been the chief factor in the State, recovered remarkably soon from the losses which had culminated in the drought of 1902, the flocks of the State declined again after 1910; but agriculture and dairying developed and produced new growth in rural industries. With their rise, the problems of closer settlement and of populating the interior became more insistent, and attention was turned towards means of rendering rural life attractive.

After the federation of the Australian states there was conceived an ideal of Australia as an economic entity which, in the limited way possible under modern conditions, should be industrially independent. This idea led to the permanent establishment of a protectionist policy in the Commonwealth, and to the building of a tariff wall in 1901, which was raised higher in 1907,

1914, and 1920. A growth in manufacturing enterprise certainly proceeded during these years, but the weight of the tariff told in increasing the cost of commodities.

The most notable events of the period resulted from the attempts which were made to hammer into workable shape the relationships subsisting between employers and employees, and to determine the correct attitude of labour to capital, and of capital to labour. The attempt to ensure economic harmony by the provision of machinery to determine and enforce industrial justice met with only partial success, principally because the unrelenting rise of prices, which continually depreciated wages, constituted a source of irritation, and produced a state of industrial ferment, which prevented the consideration of industrial problems in a calm atmosphere.

LOCAL GOVERNMENT.

THE Act of 1842, under which the City of Sydney was incorporated, was the first provision in the State for conferring municipal privileges. In 1843 a further step was taken by the incorporation of Campbelltown, Appin, Camden, Narellan, and Picton as one district council, which was subdivided into three, during the same year, by the formation of Campbelltown and Appin into separate councils. Various Amending Acts were passed after 1844, and the Municipalities Act of 1897 consolidated all previous Acts and Amending Acts, but did not alter their main features. The voluntary principle of incorporation was retained, but this was not conducive to the adoption of a general system of local government, as it was natural that, so long as the central Government continued to construct local works, the persons benefited would submit to the absence of local management of their affairs.

Legislation passed in the years 1905 and 1906 gave the State of New South Wales full local government, except in the Western Division, where, however, eight municipalities are incorporated, viz.:—Balranald, Bourke, Berrarrina, Broken Hill, Cobar, Wentworth, Wilcannia, and Wrightville.

The Local Government Act of 1919 repealed the former Acts, but all existing regulations, ordinances, and proclamations remained in force until amended or cancelled. The city of Sydney, the whole of the Western Division, the Quarantine Station, Lord Howe Island, and the islands in Port Jackson are excluded from its operation.

The Act provides for the payment to shires of a minimum sum of £150,000 annually, as endowment from the Consolidated Revenue Fund, in the following proportions, viz.:—First-class shires, from nil up to 10s. per £; second-class, 15s. per £; third-class, 20s.; fourth-class, 25s.; fifth-class, 30s.; and sixth-class, 40s. or more. These endowments are fixed triennially, according to the area, revenue, and expenditure of the shires, and are payable on the amount of general rates received during the preceding year.

The municipal and shire councils are authorised to exercise the following powers:—The care, control, construction, fencing, and maintenance of all public places, except those vested in the Railway Commissioners, or other public bodies or trustees, and except national works; regulation of traffic; street and road lighting; prevention of bush fires; flood relief and prevention; construction and maintenance of streets, jetties, wharfs, and buildings for the transaction of business; town planning; prevention of nuisances; water supply; regulation and licensing of public vehicles and hawkers; management of parks and commons; control of public gates; providing, controlling, and regulating infants' milk depôts, maternity and infant welfare centres, wash-houses and laundries, civil ambulance, public conveniences, disinfecting chambers, lethal chambers, temporary hospitals

and nursing for epidemics, boarding and lodging houses, barbers' establishments, removing dead animals, and many other services.

Other important provisions relate to the power to borrow up to 20 per cent. of the unimproved value in municipalities, such loans to be guaranteed by the Government; redistribution and reconstruction of existing areas, so that the municipalities may form portions of shires; acquisition of land and works; control of cattle-slaughtering and public health; treatment of noxious animals and plants; safety of the public; regulation of hoardings and other structures; the appointment of auditors, and the inspection of accounts by Government examiners.

The Act provides also for the division of the municipalities and shires into wards and ridings, respectively, and triennial elections are prescribed. All owners and occupiers of ratable property of annual value not less than £5, over 21 years of age, male and female, unless not naturalised, are entitled to be entered on the electors' roll, and any person enrolled is qualified for nomination for a civic office. The usual conditions as to disqualification are provided, and the penalties for acting while not properly qualified.

Under an important provision in the Act rates are charged on the unimproved value of the land, and not on the annual rental. The general rate levied must be not less than 1d. in the £, unless the minimum rate is more than sufficient to meet the requirements of the council, in which case a lower rate may be levied. Having levied the general rate of 1d. on the unimproved value, a council is empowered to impose, either on the improved or on the unimproved value, such additional rate as may be required. Special, local, and loan rates may be imposed on the improved or unimproved value, at the option of the council. The ratable value of coal-mines is fixed at 50 per cent. of the gross value of the average annual output for the preceding three years, and of other mining properties at 40 per cent. for the same period. Commons, public reserves and parks, cemeteries, public hospitals, benevolent institutions, churches and other buildings used exclusively for public worship, free public libraries, and unoccupied Crown lands are exempt from taxation.

An important clause of the Act provides for the establishment of cities; and a municipality which has had during a period of five years a population exceeding 20,000 persons and a revenue of £20,000, and which is an independent centre of population, may be proclaimed a city. At the end of 1919, the following municipalities had been proclaimed cities:—Armidale, Bathurst, Broken Hill, Goulburn, Grafton, and Newcastle; but, with the exception of Broken Hill, the districts were proclaimed under previous Acts.

It is further enacted that all municipalities not receiving statutory endowment under former Acts, if found to be in necessitous circumstances, shall be entitled to a sum not exceeding 3s. 4d. in the £ on the general rate collected; but if the revenues are sufficient to meet the reasonable requirements under proper management of the corporations, endowment cannot be claimed. The rate in the £ may be increased under special circumstances, but advantage has not been taken of this allowance, except in a few cases.

Under the Act of 1919 councils must cause a valuation of all ratable land to be made at least once in every three years, provided that they may adopt for any period the whole or any part of the valuations in force at the close of the preceding period.

In order to place the valuation of land on a uniform basis throughout the State, for purposes of taxation and payment of duties and rates to the

Crown and to local governing bodies, the Valuation of Land Act was passed in 1916, and a Valuer-General was appointed to administer its clauses. The Valuer-General is empowered to make valuations of the unimproved capital value, improved capital value, and the assessed annual value of all private lands, and of such crown lands as he thinks proper to include. The valuation is conducted in districts, each shire or municipality constituting a district, and must form the basis of the rates. Property owners who do not appeal as prescribed by the Valuation of Land Act, 1916, against that valuation, are precluded from appealing against the municipal or shire rating.

Prior to the passing of the Local Government Act, 1906, only a very small portion of the State had been incorporated, as will be seen in the statement below, which gives the area incorporated and unincorporated in 1906 in the three great land divisions of the State, exclusive of the Federal Territory:—

Division.	Incorporated.	Unincorporated.	Total.
	sq. miles.	sq. miles.	sq. miles.
Eastern	1,932	92,881	94,813
Central	571	88,579	89,150
Western	282	125,216	125,498
Total	2,785	306,676	309,461

The area incorporated on 31st December, 1919, excluding Lord Howe Island and the federal territory of Canberra and Jervis Bay, is shown below. The only part of the State unincorporated was the portion of the Western Division not included in municipalities. The population in the different groups is also given:—

	Area (sq. miles).	Population.
Metropolitan Municipalities... ..	209	868,320
In Country Municipalities	2,613	426,450
In Shires	180,708	692,230
Total (incorporated)... ..	183,530	1,987,000
Western Division (portion unincorporated) ...	125,909	13,057
Total	309,439	2,000,057

The area of Lord Howe Island is 5 square miles, and the area transferred to the Federal Government was 928 square miles. These amounts added to the total incorporated shown above, viz.:—309,439 square miles, give a total of 310,372 square miles for the whole State.

Lord Howe Island has a population of 116, which, if added to the figure shown above, gives a total population to New South Wales of 2,000,173.

The following table shows the area, population, and valuations of the local governing bodies of the State as at 31st December, 1919, the Metropolitan and Country Districts being shown separately. The figures for the Metropolis include Kuring-gai Shire, but exclude certain municipalities included in the Sydney Metropolitan area as defined in Schedule IV of the Local Government Act of 1919, viz., Auburn, Bankstown, Dundas, Ermington and Rydalmere, Granville, Lidcombe, and Parramatta. The figures for the

Sydney Metropolitan area include the abovenamed municipalities, together with the shires of Hornsby, Sutherland, and Warringah.

Local Bodies.	Area.	Population.	Unimproved Capital Value.	Improved Capital Value.	Assessed Annual Value.
Metropolitan Area—	acres.	No.	£	£	£
City of Sydney	3,327	108,500	31,831,054	82,808,760	3,726,395
Suburbs (including Kuring-gai Shire) ..	114,972	720,200	41,489,301	*	*
Total, Metropolis	118,299	828,700	73,320,355	*	*
Local Government Areas not included above	329,678	82,810	6,311,048	*	*
Total, Metropolitan Area† ..	447,977	911,510	79,631,403	*	*
Country—					
Municipalities	1,671,997	426,450	22,208,694	58,642,383	4,239,871
Shires	115,338,880	649,040	105,833,824	*	*
Total, Country	117,010,877	1,075,490	128,042,518	*	*
Grand Total	117,458,854	1,987,000	207,673,921	*	*

* Not available. † Schedule IV, Local Government Act, 1919.

The financial position of the bodies in these areas on the same date was as follows:—

Local Bodies.	Total Revenue.			Total Expenditure.	Total Liabilities.	Total Assets.
	Rates Levied.	Other.	Total.			
Metropolitan Area—	£	£	£	£	£	£
City of Sydney	587,376	896,434	1,483,810	1,454,277	11,122,589	11,578,854
Suburbs (including Kuring-gai Shire)	761,206	279,890	1,041,096	1,018,352	1,075,739	686,442
Total, Metropolis	1,348,582	1,176,324	2,524,906	2,472,629	12,198,328	12,265,296
Local Government Areas not included above	91,750	58,314	150,064	154,268	107,422	127,544
Total, Metropolitan Area*	1,440,332	1,234,638	2,674,970	2,626,897	12,305,750	12,392,840
Country—						
Municipalities	527,743	657,665	1,185,408	1,136,996	2,540,767	3,312,298
Shires	710,561	485,661	1,196,222	1,214,820	187,964	550,785
Total, Country	1,238,304	1,143,326	2,381,630	2,351,816	2,728,731	3,863,078
Grand Total	2,678,636	2,377,964	5,056,600	4,978,713	15,034,481	16,255,918

* Schedule IV, Local Government Act, 1919.

CITY OF SYDNEY.

The City of Sydney was incorporated on 20th July, 1842, and was originally divided into six wards.

Great dissatisfaction soon arose as to the manner in which the affairs of the Corporation were conducted, and following upon the recommendation of a Select Committee of the Legislative Assembly, the Council was dissolved, and the administration transferred to a commission of three persons, who controlled the affairs of the city from the beginning of 1854 to the end of 1857, when a new Council, consisting of sixteen aldermen—two for each ward—came into existence.

In 1900 an Amending Act was passed, dividing the city into twelve wards, each returning two aldermen. The innovation of retiring the whole of the aldermen simultaneously was introduced, with a provision for the election of a new Council on the 1st December in every second year, re-election of qualified persons being permitted. Important changes were effected under this Act as to the franchise, sub-tenants and lodgers being placed on the rolls, and extended powers were conferred on the Council as to resumption of lands for city improvements.

In 1902 an Act was passed consolidating statutes previously passed in regard to the City of Sydney. In 1905 an amending Act was passed to

provide for the better government of the city, especially with regard to the control of hoardings, the proper cleansing of footways, the prevention or regulation of the smoke nuisance from furnaces and chimneys, the regulation and control of refreshment stalls and stands, the control of juvenile hawkers and shoeblacks, the prevention of betting in public places, while the tenure of office of the aldermen was altered to three years.

The Municipality of Camperdown was amalgamated with the City of Sydney as from 1st January, 1909, and the Council now consists of twenty-six aldermen elected every third year by thirteen wards. The Lord Mayor is elected by the aldermen from their own number, but under an Act passed in 1916, in the event of an equal number of votes being polled, the Governor in Council may appoint one of the aldermen to the position. The Act also regulated the election of the city members of the Metropolitan Board of Water Supply and Sewerage, and of the Fire Brigades Board, and extended the power of the Council in regard to resumptions, in order to provide workmen's dwellings; and further provision was made for the extension of the city boundaries.

In 1908 a further Amending Act was passed, containing several important provisions. Commencing with the year 1909, the Council was compelled to levy a rate, not less than 1d. in the £, upon the unimproved capital value, in addition to any rate imposed under the Act of 1902. Under the former Act the rate levied in 1915, the last year affected by the 1908 Act, was 1½d. in the £ on the unimproved capital value, and under the 1902 Act 2½d. in the £ on the assessed annual value. It is provided, however, that the total amount leviable shall not exceed the amount which would be yielded by a rate of 3d. in the £ on the unimproved capital value, and 2s. in the £ on the assessed annual value, taken together, of all ratable property. On the Council imposing such rate on the unimproved capital value, the State land tax is suspended automatically. The valuation of the unimproved capital value is to be made at least once in every five years. The Council was empowered also to establish public libraries and milk depôts, to control certain parks, and to widen certain streets. The Lending Branch of the Public Library, and various parks and public ways were vested in the Council by the Government under certain conditions.

The Sydney Corporation (Dwelling-houses) Act, 1912, enables the City Council to erect and let dwelling-houses, and for that purpose to acquire land.

Another amending Act, passed in 1916, empowers the Council to levy rates on persons owning pipes, wires, cables, and rails on, under, over, or through any public places under the control of the Council, excepting properties owned by the Crown. Also, under the same Act, the Sydney Council may levy a general rate, not exceeding 6d. in the £, on the unimproved value of all ratable property in the city. This Act amends the 1908 Act so far as the latter relates to the land tax on the unimproved capital value and the city rate on the assessed annual value.

MUNICIPALITIES.

Valuations.

The Unimproved Capital Value of land is the amount for which the fee-simple estate in such land could be sold under such reasonable conditions as a *bonâ-fide* seller would require, assuming that the actual improvements had not been made.

The Improved Capital Value is the amount for which the fee-simple estate of the land, with all improvements and buildings thereon, could be sold.

The Assessed Annual Value is nine-tenths of the fair average rental of land with improvements thereon.

In the following table the unimproved and improved values of municipalities for 1918 and 1919 are compared. It should be noted that the

Metropolitan Areas, as shown below, do not include shires, and the figures therefore differ from those given on page 622.

Division:	Unimproved Value.			Improved Value.		
	1918.	1919.	Increase, 1919.	1918.	1919.	Increase, 1919.
Sydney—	£	£	per cent.	£	£	per cent.
City	31,880,295	31,831,054	(--) 0·15	82,027,200	82,808,760	0·95
Suburbs	38,176,261	39,672,190	3·92	106,647,308	111,686,717	4·73
Metropolis	70,056,556	71,503,244	2·07	188,674,508	194,495,477	3·09
Local Areas, not included above	2,925,662	3,080,677	5·30	7,000,234	7,416,889	5·95
Total Metropolitan Area	72,982,218	74,583,921	2·20	195,674,742	201,912,366	3·19
Country	21,704,006	22,208,694	2·33	56,368,019	58,642,383	4·03
Total Municipalities	94,686,224	96,792,615	2·22	252,042,761	260,554,749	3·38

The value of improvements is shown in the following statement, and it will be seen that increases occurred in all divisions:—

Division.	Value of Improvements.		
	1918.	1919.	Increase.
Sydney—	£	£	per cent.
City	50,146,905	50,977,706	1·66
Suburbs	68,471,047	72,014,527	5·17
Metropolis	118,617,952	122,992,233	3·69
Local Areas, not included above	4,074,572	4,336,212	6·42
Total Metropolitan Area	122,692,524	127,328,345	3·78
Country	34,664,013	36,433,689	5·15
Total Municipalities	157,356,537	163,762,034	4·07

The capital and annual values of properties in all municipalities show a great increase since 1908, which was the year when the Local Government Act was fully applied to municipalities. The expansion is shown in the following table:—

Municipalities.	1908.			1919.		
	Unimproved Capital Value.	Improved Capital Value.	Assessed Annual Value.	Unimproved Capital Value.	Improved Capital Value.	Assessed Annual Value.
	£	£	£	£	£	£
City of Sydney...	20,457,251	49,718,463	2,301,531	31,831,054	82,808,760	3,726,395
Suburbs...	23,550,417	55,783,965	3,751,567	39,672,190	111,686,717	8,039,268
Metropolis	44,007,668	105,502,428	6,053,098	71,503,244	194,495,477	11,765,663
Local Areas, not included above	1,409,798	2,935,471	181,346	3,080,677	7,416,889	531,086
Total Metro- politan Area	45,417,466	108,437,899	6,234,444	74,583,921	201,912,366	12,296,749
Country...	18,695,185	41,848,767	2,816,416	22,208,694	58,642,383	4,239,871
Total Muni- cipalities	64,112,651	150,286,666	9,050,860	96,792,615	260,554,749	16,536,620

The increases, both absolute and relative, during the eleven years from 1908 to 1919, were as follow:—

Municipalities.	Unimproved Capital Value.		Improved Capital Value.		Assessed Annual Value.	
	Total Increase.	Increase per cent.	Total Increase.	Increase per cent.	Total Increase.	Increase per cent.
	£		£		£	
City of Sydney ...	11,373,803	55·6	33,090,297	66·6	1,424,864	61·9
Suburbs ...	16,121,723	68·5	55,902,752	110·5	4,287,701	114·3
Metropolis ...	27,495,576	62·5	88,993,049	84·3	5,712,565	94·4
Local Areas, not included above ...	1,670,879	118·5	4,481,418	152·7	349,742	92·8
Total Metropolitan Area ...	29,166,455	64·2	93,474,467	86·2	6,062,305	97·2
Country ...	3,513,509	18·8	16,793,616	40·1	1,423,455	50·5
Total Municipalities	32,679,964	51·0	110,268,083	73·4	7,485,760	82·7

The ratio of increase in the unimproved capital value was highest in the suburbs of Sydney, and lowest in the country municipalities. The suburbs also show the highest ratio for the improved capital value, and for the assessed annual value, while the lowest for these values appear in the country districts.

A comparison of the improved and unimproved capital values with the assessed annual value for the year 1919 is given below. With regard to the ratio of the improved capital value, the suburban and country municipalities were practically the same, with 7·2 per cent. The highest ratio of the unimproved capital value occurred in the suburban municipalities, which yielded 20·3 per cent., followed by the country areas, with 19·1 per cent. The corresponding rates for the City of Sydney were only 4·5 per cent. and 11·7 per cent., the average for the whole of the municipalities being 6·3 per cent. and 17·1 per cent. respectively:—

Municipalities.	Assessed Annual Value.	Ratio of Assessed Annual Value to Improved Capital Value.	Ratio of Assessed Annual Value to Unimproved Capital Value.
	£	per cent.	per cent.
City of Sydney ...	3,726,395	4·5	11·7
Suburbs ...	8,039,268	7·2	20·3
Metropolis ...	11,765,663	6·1	16·4
Local areas not included above ...	531,086	7·2	17·2
Total Metropolitan area ...	12,296,749	6·1	16·5
Country ...	4,239,871	7·2	19·1
Total Municipalities...	16,536,620	6·3	17·1

The value of improvements in municipalities was £163,762,000, or 169 per cent. of the unimproved value. The total for the City of Sydney was £50,978,000, or 160 per cent.; for the suburbs, £72,015,000, or 181 per cent.; for other metropolitan areas, £4,336,000, or 140 per cent.; and for the country, £36,433,000, or 164 per cent. The value of improvements is not available for all the shires, but it has been assumed that it is the same proportion of

the unimproved value as the average in those which are known, namely, about 7 per cent. greater than the unimproved value. In the Western Division it may be placed at £10,000,000, so that for the whole of the State the following values for 1919 are obtained:—

Division.	Unimproved Value of Land.			Value of Improvements.		
	Total.	Per Head.	Per Acre.	Total.	Per Head.	Per Acre.
Sydney—City ...	£ 31,831,000	£ 293	£ s. d. 9,567 9 7	£ 50,978,000	£ 470	£ s. d. 15,322 10 3
Suburbs ...	39,672,000	57	431 10 9	72,015,000	102	783 6 10
Metropolis ...	71,503,000	88	750 12 4	122,992,000	151	1,291 2 10
Local areas not included above ...	3,081,000	55	80 1 5	4,336,000	77	112 13 10
Total Metropolitan Area ...	74,584,000	86	557 13 10	127,329,000	142	952 1 8
Country Municipalities	22,209,000	52	13 5 8	36,433,000	85	21 15 10
Shires ...	110,881,000	160	0 19 2	118,827,000	172	1 0 7
Western Division (part unincorporated).	10,000,000	766	0 2 6	10,000,000	766	0 2 6
Total State ...	217,674,000	109	1 2 0	292,589,000	146	1 9 7

There has always been a tendency on the part of municipal valuers to under-estimate the value of properties for purposes of rating, and the extent of this under-valuation can now be gauged by a comparison of the valuations made by the Valuer-General in certain municipalities and shires with those previously adopted by the local body. The valuations relate to sixteen municipalities and two shires, and the Valuer-General's figures for unimproved capital value, improved capital value, and assessed annual value are respectively 42 per cent., 31 per cent., and 35 per cent. higher than the municipal values.

The increase was highest in Mosman, where municipal values were increased as follows, namely:—Unimproved capital value, 87 per cent.; improved capital value, 46 per cent.; and assessed annual value, 52 per cent.

In the two shires valued the increase on unimproved capital value was 40 per cent.

In the following table the Valuer-General's figures are compared with the values previously adopted for rating purposes, and the percentage of increase is shown also:—

Particulars.	Municipalities.			Shires.		
	Unimproved Capital Value.	Improved Capital Value.	Assessed Annual Value.	Unimproved Capital Value.	Improved Capital Value.	Assessed Annual Value.
Council's Valuation £ 000	15,029	38,959	2,707	2,540	*	*
Valuer-General ... £ 000	21,295	50,918	3,641	3,551	7,586	455
Increase ... £ 000	6,266	11,959	934	1,011	.....	.....
Percentage of increase %	41·7	30·7	34·5	39·8	.....	.....

* No valuation made.

City of Sydney Ratings.

The Sydney Corporation Act of 1902 directed that improved property within the city should be assessed at a fair average annual value, with an

allowance for outgoings not exceeding 10 per cent., and the unimproved property at a maximum of 6 per cent. on its capital value. On the value of such assessment a city rate not exceeding 2s. in £ might be levied, exclusive of lighting. In 1902, the rate was reduced from 24d., which had been imposed in 1901, to 22d., and still further reduced to 21d. in 1903, which continued until 1915. The Act provided for a special local rate not exceeding 6d. in the £ of annual value, for any work for the particular benefit of one locality, but only if two-thirds of the ratepayers of such locality petitioned for the same; occasional advantage of this power was taken for street-watering, though not of late years. As already mentioned, the amending Acts of 1908 and 1916 repealed the former provisions, and the rate for 1919 was 4½d. in the £ of unimproved capital value, which covers all services.

The following table shows the rate struck in the £, and the total amount levied, for various years from 1901 to 1919:—

Year.	Rate struck in the £.	Total Amount Levied.
	pence.	£
1901	24 on A.A.V.	195,164
1902	22 on A.A.V.	184,780
1903	21 on A.A.V.	180,477
1908	} 21 on A.A.V.	196,854
1909		284,500
1912	} 1 on U.C.V.	326,651
1913		390,678
1915	} 1½ on U.C.V.	466,943
1916		520,537
1917	} 3½ on U.C.V.	455,040
1918		465,958
1919	4½ on U.C.V.	587,376
1920	4¾ on U.C.V.	654,661
1921	5 on U.C.V.	747,654

Suburban and Country Ratings.

The other municipal councils were formerly empowered to raise revenue by rates not exceeding 1s. in the £ for ordinary purposes and the same amount for special purposes, with 6d. in addition for street-watering. The amount of each rate was calculated upon the rental value, which was represented by nine-tenths of the fair average annual rental of all buildings and cultivated lands, or lands let for pastoral, mining, or other purposes, plus 5 per cent. of the capital value of the fee-simple of all unimproved lands.

Municipalities and shires which avail themselves of the provisions of the Country Towns Water and Sewerage Acts are empowered to levy a rate for each service not exceeding a maximum of 2s. in the £ on the assessed annual value of land and tenements, in addition to the ordinary municipal rates.

In order to aid municipalities in their formative stages, the 1897 Act provided for endowment by the State during a period of fifteen years, and this right has been preserved in the Act of 1919. In each of the first five years after incorporation every municipality is entitled to a sum equal to the whole amount actually received from general rates; in each of the next succeeding five years, a sum equal to one-half; and in each of the next five years, a sum equal to one-fourth of such receipts. After the expiry of fifteen years the State assistance ceases, and any further aid from the State is in the nature of a special grant. At the close of the year 1919 there were only two municipalities entitled to the original statutory endowment.

Suburban and country municipalities are obliged to levy a general rate on the unimproved capital value of all ratable land, and may levy additional,

special, local, or loan rates on either the unimproved or the improved capital value. The only rates based on the annual value are those charged by the Metropolitan and the Hunter District Water Supply and Sewerage Boards. As previously stated, the general rate must be not less than 1d. in the £ on the unimproved capital value of all ratable land, and the total amount to be derived from the general rate and additional rates taken must not exceed the amount yielded by a rate of 2d. in the £ on the unimproved value and 2s. in the £ on the assessed annual value of all ratable land. In 1919 only twelve municipalities levied additional general rates, the remainder confining themselves to one general rate. The variation in the rates is rather remarkable, as in the suburbs of Sydney in 1919 they ranged from 2½d. to 5¾d., and in the country from 1d. to 16d.

The majority of suburban councils in 1919 levied general rates between 4d. and 5d., the next in number being between 5d. and 6d., while in the country the highest proportion was between 4d. and 5d., the next in order being between 5d. and 6d., and between 3d. and 4d., followed by those of 6d. and over. The councils which levied 6d. and over in the £ during 1919 were Ballina, Braidwood, Coonamble, Cootamundra, Goulburn, Mudgee, Murrurundi, Nyngan, and Warialda, each 6d.; Murrumburrah, 6¾d.; Aberdeen and Bathurst, each 7d.; Lambton, 7¾d.; Scone and Wentworth, each 8d.; Broken Hill, 8¾d.; Bourke, 11d.; Cobar, 12d.; Hillgrove, 15d.; and Wrightville, 16d. These rates are exclusive of the amounts levied on mines. None of the suburban councils levied 1d. in the £, but this rate was imposed in three country municipalities.

The first year in which the general rate was levied on the unimproved capital value was 1908, and a comparison of the general rate struck for various years since then, is shown below:—

Year.	Number of Municipalities which levied a General Rate of—					
	1d. and under 2d.	2d. and under 3d.	3d. and under 4d.	4d. and under 5d.	5d. and under 6d.	6d. and over.
1908—						
Suburban Municipalities	1	11	17	9	3	...
Country	31	36	42	26	9	5
1911—						
Suburban	...	4	16	18	2	...
Country	23	29	43	30	17	7
1916—						
Suburban	...	2	6	26	5	1
Country	13	17	42	42	17	13
1917—						
Suburban	...	2	6	26	6	...
Country	12	19	35	44	18	16
1918—						
Suburban	...	2	5	25	8	...
Country	11	18	27	44	27	17
1919—						
Suburban	...	2	7	27	11	...
Country	10	15	25	36	31	20

One hundred and seventeen municipalities levied special, local, and loan rates on the unimproved capital value, ranging from ⅓d. to 24d. in the £, and twenty-nine on the improved capital value, ranging from ⅓d. to 3-6d. in the £.

Finances.

The Local Government Act, 1919, prescribes that there must be a general fund in each area, to which must be paid the proceeds of all general and additional general rates, moneys received by way of grant, endowment,

etc., from the Government, and miscellaneous income not required by law to be carried to other funds. The expenditure from the general fund must be on administration, health, roads, and other public services.

In addition, there must be a special fund for each special rate levied, and for each work of service conducted by the council in respect of which the special rate has been made, and the fund may be used only for the purposes of such work or service. A local fund also must be kept for each local rate levied, with restrictions similar to those in the case of special fund. The expenditure of the local fund is restricted to works in the specified portion of the area.

A separate loan account must be kept for each work or service on which the amount has been spent, and if the loan fund has no revenue from rates, provision for the repayment of principal and interest may be met by transfers from the General fund or other appropriate fund. The object of the loan, as a rule, determines the source from which the fund obtains its necessary revenue, and when the loans have been raised for general purposes, transfers are made from the General fund, while the profits of trading concerns provide for the disbursements of their corresponding loan funds.

The foregoing remarks relate more particularly to loan funds kept in respect of loans raised before the present Act came into operation, that is to say, when the law did not require (as it does now) a loan rate to be levied to pay interest and provide for the extinction of each loan within a fixed period. It is apparent, therefore, that all new loans will be self-supporting whether the undertakings are profitable or not, and councils may either use profits to increase the amount which is being provided for repayment, or retain them in the working accounts of the Special, Local, or Trading Funds.

The revenue of special and local funds may be used in a similar manner; for example, the Street Lighting Special Fund must provide the money to meet not only the ordinary costing of maintaining the street lighting for the year, but also the obligations of the Street Lighting Loan Fund; and similarly with regard to other Special and Loan Funds.

The Regulations under the Act prescribe the system of accounts to be adopted. The accounts must be "Income and Expenditure Accounts," kept by double entry, and each "Fund" must have a separate banking account. Thus there is shown for each General, Special, Local, Loan or Trading Fund a Revenue Account, or Profit and Loss Account, giving the total expenditure chargeable for the period, whether paid or unpaid, and the total income for the same period, whether received or outstanding. A balance-sheet is also required for each fund with appropriate liabilities and assets. Only "realisable" assets may be shown, so that the whole of the roads, bridges, drains, and other constructive work, are excluded.

CITY OF SYDNEY ACCOUNTS.

The Council of the City of Sydney conducts its affairs under the City Corporation Acts, and therefore is not bound by the provisions of the Local Government Act. The various accounts of the city were formerly kept on a "cash" basis, except those relating to the Electricity Fund, but in 1913 the system was altered, and the Revenue and Capital transactions now are shown separately in the same manner as those of all other Local Bodies. As details cannot be allocated in many instances to the headings of expenditure and income as set out in the system of accounts prescribed under the Local Government regulations, the following particulars relating to municipal accounts are divided into two parts, one dealing with the City of Sydney, and the other with the suburbs of Sydney and country municipalities.

City of Sydney—Receipts.

The receipts from the various funds, exclusive of the Electric Lighting Fund, in 1919, amounted to £882,832, the City Fund contributing £703,188, the Public Markets Fund, £103,977, and the Resumption Account £75,667. Although abstracts of receipts and disbursements in respect of the Public Markets Fund and the Resumption Account are shown separately in the city accounts, these funds are really subsidiary to the City Fund, their balances at the end of the year being transferred to the last-mentioned fund.

The following is a statement for the year 1919 of the receipts of the City Fund under appropriate headings:—

	£
General Purposes	589,356
Works	16,356
Health Administration	26,638
Public Services... ..	33,230
Municipal Property	15,408
Miscellaneous	22,200
Total	£703,188

City rates, £587,809, which include interest, form by far the greater part of the receipts under the heading "General Purposes." As provided by the amending Act of 1908, rating on the unimproved value of land was first brought into force in 1909. Under the amending Act of 1915, the City rate is now levied on the unimproved capital value only.

City of Sydney—Disbursements.

The disbursements in 1919 amounted to £872,410, viz.: City Fund, £609,739; Public Markets Fund, £99,082; and Resumptions Account, £163,589. Shown under the same headings as the receipts, the following were the disbursements of the City Fund:—

	£
General Purposes	54,116
Works	118,309
Health Administration	159,948
Public Services... ..	83,411
Municipal Property	43,530
Miscellaneous (Interest, Sinking Fund, &c.)	150,425
Total	£609,739

Salaries, which amounted to £34,184, absorbed a very large share of the expenses for General Purposes. Of the sum spent on Public Works, street maintenance accounted for £64,133, footpaths for £25,124, and wood-paving for £18,423. On city cleansing £106,410 was expended, and this was the main item in Health Administration. The large amount shown under "Miscellaneous" includes the Annual Debenture indebtedness, which in 1919 was £68,566 for interest, commission, &c., and £15,496 for Sinking Fund contributions.

The receipts and disbursements of the Public Markets Fund were £103,977 and £99,082 respectively, the latter amount being inclusive of interest and sinking fund, showing a surplus of £4,895 on the year's transactions, which has been included in the City Fund. The Queen Victoria Markets brought in revenue to the extent of £27,720, or nearly 27 per cent. of the total; and the receipts from the Municipal Markets amounted to £31,514, or about 30 per cent. of the whole.

The receipts and disbursements of the Resumption Account were £75,667 and £163,589 respectively, showing a debit of £87,922 after paying interest and contribution to sinking fund, and this deficit was also transferred to the City Fund.

City Electricity Undertaking.

The next account to be considered is the Electricity Works Fund, and the expenditure and income for the year ended 31st December, 1919, are shown below:—

Expenditure.		Income.	
	£		£
Generation of Electricity ...	151,742	Private Lighting	284,255
Distribution	103,156	Public Lighting	54,296
Management	84,249	Power Supply	230,760
Bad debts written off	227	Rentals—Meters, Motors, Lamps, &c.	29,639
Purchase of Electricity	24,437	Miscellaneous	2,028
Total	£363,811	Total	£600,978
Balance carried to Net Revenue Account	237,167		
Total	£600,978		

Generation forms the largest item of expenditure, accounting for 41·7 per cent. of the whole and 44·7 per cent. of the total expenditure, less the electricity purchased. Distribution cost 28·4 per cent., management 23·1 per cent., amounts written off 0·1 per cent., and electricity purchased 6·7 per cent. of the whole.

The sales of current to the public for light and power amounted to £536,569, and to the Council £32,742.

The gross profit carried to the Net Revenue Account was £245,036, viz., £237,167 for 1919, as shown above, and £7,869 brought forward from 1918. The charges against the profits were:—Interest on Debentures and Overdraft, £107,699; Sinking Fund contribution, £18,701; Depreciation Reserve Account, £79,896; and written off, flotation expenses, &c., £11,760, making a total of £218,056. It will be seen from the foregoing that the net gain for the year 1919, after paying interest and Sinking Fund, was £26,980, which is carried forward to profit and loss account for 1919.

The position in 1920 was not so favourable, as only a small profit was made, and in order to cover an anticipated loss in 1921, the City Council applied to the Government for permission to increase the charge for electricity by $\frac{1}{2}$ d. per unit; an inquiry was held by a Supreme Court Judge in the manner prescribed by law, and upon receipt of his certificate that the cost of generation and supply had increased by $\frac{1}{2}$ d. per unit, the Council was empowered to increase its charges for light and power accordingly.

Below is a summary of the balance-sheet of the Electricity Works Fund on 31st December, 1919:—

Liabilities.		Assets.	
	£		£
Debenture Loans... ..	2,076,744	Capital Expenditure — Land, Buildings, Machinery, Plant, &c.	3,195,821
Sinking Fund	197,635	Sinking Fund Investments—	
Reserve Accounts	734,533	Commonwealth War Loan ...	69,360
Sundry Creditors... ..	61,898	New South Wales Treasury... ..	18,572
Deposits (Consumers)	25,053	Debentures—Sydney Municipi- pal Council	105,800
Commonwealth Bank	552,777	Stores, Materials, Cables, Coal, &c.	180,849
Balance—Net Revenue Account	26,980	Sundry Debtors, Consumers' Balances, &c.	87,240
		Other	17,978
	£3,675,620		£3,675,620

The loan capital, which forms 56.5 per cent. of the liabilities, returned about 12 per cent. profit for the year, interest payments and Sinking Fund contribution for the year amounted to £126,400, and £79,896 were allowed for depreciation. The Sinking Fund was represented by an investment of £193,732 in Commonwealth War Loan, State Government Stock, and Sydney Municipal Council Debentures.

The following table serves to emphasise the rapid growth of the electric lighting undertaking. The figures quoted show the actual profit made each year, excluding the accumulated profits brought forward from previous years:—

		1906.	1911.	1916.	1919.
Quantity Sold	Units.	3,927,330	17,768,210	48,532,901	78,583,579
Expenditure...	£	21,567	95,428	211,263	363,811
Income	£	40,984	172,693	433,996	600,978
Surplus	£	19,417	•94,861	222,733	237,167
Charges against Surplus	£	20,602	66,470	192,071	218,056
Net gain	£	(—) 1,185	28,391	30,662	19,111

* Includes surplus of a purchased company, £17,596. (—) Denotes loss.

The lights were used for the first time on 8th July, 1904, when parts of the city were illuminated, and since that date great progress has been made, and the public parks, as well as the remainder of the streets under the control of the council, are now included, and the majority of the suburbs are supplied from the city.

The following is a Summary of Liabilities and Assets of all funds of the City of Sydney as at 31st December, 1919:—

Liabilities.		Assets.	
	£		£
Debentures current	7,466,424	Bank Balances, Cr.	665,12
Bank Balances, Dr.	657,672	Landed Properties, Baths, and Sundry Debtors	827,028
Sundry Creditors	806,891	Other Investments	284,880
Sinking Funds	840,632	Flotation Expenses and Sundry Debtors	184,818
Reserves	1,350,970	Revenue Accounts	87,922
	£11,122,589		
Excess of Assets	456,265		
	£11,578,854		£11,578,854

Notwithstanding the large Loan indebtedness the assets exceeded the liabilities by £456,265. It should be noted that the Debentures included £2,076,744 borrowed in connection with Electric Lighting, and £995,927 for Public Markets, and as the proceeds of those loans have been spent on reproductive municipal works, such works should provide the annual interest charges and sinking fund contributions. The Electricity Works Fund and the Public Markets Fund were quite self-supporting in 1919. Landed properties, baths, &c., which comprise about 56 per cent. of the assets, include such large items as Public Markets, £1,454,740; Town

Hall, &c., £895,783; Resumptions, £2,987,348; Electric Light, Land, and Buildings, £587,198. The accumulated Sinking Fund, £827,028, as against a Debenture Debt of £7,466,424, must be regarded as a satisfactory cover.

Progress of City of Sydney.

The following table shows the progress of the City of Sydney during the five years ended 1919:—

Particulars.	1915.	1916.	1917.	1918.	1919.
Area Acres	3,327	3,327	3,327	3,327	3,327
Population ... No.	104,200	106,000	106,000	106,000	108,500
	£	£	£	£	£
Unimproved Capital Value	27,226,283	31,168,904	31,130,368	31,880,295	31,831,054
Improved Capital Value ...	78,580,300	80,264,720	81,976,260	82,027,200	82,808,760
Assessed Annual Value ...	3,391,759	3,466,550	3,533,779	3,691,224	3,726,395
City Fund—					
Income—Rates ...	295,529	525,869	456,612	466,558	587,809
Land Tax ...	168,703				
All other sources ...	76,962	80,790	74,195	87,704	115,379
Total ...	541,194	606,659	530,807	554,262	703,188
Expenditure	442,303	454,711	493,903	526,083	609,739
Public Markets Fund—					
Income	69,924	72,362	80,583	87,370	103,977
Expenditure	76,640	88,654	88,860	89,891	99,082
Resumption Account—					
Income	75,470	84,968	85,048	78,720	75,667
Expenditure	127,448	140,574	160,585	161,207	163,589
Electricity Works Fund—					
Income	388,559	433,996	464,968	542,818	600,978
Expenditure	323,800	403,334	484,839	463,949	581,867
Total Income—All Funds	1,075,147	1,197,985	1,161,406	1,263,170	1,483,810
Total Expenditure—All Funds	970,191	1,087,273	1,228,187	1,246,130	1,454,277
Excess of Income	104,956	110,712	(—) 66,781	17,040	29,533
Liabilities—All Funds ...	8,877,853	9,751,011	10,469,229	10,664,813	11,122,589
Assets—All Funds	9,124,125	10,005,232	10,734,793	11,120,974	11,578,854
Excess of Assets	246,272	254,221	265,564	456,161	456,265
Loans outstanding	6,715,100	7,050,100	7,478,960	7,502,558	7,464,170
Sinking Fund	550,633	637,313	729,447	821,121	827,028

(—) Denotes excess of Expenditure.

METROPOLITAN AREA AND COUNTRY MUNICIPALITIES.

The areas formerly described as Suburban and Country have been altered to conform to the area described in Schedule IV of the Local Government Act of 1919, and in the following tables the figures relating to Municipalities for 1908 have been reclassified in order to show the comparison with 1919 on the new basis. The municipalities transferred from the Country to the Metropolitan Area are Auburn, Bankstown, Dundas, Ermington and Rydalmere, Granville, Lidcombe (formerly Rookwood), and Parramatta. For reasons already described, however, the City of Sydney transactions are not included in the tables which follow.

Expenditure.

The gross expenditure during 1919 by the various municipalities under the Local Government Act amounted to £2,216,438, which was £66,591 less than the income. The following statement shows the expenditure allocated to the various funds in 1908 and 1919.

Funds.	1908.			1919.		
	Metro-politan Area.	Country.	Total.	Metro-politan Area.	Country.	Total.
	£	£	£	£	£	£
General Fund	368,479	310,613	679,092	956,686	552,670	1,509,356
Trading Accounts	7,078	50,167	57,245	...	175,672	175,672
Special and Local Funds	8,380	64,105	72,485	77,073	341,723	418,796
Loan Funds	34,146	24,275	58,421	43,523	64,223	107,746
Reserves and Renewals Account ... ..	...	...	...	2,160	2,708	4,868
Gross Expenditure	418,093	449,160	867,243	1,079,442	1,136,996	2,216,438

The greatest expenditure was naturally from the General Fund, which in 1919 accounted for 68 per cent. of the whole. The trading concerns of the municipalities are gas and electricity; the special and local funds relate to water supply, sewerage, sanitary and garbage, street-watering, street-lighting, old loans interest, and other miscellaneous matters.

Details of the expenditure from the General Fund are shown below:—

Head of Expenditure.	1908.			1919.		
	Metro-politan Area.	Country.	Total.	Metro-politan Area.	Country.	Total.
	£	£	£	£	£	£
Administrative expenses	49,004	56,568	105,572	80,058	70,652	150,710
Public Works	157,263	108,177	265,440	582,506	316,559	899,065
Health Administration	43,121	65,518	108,639	121,148	72,349	193,497
Public Services	63,881	39,104	102,985	117,716	52,153	169,869
Municipal Property	7,142	7,324	14,466	28,274	27,643	55,917
Miscellaneous—Rates and Interest Abandoned, Transfers, &c.	48,068	33,922	81,990	26,984	13,314	40,298
Total expenditure	368,479	310,613	679,092	956,686	552,670	1,509,356

The proportion under each head to the total expenditure of the General Fund was as follows:—

Head of Expenditure.	1908.			1919.		
	Metropoli- tan Area.	Country.	Total.	Metropoli- tan Area.	Country.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Administrative Expenses ...	13·3	18·2	15·5	8·4	12·8	10·0
Public Works	42·7	34·8	39·1	60·9	57·3	59·6
Health Administration ...	11·7	21·1	16·0	12·7	13·1	12·8
Public Services	17·3	12·6	15·2	12·3	9·4	11·2
Municipal Property	1·9	2·4	2·1	2·9	5·0	3·7
Miscellaneous—Rates and In- terest abandoned, Transfers, &c.	13·1	10·9	12·1	2·8	2·4	2·7
Total	100·0	100·0	100·0	100·0	100·0	100·0

In 1919, of the expenditure by municipalities from the General Fund, 10 per cent. was spent on administrative expenses, and 59·6 per cent. on public works. The amount expended on the actual maintenance and construction of works of a public character, viz., roads, streets, bridges, culverts, drains, wharves, ferries, &c., amounted to £830,022, while the expenses of supervision, such as the salary of engineers, &c., amounted to £31,600, or 3·5 per cent. of the total amount expended.

The ratios of Administrative expenses to the total Income and Expenditure did not vary to any extent in former years, but has been higher latterly owing to the increase in the basic wage.

The relative cost of administration was largest in the country, being about 13 per cent. of the total expenditure; the suburban municipalities spent only 8 per cent. under the same heading, and the City of Sydney about 9 per cent. These proportions relate to the general fund only, that being the largest of the accounts; other funds transfer their share of the administrative expenses to the general fund. The high relative cost of administration in the country is due to the sparse population and small revenue of many of the municipalities, as in such cases the expenses on account of salaries, &c., are larger proportionately than those in the more closely settled localities.

The Trading Accounts, which relate to the supply of gas or electricity, will be treated later under those headings, and the special Water and Sewerage Funds will also be discussed separately.

Income.

The gross income in 1919 of all the municipalities brought under the provision of the Local Government Act was £2,283,029, including £135,360

received as endowments, or grants from the Government. Under the same funds as shown in the expenditure, the income for 1908 and 1919 was as follows:—

Funds	1908.			1919.		
	Metropolitan Area.	Country.	Total.	Metropolitan Area.	Country.	Total.
	£	£	£	£	£	£
General Fund	405,926	336,852	742,778	932,968	551,342	1,484,310
Trading Accounts	6,863	59,814	66,677	.....	210,028	210,028
Special and Local Funds	7,096	66,408	73,504	85,413	347,486	432,899
Loan Funds	45,581	37,102	82,683	79,084	69,793	148,877
Reserves and Renewals Account ... ..	.....	.....	.....	156	6,759	6,915
Gross Income	465,466	500,176	965,642	1,097,621	1,185,408	2,283,029

Details of the items of the General Fund for 1908 and 1919 are as follows:—

Source of Income.	1908.			1919.		
	Metropolitan Area.	Country.	Total.	Metropolitan Area.	Country.	Total.
	£	£	£	£	£	£
General Purposes—						
Rates levied (including interest)	342,908	219,743	562,651	759,618	362,170	1,121,788
Government Endowments, &c.	643	4,754	5,397	540	1,976	2,516
Sundries	4,775	4,555	9,330	12,473	8,620	21,093
Public Works*	19,195	18,657	37,852	88,357	97,851	186,208
Health Administration*	23,283	56,248	79,531	29,482	32,012	61,494
Public Services*	4,072	15,371	19,443	14,565	15,920	30,485
Municipal Property	8,259	16,563	24,822	24,392	31,799	56,191
Miscellaneous	2,791	961	3,752	3,540	994	4,534
Total	405,926	336,852	742,778	932,967	551,342	1,484,309

* Including Government grants.

The amount of Government assistance included in the above income for 1919 amounted to £135,360, of which £2,516 represented Endowment, and the contributions to Public Works (roads, streets, bridges, &c.) were £104,355; while £27,766 was granted for Health Administration, and £723 for Public Services.

Stating the receipts under each head as a percentage of the total income of the General Fund, the following results are obtained:—

Source of Income.	1908.			1919.		
	Metropolitan Area.	Country.	Total.	Metropolitan Area.	Country.	Total.
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
General Purposes—						
Rates levied (including interest)	84·5	65·2	75·8	81·4	65·7	75·6
Government Endowments, &c.	0·2	1·4	0·7	0·1	0·3	0·2
Sundries	1·2	1·4	1·3	1·3	1·6	1·4
Public Works*	4·7	5·5	5·1	9·5	17·7	12·5
Health Administration*	5·7	16·7	10·7	3·1	5·8	4·1
Public Services*	1·0	4·6	2·6	1·6	2·9	2·1
Municipal Property	2·0	4·9	3·3	2·6	5·8	3·8
Miscellaneous	0·7	0·3	0·5	0·4	0·2	0·3
Total	100·0	100·0	100·0	100·0	100·0	100·0

* Including Government grants.

The bulk of the general income was received from rates, the average in 1919 for all municipalities being 75.6 per cent., the proportion in the suburbs being 81.4 per cent., and in the country 65.7 per cent. The next important source of income was from Public Works, but about 56 per cent. of the contribution was provided by the Government as grants. By the transfer of the Sanitary and Garbage Services from the General Fund, as provided by the Act, Health Administration lost its most important factor of revenue, contributing only 4.1 per cent. of the total for 1919 as against 10.7 per cent. in 1908. The difference is still more marked in the country, where the proportion was 16.7 per cent. in 1908 and 5.8 per cent. in 1919. In the suburbs, the Metropolitan Board of Water Supply and Sewerage levies charges in addition to those made by the municipalities, reference to which is made later on.

Special and Local Funds.

The expenditure and income of the Special and Local Funds for the years 1908 and 1919 are shown in the following table:—

Funds.	1908.			1919.		
	Metropoli- tan Area.	Country.	Total.	Metropoli- tan Area.	Country.	Total.
Expenditure—	£	£	£	£	£	£
Water Supply ... ..	...	51,139	51,139	...	126,495	126,495
Sewerage ... ..	...	4,468	4,468	1	22,719	22,720
Sanitary and Garbage ... ..	...	...	...	62,755	155,821	218,576
Street Lighting	2,270	6,342	8,612	1,082	29,966	31,048
Street Watering	1,887	208	2,095	118	538	656
Old Loans Interest	1,652	857	2,509	1,792	964	2,756
Cemetery ... ..	...	...	...	6,047	...	6,047
Miscellaneous	2,571	1,091	3,662	5,278	5,220	10,498
Total	8,380	64,105	72,485	77,073	341,723	418,796
Income—						
Water Supply ... ..	...	53,991	53,991	..	129,129	129,129
Sewerage ... ..	...	3,159	3,159	1	28,302	28,303
Sanitary and Garbage ... ..	...	...	...	61,334	151,238	212,592
Street Lighting ... ..	...	5,996	5,996	1,425	31,581	33,006
Street Watering	2,724	308	3,032	91	502	593
Old Loans Interest	1,762	897	2,659	2,073	1,270	3,343
Cemetery ... ..	...	...	...	15,772	...	15,772
Miscellaneous	2,610	2,057	4,667	4,717	5,444	10,161
Total	7,096	66,408	73,504	85,413	347,486	432,899

The Sanitary and Garbage fund is the most important of those mentioned above, both in the suburban and country districts. The Water and Sewerage Services are next in order, so far as the country is concerned, the suburbs of Sydney being supplied by the Metropolitan Board of Water Supply and Sewerage.

Balance-sheet.

The financial position of the municipalities, at 31st December, 1908 and 1919, is shown by the following statement of liabilities and assets of the various funds:—

Funds.	1908.			1919.		
	Metro- politan Area.	Country.	Total.	Metro- politan Area.	Country.	Total.
Liabilities—	£	£	£	£	£	£
General Fund	61,760	96,592	158,352	284,974	115,512	400,486
Trading Accounts ...	2,337	22,492	24,829	...	107,192	107,192
Special and Local Funds	495	766,412	766,907	16,613	1,700,917	1,717,530
Loan Funds	858,937	553,989	1,412,926	841,631	588,533	1,430,164
Reserves and Renewals Account ... ..	...	...	...	1,138	28,613	29,751
Total	923,529	1,439,485	2,363,014	1,144,856	2,540,767	3,685,123
Assets—						
General Fund	253,052	487,761	740,813	504,314	511,713	1,016,027
Trading Accounts ...	1,890	65,151	67,041	...	251,379	251,379
Special and Local Funds	3,056	790,965	794,021	63,385	1,895,867	1,959,252
Loan Funds	197,870	358,682	556,552	193,479	624,674	818,153
Reserves and Renewals Account ... ..	...	...	...	1,138	28,660	29,798
Total	455,868	1,702,559	2,158,427	762,316	3,312,293	4,074,609
Excess of Assets ... ..	...	263,074	...	...	771,526	389,486
Excess of Liabilities ...	467,661	...	204,587	382,040	...	...

Loans.

Under the Local Government Act a municipality may borrow to an amount which, with existing loans, does not exceed 20 per cent. of the unimproved capital value of ratable lands. If any municipality has exceeded the statutory maximum it cannot borrow further until the total amount owing falls below the limit.

The total amount of loans raised during 1919 was £666,300, including £486,243 borrowed by the City of Sydney, £80,889 by Metropolitan, and £99,168 by Country municipalities. The sinking funds of the City of Sydney were increased by £5,907, and those of Metropolitan municipalities by £10,651, while a decrease of £11,386 in the Country is shown, due to the application of the funds in redemption of the loans. Apart from the liability to the State under the Country Towns Water and Sewerage Act, the total amount of loans outstanding at the close of the year was £9,100,428, and towards this amount there was at the credit of the sinking funds a sum of £858,991.

Rates of interest ranged from 3½ per cent., which was carried by £170,698, to 7 per cent., which, however, was payable only on £2,702, and the amount paid and due as interest on loans during the year was £361,642. The total indebtedness was £9,100,428, bearing an average rate of interest of 3·97 per cent., viz., 4·00 per cent. on the loans of the City of Sydney, 3·87 per cent. on those of the Metropolitan municipalities, and 3·87 per cent. on those of the country municipalities.

The average rate of interest payable on all loans is hardly, however, an index of the true value of municipal debentures to the investors, as out of a total debt of £9,100,428, the sum of £4,273,926 pays interest at 4 per cent., and £2,124,400 at 3½ per cent., and of these amounts the metropolitan municipalities are responsible for £4,224,586 at 4 per cent., and the whole floated at 3½ per cent. The country municipalities borrowed £190,515 at 4½ per cent., £108,588 at 5 per cent., and £69,330 at 6 per cent.

The total debt per head of population in municipalities amounted to £7 0s. 7d., without allowance being made for sinking funds, while the yearly charge for interest is 5s. 7d. per head. These sums, compared with the resources of the municipalities, appear by no means formidable.

The following are the outstanding loans on 31st December, 1919, and the sinking funds set apart to meet them; the New South Wales figures include £9,064 raised in Victoria:—

Division.	Municipal Loans Outstanding.			Sinking Funds.	Interest paid and due on Loans, 1919.
	New South Wales.	London.	Total.		
Sydney—City	£ 6,964,170	£ 500,000	£ 7,464,170	£ 827,028	£ 298,288
„ Other Metropolitan..	1,006,186	...	1,006,186	16,573	38,954
Country	611,672	18,400	630,072	15,390	24,400
Total	£ 8,582,028	518,400	9,100,428	858,991	361,642

Temporary loans, amounting altogether to £251,324, which bear interest at current bank rates, and loans payable on demand amounting to £74,671, are included in the above table.

The loans are redeemable at various periods after 1919, and the amount to be repaid in London was £518,400, or about 5·7 per cent. of the total, and the amount of debentures held locally was £8,582,028.

SHIRES.

From the 1st January, 1907, 134 shires worked under the Local Government Act, 1906, but the number was raised to 136 during 1915, by the establishment of the Nambucca Shire, which was separated from Bellingen. Wunnamurra Shire was amalgamated with Jerilderie Municipality on 12th December, 1918, and is now called Jerilderie Shire. These shires are all in the Eastern and Central Land Division, 98 being in the former, and 38 in the latter.

The shires vary in area from 36 square miles in Ku-ring-gai, immediately north of the City of Sydney, to 5,730 square miles in Lachlan, the headquarters of which are at Condobolin, and the smallest shires are in the most closely settled parts of the State.

A general rate, not less than 1d. in the £, and not more than 2d. in the £, may be levied by shires on the unimproved capital value of all ratable land. If, however, the general rate of 1d. is more than sufficient to meet requirements it may be reduced, and in 1919 five shires levied a general rate less than 1d.

The general rates levied in 1919 and the unimproved capital value in each case were as follow:—

No. of Shires.	General Rate levied in £.	Unimproved Capital Value.
	d.	£
2	$\frac{5}{8}$	2,503,470
1	$\frac{3}{4}$	1,201,425
2	$\frac{3}{4}$	1,982,414
12	1	16,329,050
1	1 $\frac{1}{2}$	831,427
11	1 $\frac{1}{2}$	13,082,991
23	1 $\frac{1}{2}$	21,570,748
3	1 $\frac{3}{4}$	3,179,938
81	2	50,199,843
136	...	110,881,306

The number of shires which levied general rates at each individual rate from 1907 to 1919 is shown in the following table:—

General Rate levied in £.	Number of Shires.				
	1907.	1911.	1917.	1918.	1919.
d.					
1	1	1	1	1	...
1	1	3	2	2	2
3	3	2	4	3	1
...	...	...	...	2	2
1	104	64	18	15	12
1 1/8	...	3	2	...	1
1 1/4	10	23	11	9	11
1 3/4	...	1	1	1	...
1 3/2	12	22	27	24	23
1 1/2	...	1	...	...	3
1 3/4	...	...	4	3	81
2	3	14	66	76	...
Total	134	134	136	136	136

The unimproved capital value of shires from 1910 to 1919 is shown below, the total increase during the period mentioned being £20,945,394, or over 23 per cent.

Year.	Unimproved Capital Value.	Year.	Unimproved Capital Value.
	£		£
1910	89,935,912	1915	104,745,633
1911	94,189,939	1916	105,697,791
1912	97,661,454	1917	107,695,315
1913	99,452,191	1918	109,133,215
1914	103,451,177	1919	110,881,306

It is not possible to give the improved capital value, or the assessed annual value, as the shires are not compelled to make those valuations, and only a few record them.

In addition to the general rates, additional general, special, and local rates were also levied by thirty-six shires, ranging from one-tenth of a penny to 5d. in the £.

The purposes for which these special and local rates were imposed were:—Roads and street improvements and maintenance, footpaths, kerbing and guttering, water supply, drainage, street lighting, street watering, bridges, parks, fire brigade, destruction of noxious weeds, and foreshores improvement.

The total amount of general and additional general rates levied was £738,824, and of special and local rates £24,532. These figures represent the rates actually levied in respect of the year 1919, and do not agree with the amount shown later, the difference being due to the inclusion of interest on unpaid rates.

In many shires the general rate was not sufficient to meet the requirements, and the State granted subsidies in these cases. Endowments are fixed every third year, and are determined according to the extent of the shire, the probable revenue from a rate of 1d. in the £, the necessary expenditure, the extent of roads and other public works to be constructed and maintained, and other matters. The endowment is paid on the general rates actually collected in the preceding year. There are six classes into which the shires are divided for endowment purposes, the classification for the period ended 31st December, 1921, being as follows:—

52 shires in 1st class receive no endowment.
63 „ 1st „ „ from 1s. to 10s. in the £ on General Rate.
5 „ 2nd „ „ 15s. in the £ on General Rate.
8 „ 3rd „ „ 20s. „ „
4 „ 4th „ „ 25s. „ „
3 „ 5th „ „ 30s. „ „
1 shire in 6th „ receives 40s. „ „

In 1919 the Government paid £153,234 as endowment to the shires, and a further sum of £218,687 was paid as grants for special purposes, making the total subvention from the State £371,921.

Expenditure.

The following statement shows the expenditure of shires during 1919 in comparison with the year 1908.

Particulars.	1908.		1919.	
	Expenditure.	Per cent.	Expenditure.	Per cent.
	£		£	
General Fund—				
Administrative expenses	116,932	17·7	115,657	8·9
Public works	516,072	78·7	1,013,337	77·5
Health administration	4,604	0·7	26,237	2·0
Public services	11,703	1·8	21,293	1·6
Shire property	397	0·1	17,037	1·3
Miscellaneous	6,453	1·0	16,034	1·2
Special and local funds	58	...	94,550	7·2
Loan Funds ... ..	...	...	3,853	0·3
Total Expenditure	£ 656,219	100·0	1,307,998	100·0

In the General Fund, of the amount spent on works, £56,762 represents the cost of supervision (salaries of engineers, &c.); £27,740 was for sundry expenses; and the actual amount spent on maintenance and construction was £928,835. The expenditure on public works, such as roads, streets, footpaths, bridges and ferries, &c., represented 77·5 per cent. of the total.

The higher ratio of the cost of health administration in 1919 was chiefly due to an epidemic of influenza, which caused additional expenses to be incurred by the local authorities.

The total receipts from all sources were £1,289,761, and as the administrative expenses, as already stated, amounted to £115,657, the cost of collection amounted to 9·0 per cent.

Income.

The principal heads of income of shires in 1919 were as follow, and for purposes of comparison the 1908 figures are attached.

Particulars.	1908.		1919.	
	Income.	Per cent.	Income.	Per cent.
General Fund—	£		£	
General rates (including interest) ..	382,336	61·0	742,026	57·5
Government endowment	162,859	26·0	153,234	11·9
Public works	65,781	10·5	230,673	17·9
Health administration	2,979	0·5	13,731	1·0
Public services	7,038	1·1	12,481	1·0
Shire property	517	0·1	15,539	1·2
Miscellaneous	4,198	0·7	7,192	0·6
Special and local funds	1,160	0·1	105,587	8·2
Loan funds ... ..	.....	...	9,298	0·7
Total Income	£ 626,868	100·0	1,289,761	100·0

The income from public works in 1919 increased largely compared with 1908, owing to the fact that the Government grants in aid of roads, streets, bridges, etc., in the last-mentioned year were very large. The greater revenue from Government endowment in 1908 is due to the higher rates granted in the earlier years. The income from special and local funds has increased, owing principally to the establishment of the Sanitary and Garbage Fund, and to the expansion in the transactions of the other funds.

Of the total income in 1919, Government assistance, exclusive of grants for special purposes, provided 11·9 per cent., as against 26·0 per cent. in 1908. The principal item in the receipts on account of public works was Government grants, which amounted to £209,329, while the same source was responsible for £9,060 received for health administration. The total assistance received from the Government in 1919 amounted to £371,921, or 28·8 per cent. of the total income. The income derived from special and local funds, consisting mainly of the proceeds of special and local rates and sanitary and garbage fees, claimed 8·2 per cent. of the total.

Balance-sheet.

The financial position of the shires on 31st December, 1919, was strong, as there was an excess of assets of £375,686. The combined balance-sheet of the shires on 31st December, 1919, appears as follows:—

Liabilities.		Assets.	
	£		£
General Fund	159,616	General Fund	505,272
Special or Local Funds	36,281	Special or Local Funds	78,612
Loan Funds	30,872	Loan Funds... ..	18,571
Total, all Funds... ..	£226,769		
Excess of Assets	375,686		
Total	£602,455	Total	£602,455

The liabilities of the Special or Local funds consist for the most part of amounts due to general and other funds, and sundry creditors; while the assets comprise land, buildings, outstanding fees and rates, and bank balances.

Loans.

The Local Government Act, 1919, empowers Shire Councils to borrow money, not exceeding in the aggregate a sum equal to thrice the amount of the annual income. The loans may be secured and charged upon the income of the general funds of the shire, and are repayable in annual or half-yearly instalments of principal and interest. At the 31st December, 1919, the amount of loans outstanding, including temporary loans, was £194,553.

TAXATION BY LOCAL GOVERNING BODIES.

The total revenue collected by all the local governing bodies from rates and charges amounts to £3,986,426, equal to £2 0s. 2d. per head of the population residing in the taxable districts. This includes £1,915,280, rates collected by the municipalities; £763,356, rates collected by shires; and £1,307,790, rates collected by the various Water and Sewerage Boards referred to later. The distribution of the total amount is as follows:—

Local Bodies.	General Rates.	Special and Loan Rates.	Total.	Per head of population living in local areas.
	£	£	£	£ s. d.
Municipalities (including City of Sydney)	1,700,903	214,377	1,915,280	1 9 7
Shires	738,824	24,532	763,356	1 2 1
Metropolitan water and sewerage charges	1,177,596	...	1,177,596	1 2 3
Hunter District water and sewerage charges.	125,519	...	125,519	1 0 2
Grafton and South Grafton Water Board	4,675	...	4,675	0 13 8
Total	£ 3,747,517	238,909	3,986,426	2 0 2

WATER SUPPLY FOR COUNTRY TOWNS.

The Country Towns Water Supply and Sewerage Acts of 1880, 1894, and 1905 were passed with the object of assisting councils to construct general systems of water supply and sewerage, and these Acts were repealed by the Local Government Act of 1919, but all liabilities to the Government incurred under the former Acts are not affected, and all by-laws made are still in force. At the end of June, 1920, fifty-nine municipal councils had availed themselves of the privilege offered as regards the water service, and works were under construction in other municipalities.

The amount required for carrying out the works is advanced by the State. The Council, however, has the option of supervising and constructing the works, failing which the Government undertakes these duties. The sum advanced is repayable by instalments, with interest at a rate to be fixed, on the unpaid balances, the first payment to be made twelve months after the date of the transfer of the works, and the number of yearly repayments was fixed at a maximum of 100. The Act also provides for the issue of licenses, for the recovery of rates, for making by-laws for the assessment of lands, and for other purposes. The total amount of debts owing by municipalities on the 30th June, 1920, was £1,414,782, and the aggregate annual instalment repayable was £52,887. The last-mentioned

sum is approximate only, as in a few cases the payment has not been definitely fixed.

The combined revenue accounts of the municipalities which maintain waterworks, for the year ended 31st December, 1919, are shown below:—

Expenditure.				Income.			
			£				£
Management			19,101	Rates levied... ..			84,020
Working and maintenance			48,892	Meter rents			944
Repairs and renewals			9,916	Water sales			34,942
Interest payable to Government... ..			41,418	Garden charges, &c.			9,223
Other... ..			7,168				
Balance			2,634				
Total			£129,129	Total			£129,129

With regard to the expenditure, management charges accounted for 15·1 per cent., working and maintenance for 38·7 per cent., repairs and renewals 7·8 per cent., interest payable to Government 32·7 per cent., and miscellaneous items 5·7 per cent.

The income figures show that rates contributed 65·1 per cent. of the receipts, meter rents 0·7 per cent., water sales 27·1 per cent., and garden charges, &c., 7·1 per cent.

The combined balance-sheet on 31st December, 1919, was as follows:—

Liabilities.				Assets.			
			£				£
Capital Debt due to Government	1,174,627			Waterworks—plant, buildings, &c.		1,249,786	
Interest due to Government	42,702			Outstanding rates... ..		21,498	
Sundry creditors	44,151			Bank balances and cash in hand		19,001	
Excess of Assets	99,182			Stores and materials		5,151	
				Sundry debtors		31,939	
				War Loans, Fixed deposits (in- cluding interest)		33,287	
Total	£1,360,662			Total		£1,360,662	

The total amount advanced by the Government practically represents the present value of the services; but where the works were not constructed by the Government, the value is included as an asset of the loan fund. The amount of rates outstanding on the date mentioned was £21,498, while the bank balances, cash in hand, investment in war loans, and fixed deposits were £52,288. On the whole, the assets exceeded the liabilities by £99,182.

SEWERAGE AND DRAINAGE WORKS.

Only twenty municipal councils have taken advantage of the Act providing for the construction of sewerage and drainage works in country towns, and the capital debt and annual repayments on 30th June, 1920, were £474,953 and £19,966 respectively. Other sewerage systems are in existence in several places, but they have been constructed apart from the Act, and, with few exceptions, the operations have been on a minor scale.

Some of the municipalities do not levy special sewerage rates, and therefore do not keep a separate account. The revenue accounts of the other municipalities for the year ended 31st December, 1919, are shown below:—

Expenditure.				Income.			
			£				£
Management	...	...	3,315	Rates levied	...	...	26,728
Working and maintenance	...	...	6,668	Other	...	...	1,575
Repairs and renewals	...	...	312				
Interest payable to Government	...	...	11,960				
Other	...	...	465				
Balance	...	...	5,583				
Total	...	...	£28,303	Total	...	...	£28,303

Practically the only source of income is from rates, the other receipts representing contributions to works, sales of fittings, &c. Of the expenditure, management charges represented 14·6 per cent., working and maintenance 29·3 per cent., repairs and renewals 1·4 per cent., interest payable to Government 52·6 per cent., and other expenses 2·1 per cent.

The combined balance-sheet was as follows:—

Liabilities.				Assets.			
			£				£
Capital Debt due to Government	...	...	391,250	Works and Plant	...	...	395,194
Interest due to Government	...	...	10,225	Outstanding rates	...	...	7,454
Sundry creditors	...	...	3,769	Bank balance and cash	...	...	13,316
Excess of Assets	...	...	14,920	Stores and materials	...	...	1,593
				Sundry debtors	...	...	2,607
Total	...	...	£420,164	Total	...	...	£420,164

DRAINAGE TRUSTS.

In addition to the water and sewerage works shown in the foregoing tables, thirty-three trusts for reclamation of swamp and other lands were in operation on the 30th June, 1920, with a total length of 123 miles, the total area served being 134,273 acres. The total cost as gazetted was £118,862 and the annual payments were £6,960. The owners of the lands improved by these works are responsible for the repayment of the capital expenditure, and are also required to provide for the cost of maintenance and administration.

GAS-WORKS.

The Local Government Act authorises the construction of works for public lighting, and enables municipalities to provide private consumers with gas. In addition to the twenty-one municipalities supplying coal-gas, acetylene and other gas plants have been established in other municipalities.

The operations of the municipalities with coal gas-works in 1919 will be seen from the subjoined statements showing the Gasworks Trading Undertaking revenue account and balance-sheet, and the loan fund balance-sheet.

The following is the revenue account, and particulars for 1908 are appended for purposes of comparison:—

Expenditure.	1908.	1919.	Income.	1908.	1919.
	£	£		£	£
Manufacture	22,714	66,114	Private lighting ...	33,867	85,741
Distribution	1,525	8,059	Public lighting ...	7,652	13,565
Management expenses	3,904	16,712	Sale of residual products	4,142	10,292
Public lighting ...	1,700	4,665	Other	1,742	570
Other	2,457	1,512			
Balance	15,103	13,106			
Total ...	£ 47,403	110,168	Total ...	£ 47,403	110,168

On the total operations for 1919 there was a gross profit of £13,106, none of the municipalities showing a loss. The manufacture of gas accounted for 68·1 per cent. of the expenditure, as compared with 70·2 per cent. in 1908, and private lighting for 77·8 per cent. of the income, as against 71·5 per cent. in 1908.

The gross profit in 1919 was reduced in the Net Revenue Appropriation Account by charges amounting to £16,066. Transfers to loan and other funds included £4,205 for payment of interest, and £11,861 for other purposes, and the credit balance carried forward amounted to £38,809.

The balance-sheet of the Gasworks Trading Undertakings, exclusive of loans, for 1919, is given below:—

Liabilities.	Assets.
	£
Due to other Funds <small>VER</small>	25,485
Sundry creditors	19,933
Reserves	16,978
Excess of Assets	98,593
Total	£160,989
	£
Buildings, land, stock, plant, &c.	124,008
Sundry debtors, including amounts due from other funds	25,461
Fixed deposits	1,783
Bank balance and cash	9,737
Total	£160,989

The total excess of assets amounted to £98,593, to which each municipality, with two exceptions, contributed.

The balance-sheet of the Loan Fund shows that the assets exceeded the liabilities by £66,188. Added to the credit balance of £98,593 shown in the Trading Undertaking balance-sheet, this makes a total excess of assets of £164,781 in the Gasworks Funds.

ELECTRICITY WORKS.

The following councils have erected electric lighting plants:—Sydney, Albury, Broken Hill, Corowa, Goulburn, Inverell, Junee, Moss Vale, Murrumbidgee, Narrandera, Newcastle, Penrith, Tamworth, Temora, Tenterfield, and Young.

The following statement shows the results of the operations of the electricity works in 1908 and 1919 in respect of the municipalities mentioned above, with the exception of the City of Sydney electric lighting undertaking, which has already been dealt with:—

Income.	1908.		1919.		Expenditure.	1908.		1919.	
		£		£			£		£
Private lighting	6,779	£	54,385	£	Generation	6,878	£	48,375	£
Public lighting	9,366		12,457		Distribution	1,468		10,590	
Power supply	504		24,803		Management, &c.	934		15,090	
Rents of meters, &c.	133		3,532		Special charges	952		1,822	
Other	1,819		4,683		Public lighting	690		2,425	
					Other	2,469		308	
					Balance	5,201		21,250	
Total	£ 18,601		99,860		Total	£ 18,601		99,860	

Generation of electricity is the largest item of expenditure, accounting in 1919 for 61·5 per cent. of the whole. Distribution of the current cost 13·5 per cent., management 19·2 per cent., and other expenses 5·8 per cent. The gross profit of this concern to the combined municipalities was £21,250, and after deducting amounts transferred to the net revenue appropriation account, viz., interest £3,294, redemptions and sinking funds £5,364, and miscellaneous £5,881, a total of £14,539, the net profit was £6,711.

The balance-sheet of the Trading Fund for 1919, exclusive of loans, was as follows:—

Liabilities.				Assets.			
			£				£
Due to other funds... ..	31,275			Materials, stock, &c.	31,734		
Sundry creditors... ..	13,521			Sundry debtors... ..	32,075		
Excess of Assets... ..	45,594			Fixed deposits, bank balance, and cash	26,581		
Total	£ 90,390			Total	£ 90,390		

Only four municipalities showed an excess of liabilities, small in each case, and the position is therefore satisfactory.

The total transactions of the Electricity Works Funds show an excess of assets of £108,261, consisting of £45,594 in the Trading Undertaking balance-sheet shown above, and of £62,667 in the Loan Funds.

BOARDS AND TRUSTS.

In addition to the ordinary forms of municipal local government, there are various boards and trusts with local jurisdiction. The control of the water supply and sewerage of the Metropolitan and Hunter districts is placed under separate Boards. The Metropolitan and the Country Towns Water Supply and Sewerage Acts, the Fire Brigades Act, the Sydney Harbour Trust Act, the Metropolitan Traffic Act, and the Motor Traffic Act, were all passed with the object of extending the principle of local government, and Boards have been established to carry out the provisions of some of these Acts.

The Metropolitan Board of Water Supply and Sewerage was established in 1887, the Hunter District Board in 1892, and the Sydney Harbour Trust in the year 1900.

In 1900 the Metropolitan Traffic Act was passed, which gives the complete control of street traffic and the licensing of public vehicles, drivers, and conductors to the Inspector-General of Police, and the Motor Traffic Act of 1909 places the supervision of motor vehicles under the same authority. Further information regarding licenses and fees is published in the chapter of this Year Book treating of "Police and Prison Services."

BOARD OF FIRE COMMISSIONERS.

The Fire Brigades Act, 1909, which repealed the Act of 1902, applies to the City of Sydney, to forty-six suburban municipalities, to eighty country municipalities, and to parts of eleven shires, and the operations of the board may be extended to other districts by proclamation. At the end of 1919 the districts embracing the municipalities and shires numbered eighty-two. Particulars relating to the financial transactions of the board will be found in the chapter of this publication dealing with "Private Finance."

The calls attended during 1919 numbered 2,496, of which 1,720 were in the Sydney district. Particulars are shown below:—

Calls.	Sydney District.	Country Districts.	Total.
False alarms	231	63	294
Chimney alarms	31	21	52
Fires—Slight	1,421	585	2,006
„ Serious	10	3	13
„ Total destruction... ..	27	104	131
Total	1,720	776	2,496

METROPOLITAN BOARD OF WATER SUPPLY AND SEWERAGE.

In March, 1888, the Government passed an Act establishing a Board of Administration, under the title of the Metropolitan Board of Water Supply and Sewerage, to regulate the water supply and sewerage services in the county of Cumberland, including those under the control of the City Council. The management of the water service was transferred to the Board in May, 1888, and of the sewerage in September, 1889. The total length of water mains taken over was 355 miles, and on 30th June, 1920, this had increased to 2,772 miles, inclusive of trunk and arterial mains. There were 70½ miles of sewers in 1889, lengthened to 1,161 miles of sewers, and 63 miles of stormwater drains in 1920.

The Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities within the county of Cumberland supplied with water. The Board is subject to the general control of the Minister for Works—a provision considered necessary, as the Government advances the whole of the money for the construction of the works, the amount so advanced constituting part of the public debt of the State.

METROPOLITAN WATER SUPPLY.

As early as 1850 authority was given by the Legislative Council to the City Corporation for the construction of water and sewerage works, and a system of water supply from the Lachlan, Bunnerong, and Botany Swamps was adopted. This service has since been superseded by the Upper Nepean system.

The sources of supply under the existing system are the waters of the Nepean, Cataract, and Cordeaux Rivers, draining an area of 347 square miles, a catchment enjoying a copious and regular rainfall. The off-take works are built at a height of 437 feet above the level of the sea, and the water flows by means of tunnel, open canal, and wrought-iron aqueducts to Prospect Reservoir, a distance of 40 miles from the farthest source of supply. The conduits above Prospect Reservoir have a maximum delivery of 150,000,000 gallons per day, and for 10 miles below this reservoir the capacity of the canals and pipes is 50,000,000 gallons. For the last 11 miles the water is conveyed by two 48-inch mains. In this work there are 63½ miles of tunnels, canals, and pipes.

Notwithstanding the size of Prospect Reservoir, it was found in 1902—a very dry year—that the supply was not sufficient for the growing needs of the metropolis. The Government therefore decided to build the Cataract Dam, which was completed in 1908, the catchment area above the dam being about 50 square miles. The water flows from this dam down the Cataract River to a weir at Broughton's Pass, where it enters a tunnel previously existing, and is conveyed by a system of open canals to the Prospect Reservoir. The total distance from Cataract to Sydney, *via* Prospect, is 66½ miles.

In addition to the works referred to, further contracts have been made especially with regard to the completion of the Cordeaux and other dams, and extensions and duplications of existing mains, which will considerably benefit the existing supplies, especially the western suburbs and Manly systems.

The dimensions of the Prospect and Cataract reservoirs are as in the following statement:—

Dam.		Height above Sea-level.	Area.	Capacity.	Length of Dam.	Width at top.	Height.
		ft.	acres.	gallons.	ft.	ft.	ft.
Prospect	... ..	196·7	1,266½	11,029,180,000*	7,300	30	85½
Cataract	... ..	950	2,200	20,743,196,475	811	16½	160

* When full, about half this quantity is available by gravitation.

From Prospect the water flows 5 miles by open canal to the Pipe Head Basin, thence 5 miles by 6-foot wrought-iron and steel pipes to the Potts'

Hill Balance Reservoir, which has a capacity of 100,000,000 gallons, and covers $24\frac{1}{2}$ acres. This reservoir was designed to tide over any interruption in the supply from Prospect, as well as to prevent fluctuation at the head of pressure. A by-pass is laid along the floor to enable mains to deliver water to Sydney direct.

At Potts' Hill the water passes through a series of copper-gauze screens, and is then conducted by two 48-inch mains and three smaller mains to the reticulated area south of Port Jackson. At Lewisham a bifurcation takes place in one of the 48-inch mains; one branch supplying the Petersham Reservoir, the other continuing to Crown-street. The Petersham Reservoir is 166 feet above high-water mark, is built of brick, and has a capacity of 2,157,000 gallons. The other 48-inch main, laid in 1893, delivers water direct from Potts' Hill to Crown-street. These two trunk mains are connected at Petersham as an intermediate spot. The Crown-street Reservoir is 21 miles from Prospect. It is of brick, and contains 3,250,000 gallons, the top water-level being 141 feet above high-water mark.

On account of the elevation of parts of the reticulated area, pumping is necessary for the purpose of supplying the upper zones, and no less than 10,379 million gallons were raised at the various stations during the twelve months ended June, 1920, representing 62 per cent. of the Prospect Reservoir consumption. At Crown-street is situated the main pumping station, where are erected three sets of compound high-duty pumping engines. A covered reservoir, of a capacity of 18,500,000 gallons, has been constructed in the Centennial Park at a height of 245 feet, for the purpose of ensuring a larger bulk of water within the city limits. At Ashfield there is a wrought-iron tank at an elevation of 223 feet above high water, with a capacity of 1,000,000 gallons. This tank is supplied from the Centennial Park Reservoir by a main, and provides for the higher part of the district. Vacluse Reservoir, at a height of 313 feet, is connected with Waverley, and supplies a district of about 1,200 acres around Vacluse and South Head. It has a diameter of 107 feet, a depth of 18 feet, and its capacity is 1,000,000 gallons. The No. 1 reservoir at Waverley has a capacity of 1,087,000 gallons; but the new reservoir erected in the Waverley Park, and occupying the highest point in the eastern suburbs of Sydney, has a capacity of 4,260,000 gallons; and surmounted on this structure, at an elevation of 396 feet above sea-level, is a smaller reservoir of 500,000 gallons capacity, for the service of residents in the high zone of the immediate vicinity.

North Sydney receives its supply from Potts' Hill, *via* Ryde, where there is a reservoir containing 2,000,000 gallons, from which the water is pumped into a 1,000,000-gallon tank at Ryde village, 234 feet above sea-level, and, by a continuation of the same main, into a pair of tanks, of a joint capacity of 3,000,000 gallons, at Chatswood, at an elevation of 370 feet above high-water mark. Water can be lifted direct from Ryde to Wahroonga and Pymble, or may be re-pumped from Chatswood, where a small pumping station has been erected. There are three tanks (one of them being of 1,000,000 gallons, one of 250,000 gallons, and one of 40,000 gallons capacity) at Wahroonga, $7\frac{1}{2}$ miles distant, whence the water flows as far as Hornsby, where there is a tank of 1,000,000 gallons capacity, 13 miles to the north-west of Port Jackson. At a height of 567 feet a concrete reservoir of a capacity of 500,000 gallons has been constructed at Pymble, and during the past year a second reservoir with a capacity of 6,905,160 gallons was brought into operation. From these reservoirs the districts between Pymble and Chatswood are served, thus reducing the abnormal pressure by reason of the supply being from so great a height as Wahroonga.

From the Ryde tank the districts of Ryde, Gladesville, and Hunter's Hill are supplied; while a 9-inch main extends over the Parramatta and Iron Cove bridges to supply Balmain, at which suburb there is now a reservoir with a storage capacity of 2,376,250 gallons. An elevated tank, at a height of 354 feet, with a capacity of 72,800 gallons, and a reservoir, with a capacity of 1,925,000 gallons, 302 feet above sea-level, have been erected at Mosman.

The districts of Campbelltown and Liverpool are supplied from the main canal by gravitation. At the latter place, a 4,000,000-gallon earthen reservoir has been constructed, and a tank with a capacity of 250,000 gallons, for the purpose of tiding over any interruption in the flow from the canal. Other districts lying nearer Sydney, viz., Smithfield, Granville, Auburn, and Rookwood, are also supplied *en route*; and at Smithfield there is a 100,000-gallon concrete tank, the top water of which is 175 feet above sea-level. At Penshurst there is a tank 270 feet above sea-level, with a capacity of 1,000,000 gallons, and one 300 feet high, capable of holding 1,500,000 gallons. Works for the supply of water to the towns of Camden and Narellan, from a point on the canal near Kenny Hill, were completed in October, 1899. In 1893, the Board assumed control of the Richmond waterworks, in 1902 of the Manly works, and in 1903 of the Wollongong works. Manly is also connected with the metropolitan system by a main from Mosman, crossing Middle Harbour.

The following statement shows the number of houses in the metropolitan area supplied with water in 1911 and during the last five years.

Year ended 30th June.	Houses Supplied.	Average Daily Supply.	Total Supply for Year.	Average Daily Supply	
				Per House.	Per Head.
	No.	gallons.	gallons.	gallons.	gallons.
1911	139,237	29,006,700	10,587,434,000	208	41·7
1916	183,598	39,380,000	14,374,000,000	214	42·9
1917	193,643	39,637,128	14,467,352,000	204	40·9
1918	196,685	41,358,989	15,096,031,000	208	41·6
1919	204,308	45,557,101	16,628,342,000	223	44·6
1920	212,046	48,021,243	17,527,754,000	226	45·3

From 1910 to 1917 inclusive, the water rate levied on the assessed annual value was 6d. in the £ and the meter charges were 11d. per 1,000 gallons up to 10,000,000, 10d. from 10 to 20 millions, and 9d. over 20 millions. During 1918 the first-mentioned rate was increased to 6½d., but the meter charges were not altered. During 1919 a further increase of 1d. in each case was imposed, and in 1920 another addition was made, and the rate now levied is 9d. in the £ on the assessed annual value, while the charge per meter is 13d. per 1,000 gallons. The revenue from the Water Service Branch during the year ended 30th June, 1920, was £664,975, and the expenditure including interest on capital, £724,789. The net revenue showed a return of 3.89 per cent. on the capital debt of £9,584,723.

The following statement gives the financial transactions of the Metropolitan Water Supply in 1911 and in each of the last five years; during

those five years the Richmond and the Wollongong water supply systems are included.

Year ended 30th June.	Capital cost.	Revenue.	Working expenditure.	Interest.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
	£	£	£	£	per cent.	£
1911	5,420,813	299,442	99,355	192,486	3·69	7,601
1916	7,192,472	470,744	165,210	261,335	4·24	44,199
1917	7,979,120	479,290	182,087	314,659	3·72	17,456*
1918	8,472,700	523,979	195,448	343,716	3·87	15,185*
1919	8,900,391	627,287	219,322	377,886	4·58	30,079
1920	9,584,723	664,975	291,618	433,171	3·89	59,814*

* Loss.

THE HUNTER DISTRICT WATER SUPPLY.

The water supply works of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892, under the authority of a special Act, a Board was established on similar lines to those of the Metropolitan Water and Sewerage Board, the number of members being the same—three being nominated by the Governor, one elected by the Municipal Council of Newcastle, two by the adjacent municipalities, and one by the municipalities of East and West Maitland and Morpeth. The following districts are within the area of the Board's jurisdiction:—

Municipalities—

Adamstown, Carrington, Greta, Hamilton, Lambton and New Lambton, East and West Maitland, Merewether, Morpeth, Newcastle City, Wallsend, Waratah, Wickham.

Shires—

In Bolwarra Shire: Bolwarra, Lorn.

In Cessnock Shire: Aberdare, Abermain, Abermain Government Township, Cessnock, South Cessnock, Bellbird, Church Hill, Hebburn, Heddon Greta, Homeville, Kearsley, Kurri Kurri, Mayfield, Neath, Oakhampton, Rutherford, Telarah, Weston.

In Lake Macquarie Shire: Argenton, Boolaroo, Spier's Point, Teralba, Toronto, West Wallsend.

In Tarro Shire: Hexham and Ash Island, Minmi, Morpeth Road, Pelaw Main, Stanford Merthyr, Tenambit.

The Government Railways and Tramways properties, thirteen in number, are also served by the Board.

The supply of water for the district is pumped from the Hunter River, about a mile and a half up stream from the Belmore Bridge, West Maitland. The pumping engines are situated above flood-level, on a hill about 44 chains from the river. At the pumping station there is a settling tank of 1,390,500 gallons; also six filter-beds, 10,000 square feet each, and one of 15,000 square feet, a clear-water tank of 589,500 gallons capacity, and a storage reservoir of 172,408,100 gallons available capacity. The filtered water is pumped from the clear-water tank into two summit reservoirs, one at Rutherford and one at Buttai. The former, connected by a 10-inch and 12-inch main, with a capacity of 500,000 gallons, supplies East Maitland, West Maitland, Morpeth, Lorn, Bolwarra, Campbell's Hill, Rutherford, and neighbouring places. Buttai Reservoir is fed by two rising mains, one a

riveted steel pipe, 20½ inches diameter, the other a 15-inch cast-iron main, 5½ miles in length; it has a capacity of 1,150,000 gallons, and supplies New-castle and environs. Fifteen district reservoirs, which are supplied from Buttai, eleven by gravitation and four by re-pumping, receive water for distribution.

The length of the mains when the Board was established was 134 miles; at 30th June, 1920, it had been increased to 449 miles.

Particulars relating to the water supply of the Board for 1911 and the past five years are given below. A water rate of 10d. in the £ is payable on the assessed annual value of all properties over £12, but if valued at less than £12, the rate is 10s. per annum. The charge by meter is 2s. per 1,000 gallons, and extra charges are made for water used for other than domestic purposes, the rates on which services range from 10s. to 40s. per annum.

Year ended 30th June.	Properties Supplied.	Supply.		Average Daily Supply	
		Daily average.	Total.	Per Property.	Per Head.
	No.	gallons.	gallons.	gallons.	gallons.
1911	17,164	1,849,900	675,214,000	108	21·5
1916	22,056	3,507,500	1,283,754,000	159	31·8
1917	22,604	3,435,336	1,253,898,000	152	30·3
1918	23,257	3,442,816	1,256,628,000	148	29·6
1919	24,079	4,065,223	1,483,807,000	169	33·8
1920	24,864	4,319,414	1,580,906,000	174	34·7

The funds necessary for the maintenance and management of the water supply and sewerage services, as well as the sum required to pay interest on the capital debt, are obtained by rates levied on the properties situated in the districts benefited by the systems. The assessments of the Municipal Councils are generally accepted by the Boards as the values on which to strike their special rates. In cases of heavy consumption of water, a charge is made according to the quantity used; but fixed charges are imposed for the use of water in certain trades and callings, for gardens, and for animals. The following table shows the financial position for 1911 and the last five years:—

Year ended 30th June.	Estimated Capital Debt.	Revenue.	Expenditure.*	Return on Estimated Capital Debt.
	£	£	£	per cent.
1911	495,747	45,711	45,420	3·55
1916	634,265	79,507	58,321	6·75
1917	704,305	78,040	64,434	5·44
1918	832,064	80,607	69,933	4·43
1919	939,685	91,204	76,297	4·76
1920	1,045,504	97,469	88,488	3·98

* Including Interest and Instalments to Sinking Funds for Renewal of Works.

METROPOLITAN SEWERAGE WORKS.

The first sewerage works at Sydney were begun in 1853; and in 1889, the date of transfer to the Board, there were 70½ miles of old city sewers in existence. The original scheme was designed on the "combined" system, by which street-surface water as well as sewage was removed. The works comprised five main outfalls discharging into the harbour at Blackwattle Bay, Darling Harbour, Sydney Cove, Fort Macquarie, and Woolloomooloo Bay. The pollution of the harbour, consequent on these outlets, led to the appointment of a Commission of Inquiry, and the result was the adoption of the present system.

This system consists of three main outfalls—the northern, southern, and western; the northern discharges into the Pacific Ocean near Bondi, and the southern and the western discharge into the sewage farm at Webb's Grant, near Botany Bay. The northern system receives sewage from Waverley, Bondi, Woollahra, Double Bay, Darling Point, Rushcutter's Bay, Elizabeth Bay, and parts of Woolloomooloo.

The southern main outfall commences at a point on the north side of Cook's River, near Botany Bay, and receives the drainage from Alexandria, Waterloo, Erskineville, Newtown, and portions of the Surry Hills district. The inlet-house, into which the sewage passes, is fitted with the latest machinery for straining the sludge, and for ejecting the fluid after filtration. Storm-water channels are also constructed at various points to carry off the superfluous water after heavy rainfalls.

The western outfall starts at a receiving chamber in the Rockdale end of the sewage farm, from which it runs to another chamber about a quarter of a mile to the north-east of Muddy Creek, and thence to a penstock chamber at Marrickville on aqueducts over Wolli Creek and Cook's River. The latter chamber receives the discharges from the eastern, northern, and western branch sewers, and drains part of Marrickville, Petersham, Stanmore, Newtown, Leichhardt, Annandale, Camperdown, Summer Hill, Ashfield, Canterbury, Enfield, Burwood, Five Dock, and Concord. A branch outfall has been constructed at Coogee, which discharges into the ocean, and serves the districts of Randwick, Kensington, and Coogee. On the northern side of the city extensive works have been completed; in the borough of North Sydney septic tanks were built in 1899 to deal with the sewage matter; at Middle Harbour, Mosman, and Manly provision has been made for the sanitation of the districts, and a further extensive scheme is now in progress.

The length of sewers in the Metropolitan District and the houses served during 1911 and the last five years are shown below:—

Year ended 30th June.	Houses connected.	Length of Sewers.	Length of Storm-water Drains.	Length of Ventilating Shafts.	Length of Sewers Ventilated.
	No.	miles.	miles.	feet.	miles.
1911	108,012	825·20	48·85	376,900	795
1916	130,638	1,022·19	54·98	443,134	953
1917	135,588	1,085·45	59·55	475,474	1,030
1918	139,777	1,113·34	60·07	479,464	1,039
1919	141,798	1,131·72	60·11	484,798	1,052
1920	145,304	1,161·94	63·73	503,362	1,096

The following statement gives the financial transactions relating to Metropolitan Sewerage during 1911 and the last five years:—

Year ended 30th June.	Capital cost.	Revenue.	Working expenditure.	Interest.	Net return after paying working expenses.	Net profit(+) or loss (-) after paying working expenses and interest.
	£	£	£	£	per cent.	£
1911	4,496,290	234,208	79,636	159,070	3·43	(-) 4,498
1916	6,114,072	363,799	120,244	224,551	3·98	(+) 19,004
1917	6,722,313	387,333	138,417	269,723	3·70	(-) 20,807
1918	6,870,927	429,668	147,444	283,661	4·10	(-) 1,437
1919	6,963,573	497,406	151,951	291,346	4·96	(+) 54,109
1920	7,124,813	512,621	202,360	328,239	4·39	(-) 17,978

The sewerage rate for the city of Sydney and the eastern suburbs up to 1903 was 7d. in the £, the northern and the western suburbs being rated at 1s., but in 1904 a uniform rate of 11d. was imposed. In 1907 it was reduced to 10d. in the £, and in 1908 to 9½d., the latter being the rate ruling up to the 30th June, 1917; on the 1st July, 1917, it was increased to 10d., and a further increase to 11d. was made on 1st July, 1918, and this rate continued during 1919, but from the 1st July, 1920, the amount levied was 12d. In addition to the sewerage rate already mentioned, storm-water drainage rates are imposed in certain proclaimed areas, the amounts ranging from ½d. to 7d. in the £.

NEWCASTLE AND SUBURBS SEWERAGE WORKS.

The sewerage scheme for the Hunter District has its outfall at Merewether Gulf, some distance south from Newcastle. Two gravitation sewers which branch from the main, one at Merewether and the other in the city of Newcastle, have been completed and transferred to the control of the Hunter District Water and Sewerage Board, also the reticulation sewers for the areas capable of being drained by gravitation. The districts served so far are Newcastle, Adamstown, Hamilton, Lambton, New Lambton, Merewether, Waratah, and Wickham. The following table shows information relating to sewers under the control of the Board in 1911 and during the last five years:—

Year ended 30th June.	Properties connected.	Length of Sewers.	Ventilating Shafts.	Length of Sewers Ventilated.
	No.	miles.	No.	miles.
1911	1,465	29·91	285	17·68
1916	7,240	83·81	808	83·81
1917	8,284	103·10	815	103·10
1918	9,333	117·50	819	117·50
1919	10,365	123·00	830	123·00
1920	11,338	132·90	835	132·90

The particulars of cost, revenue, and expenditure in the same years are shown below:—

Year ended 30th June.	Capital cost—interest-bearing.	Revenue.	Working expenditure (including Sinking Fund).	Interest.	Net return after paying working expenses.	Net profit (+) or loss (-) after paying working expenses and interest.
	£	£	£	£	per cent.	£
1911	170,151	8,975	4,217	2,902	2·79	(+) 1,856
1916	411,732	18,582	9,820	11,623	2·13	(-) 2,861
1917	454,638	21,408	12,051	14,512	2·05	(-) 5,155
1918	475,239	24,215	13,866	18,831	2·17	(-) 8,482
1919	514,953	26,721	14,607	20,383	2·35	(-) 8,269
1920	553,836	28,050	17,683	22,943	1·87	(-) 12,576

The sewerage rate—1s. in the £ on the annual rental value—came into force on 1st January, 1909, and this was the rate ruling in 1920.

WATER AND SEWERAGE SERVICES.

The position of the combined Water and Sewerage services of the Metropolitan and of the Hunter Districts for the five years ended 30th June, 1920, are shown below. For the years 1917 to 1920 the figures of the Metropolitan District include the Richmond and the Wollongong water supply systems, the accounts of which were both formerly kept separate. The working expenses for the Hunter District include the instalment paid to Sinking Fund for reconstruction of renewable works.

Year ended 30th June.	Capital Cost.	Revenue.	Working Expenses.	Interest on Capital.	Net return after paying working expenses.	Net profit after paying working expenses and interest.
Metropolitan District.						
	£	£	£	£	per cent.	£
1916	13,306,544	834,543	285,454	485,886	4·13	63,203
1917	14,701,437	866,623	320,504	584,382	3·71	(-) 38,263
1918	15,343,627	953,648	342,892	627,377	3·98	(-) 16,621
1919	15,863,964	1,124,693	371,273	669,232	4·75	84,188
1920	16,709,536	1,177,596	493,978	761,410	4·09	(-) 77,792
Hunter District.						
1916	1,045,997	98,089	46,454	33,310	4·93	18,325
1917	1,158,943	99,448	51,746	39,251	4·12	8,451
1918	1,307,303	104,822	57,611	45,019	3·61	2,192
1919	1,454,638	117,925	61,099	50,188	3·91	6,638
1920	1,599,340	125,519	73,554	55,560	3·25	(-) 3,595

(-) Denotes net loss.

GRAFTON AND SOUTH GRAFTON WATER BOARD.

The Grafton and South Grafton Water Board was constituted in 1918, and, although administered by the Municipalities of Grafton and South Grafton, its accounts are kept separate. During the year ended 31st December, 1919, the expenditure of the Board amounted to £3,957, of which £3,294 was interest payable on the capital debt to the Government, and the income amounted to £5,313, showing a profit of £1,356. The capital debt at the end of the year was £82,929, against which the Board held assets to the value of £90,176; other liabilities amounted to £3,376, making a total liability of £86,305. It will thus be seen that there was an excess of assets of £3,871.

ROADS, BRIDGES, AND FERRIES.

Main roads in New South Wales were first formed to connect the towns of Parramatta, Liverpool, Windsor, and Penrith with Sydney. All access to the interior of the country was considered barred by the apparently insurmountable sandstone precipices rising on the farther side of the Nepean, and until the year 1813 no effort to cross the mountains was attended with success. In that year Blaxland, Lawson, and Wentworth succeeded in crossing the range, and discovered the rich pastures of the Bathurst Plains. Shortly after their return the construction of a track was begun, and the Great Western road was completed as far as Bathurst on 21st January, 1815.

The access to the fertile lands surrounding Bathurst, by means of this mountain road, gave such an impetus to settlement that it was found impossible to keep pace in the matter of road-making with the demands of the settlers. The authorities, therefore, for many years confined their attention to the maintenance of roads already constructed, and extended them in the direction of the principal centres of settlement. Had the progress of settlement subsequent to 1850 been as slow as that of the preceding years, this system would have sufficed; such, however, was not the case. The discovery of gold completely altered the circumstances, and during the period of excitement and change which followed, so many new roads were opened, and traffic increased to such an extent, that the general condition of the public highways was by no means good. The modern system of road-making may be said to have begun in the year 1857, consequent on the creation of the Roads Department; it was not, however, until 1864 that the whole of the roads, both main and subordinate, received consideration by the Government.

The principal main roads are:—

Northern Road—length, 405 miles, from Morpeth to Maryland, on the Queensland border.

Western Road—length, 513 miles, from Sydney, through Bathurst, and many other important townships, to the Darling River, at Bourke.

Southern Road—length, 385 miles, from Sydney through Goulburn and other important townships to the Murray River to Albury.

South Coast Road—length, 250 miles from Campbelltown, through Coal Cliff, and along the South Coast generally, as far as Bega, whence it extends as a minor road to the southern limits of the State.

None of the roads has so great an importance as it possessed before the opening of the railways, which for the greater part follow the direction of the main roads, and attract nearly all the through traffic. Thus many roads on which heavy expenditure has taken place have been more or less superseded, and the opening of new roads has been rendered necessary to act as feeders to the railways from outlying districts.

Control of Roads and Bridges.

Prior to 1906, when the Local Government Act came into effect, the State was divided into road districts, each of which was placed under the supervision of an officer directly responsible to the Commissioner for Roads. These officers had under their care the greater part of the roads and bridges of the State outside the incorporated areas, as well as a portion of those within such limits. The road trusts had the supervision of the expenditure of certain grants for the maintenance of roads in districts chiefly of minor importance, as well as some important roads in the vicinity of the metropolis.

The administration of the works under the control of the Roads and Bridges Department (with the exception of those in the unincorporated areas of the Western Division, and certain bridges and ferries proclaimed as "national works") was transferred by the operation of the Local Government Act to the shires and municipal councils.

The Act authorises payments by way of endowment to municipalities and shires, the minimum endowment payable to shires being fixed at £150,000 per annum, to be distributed in accordance with a classification made every third year. The Minister may withhold payment of endowment from a council if his requirements in respect of main roads are not satisfied.

Between 1906 and 1912 the amount of endowment allotted to shires rose from £150,000 to £360,000 approximately, but the expenditure on the important roadways has not been sufficient to maintain them in a serviceable condition. It was decided, therefore, to amend the conditions under which Government assistance is granted, by reducing the amount of general endowment, and distributing an additional sum as a special endowment for the upkeep of the main roads.

Length of Roads.

The length of roads under Government control on 30th June, 1906, prior to the transfer to the councils, was 48,311 miles, while 195 miles were under the care of road trusts, and 1,338 miles within the municipal areas were subsidised by the Government, making a total of 49,844 miles. There were also about 8,000 miles of roads and streets belonging to the municipal councils. Since 1906, statistics of roads, streets, bridges, and public ferries have been collected triennially, the date of the latest available returns being 1918. In that year the length of roads in the State was, approximately, 99,539 miles, of which 58 miles in shires were controlled by the Government, 10,214 miles by the municipalities, 83,309 miles by the shires, and 5,958 miles were in the unincorporated areas of the Western Division. The nature of these roads may be seen in the following statement:—

Divisions.	Metalled, Gravelled, Ballasted, &c.	Formed only.	Cleared only.	Natural surface.	Total.
	miles.	miles.	miles.	miles.	miles.
National	31	25	2	...	58
Municipalities	4,262	1,931	2,120	1,901	10,214
Shires	15,427	11,949	25,522	30,411	83,309
Western Division	176	117	2,999	2,666	5,958
Total	19,896	14,022	30,643	34,978	99,539

Bridges and Ferries.

Many of the earliest bridges erected in the State were built of stone, and are still in existence. Those erected in the period following the extension of settlement to the interior were principally of timber, and have since been replaced after an average life of about twenty-five years. Nearly all the large bridges of recent date are of iron and steel, and some of them have been erected under difficult engineering conditions, owing to the peculiarity of the river flow in certain parts of the country. The Councils are now empowered to control these bridges, with the exception of those classified as National works, which may be transferred by the Government at any time to the Council.

On 1st January, 1907, the bridges of 20 feet span and over, including those in course of construction, numbered 3,575. Of these, 256 bridges, with an aggregate length of 101,416 feet, which by reason of their cost, size, and extra-local importance constitute a strain on the resources of the local councils, were proclaimed as "national works," to be maintained by the Government.

Where local conditions and limited traffic have not favoured the erection of a bridge, a punt or ferry has been introduced. The most important ferries which are worked otherwise than by hand, have been proclaimed as national services. Prior to 1st December, 1907, it was the practice to charge a small fee for ferry transit; but on that date tolls were abolished, and public ferries are now free.

The latest particulars of the bridges, culverts, and ferries of the State are shown below:—

Classification.	Bridges over 20 feet span.		Culverts.		Ferries.
	Number.	Length.	Number.	Length.	Number.
		ft.		ft.	
National Works	282	108,034	...	...	17
Municipalities	729	39,761	4,367	131,471	11
Shires	3,567	219,643	34,557	314,079	98
Western Division (unincorporated)	97	13,166	209	2,035	4
Total	4,675	380,604	39,133	447,585	130

Government Expenditure on Roads, Bridges, etc.

Although the main roads have been superseded largely by the railways, they are still the sole means of communication throughout a large part of the interior, and serve as valuable feeders to the railway system. No revenue is derived directly from roads, but their indirect advantages to the country are very great.

In view of the transfer of the administration of roads and bridges, with the exception of those noted previously, from State to local government control, the following return will be of interest. It shows the Government

expenditure on works of a local character, such as roads, bridges, punts, ferries, public watering-places, &c., in various periods from 1905 to 1920.

Year ended 30th June.	Expenditure on Services.	Endowments and Grants, including Main Roads.			Total Expenditure.
		Shires.	Municipali- ties.	Total.	
	£	£	£	£	£
1905	495,672	...	7,048	7,048	502,720
1915	175,726	288,053	40,314	328,367	504,093
1916	114,011	333,048	62,457	415,505	529,516
1917	100,667	300,258	46,144	346,402	447,069
1918	102,896	305,445	44,870	350,315	453,211
1919	93,794	333,262	35,112	368,374	462,168
1920	160,679	296,511	56,366	352,877	513,556

PARKS AND RECREATION RESERVES.

It has always been the policy of the State to provide the residents of municipalities and shires with parks and reserves for public recreation. The city of Sydney contains within its boundaries a large extent of parks, squares, and public gardens, and suburban municipalities also are well served.

Full details regarding parks and recreation reserves in the city and suburbs of Sydney will be found in the part "Social Condition" of this volume.

In country districts, reserves have been proclaimed as temporary commons, and considerable areas have been dedicated from time to time as permanent commons attached to inland townships, which are otherwise well provided with parks and reserves within their boundaries.

LAND LEGISLATION AND SETTLEMENT.

AREA OF NEW SOUTH WALES.

THE area of New South Wales, including Lord Howe Island (5 square miles) and the Federal Capital Territory (about 928 square miles), as stated previously in this Year Book, is estimated at 310,372 square miles, or 198,638,080 acres, being a little over two and a half times the combined area of Great Britain and Ireland. Excluding the surface covered by rivers and lakes, the area within the boundaries of the State is 195,669,000 acres, or about 305,733 square miles, of which the greater portion has been alienated under various forms of tenure, classified as freehold or leasehold. The formal transfer on 1st January, 1911, of 576,000 acres at Yass-Canberra, and of 17,920 acres at Jervis Bay in 1915, to the Commonwealth Government as Federal Capital Territory, reduced the land surface of the State to 195,075,080 acres.

TERRITORIAL DIVISIONS.

Under various Acts the State is divided into three territorial divisions, Eastern, Central, and Western, the boundary lines running approximately north and south. The conditions of alienation and pastoral occupation of Crown lands differ in each of the three divisions of the State.

The Eastern and Central Divisions are subdivided into Land Districts, in each of which is stationed a Crown Land Agent, whose duty is to receive applications and furnish information regarding land. Groups of these districts are arranged in larger areas, under the control of Land Boards, whose decisions are subject to review by the Land Appeal Court, composed of a President and two Commissioners, whose awards in matters of administration have the force of judgments of the Supreme Court. Questions of law may be submitted to the Supreme Court, either on the written request of the parties, or by the Land Appeal Court. Control of the lands within the Western Division is vested in the Western Land Board, consisting of three Commissioners.

The Eastern Division has an area of 60,669,606 acres (exclusive of an area of 593,920 acres of Commonwealth territory), and includes a broad belt of land between the sea-coast and a line nearly parallel to it, thus embracing the coastal districts of the State, as well as the northern and southern tablelands. In this division is excellent agricultural land, and it includes all the original centres of settlement most accessible to the markets of the State.

The Central Division embraces an area of 57,055,846 acres, extending from north to south between the western limit of the Eastern Division to the Macintyre and Darling Rivers, Marra Creek, the Bogan River, and across to the River Lachlan, along the Lachlan to Balranald, and thence to the junction of the Edward River with the Murray. The area thus defined contains the upper basin of the Darling River in the northern part of the State, and the basins of the Lachlan, the Murrumbidgee, and other affluents of the Murray in the southern portions. The land in this division is still devoted mainly to pastoral pursuits, but about 2,500,000 acres are now cultivated for wheat in a normal season.

The Western Division is situated between the western limit of the Central Division and the South Australian border. It contains an area of 80,318,708 acres, watered by the Darling River and its tributaries, and is devoted to pastoral pursuits. Water conservation and irrigation may ultimately make agriculture possible over this large area, but legislation in regard to the occupation of the lands of the district is based upon the assumption that for many years to come there will be little inducement for agricultural settlement.

METHODS OF ACQUISITION AND OCCUPATION.

Under the Acts now in force, land in the Eastern and Central divisions of the State may be acquired by the following methods:—

(a) Under residential conditions.—

- (1) Conditional and additional purchase ;
- (2) Classified conditional purchase ;
- (3) Homestead Selection ;
- (4) Settlement purchase, under Closer Settlement Acts ;
- (5) Homestead farms ;
- (6) Suburban holdings ;
- (7) Irrigation farms ;
- (8) Returned Soldiers Special Holdings ;
- (9) Conditional purchase lease ;
- (10) Conditional lease ;
- (11) Residential on gold and mineral fields lease ;
- (12) Crown lease ;
- (13) Settlement lease.

(b) Under non-residential conditions,—

- (1) Conditional purchase, without residence
- (2) Improvement purchases on gold-fields ;
- (3) Auction sales ;
- (4) After-auction sales ;
- (5) Special sales, without competition
- (6) Exchange ;
- (7) Annual lease ;
- (8) Inferior lands lease ;
- (9) Occupation license ;
- (10) Scrub lease ;
- (11) Special lease ;
- (12) Improvement lease ;
- (13) Snow-lands lease ;
- (14) Week-end lease ;
- (15) Town lands lease ;
- (16) Special conditional purchase lease.

The maximum area which may be purchased conditionally differs in the Eastern and Central Divisions according to the method of acquisition shown in the statement above. In the Western Division land may be alienated by auction or occupied under lease.

Certain of the above tenures may be converted, under specified conditions, into all or portion of certain other tenures.

Conditional Purchase.

Unreserved Crown lands in the Eastern and Central Divisions not held under pastoral or other lease, are available for conditional purchase, and lands held under annual lease or occupation license may also be acquired in this way, if not otherwise reserved. Land under conditional lease in any division may be purchased conditionally by the leaseholder only. Lands within suburban boundaries or within population areas may be proclaimed as special areas, and are open to conditional purchase under the special conditions prescribed. The value of any improvements on a conditional purchase must be paid by the applicant.

A residential conditional purchase may be taken up by males of or over age 16, or by females of or over age 18, provided that a woman must be unmarried, or a widow, or judicially separated from her husband ; for a non-residential conditional purchase the minimum age limit is 21 years.

The minimum and maximum areas allowed for each class of conditional purchase are as follow :—

Class.	Division.	Minimum Area.	Maximum Area.
		acres.	acres.
Residential ...	Eastern ...	40	1,280
„ ...	Central ...	40	2,560
Non-residential...	Eastern ...	40	320
„ ...	Central ...	40	320
Special area ...	Eastern ...	...	320
„ ...	Central ...	...	640

With regard to special areas, both the minimum and maximum areas are subject to proclamation in the *Government Gazette*, and are, therefore, liable to limitation. Any conditional purchaser may take up the maximum area at once, or by a series of purchases at convenient intervals. With the exception of non-residential purchases, the specified maximum areas may be exceeded by means of additional holdings, but the area must not exceed a home-maintenance area. By this is meant, an area which, used for the purpose for which it is reasonably fitted, would be sufficient for the maintenance in average seasons and circumstances of an average family. Additional holdings need not necessarily adjoin the original holdings, but must be situated within a reasonable working distance.

Areas may be set apart for original holdings, or for additional holdings, but no such area may be selected under both classes of holdings. Values and rentals are specified in the official notices under the Act. Lands may be classified and set apart, by notification, at specified prices.

Applications for conditional purchase, or for additional conditional purchase, must be lodged with the Crown Lands Agent of the district in which the land is situated, and a deposit and survey fee paid at the same time. The statutory price of ordinary Crown lands is fixed at £1 per acre for residential conditional purchase, but in special areas and on lands within classified areas the price per acre may be either above or below that amount. The deposit on all residential conditional purchases is at the rate of 5 per cent. of the capital value, but on non-residential conditional purchases the price of the land is doubled, the deposit being at the rate of 2s. in the £ of such increased value ; at least one-tenth of the survey fee must be lodged with the application unless such fee has been paid by a previous holder, through whom the applicant claims title, and stamp duty must be paid. Deposit and survey fee may be dispensed with in connection with an

application for a holding within a classified area if such be lodged during the first week the land becomes available, but must be paid subsequently as directed by the Land Board. Under ordinary conditions the balance of purchase money, with interest at $2\frac{1}{2}$ per cent. per annum, is cleared-off by twenty-seven annual payments of 1s. per acre, and a subsequent final lesser payment. The first instalment is due on the expiration of three years from the date of the contract.

A resident conditional purchaser in certain circumstances may reduce his annual instalment of 1s. to 9d. per £, in which case it will take the selector about forty-one years to pay. Under special circumstances a similar privilege may be extended to conditional purchasers not in residence. By the Crown Lands Act Amendment Act of 1903, the rate of interest on the balance of purchase money was reduced from 4 to $2\frac{1}{2}$ per cent. per annum, being retrospective only in special circumstances.

Upon receipt of an application for a conditional purchase the Land Board may cause the land to be surveyed and a report to be supplied by the surveyor, and may either confirm or disallow the application. In case of confirmation a certificate is issued to the applicant.

The original conditional purchase must be occupied continuously by the selector for a period of five years, and residence must be commenced within three months after the application has been confirmed by the Land Board. Residence may be suspended conditionally, or remitted by the Land Board, for sufficient cause, for stated periods, or in certain circumstances may be effected on the holding of a member of the same family, or on another of applicant's holdings, or in a village or town, or elsewhere within reasonable distance. In certain cases a wife may carry out residence on her husband's holding, or, conversely, a husband may carry out residence on his wife's holding. Each additional conditional purchase or conditional lease is subject to the condition of residence indicated, but the place of residence may be on any block of the series, and the term may be reduced in certain circumstances, by the applicant's previous residence on the series. The Minister may permit improvements in lieu of residence where the unimproved value of the area is not greater than £300.

The selector must enclose his land, within three years after confirmation, with such a fence as the Land Board may prescribe; or he may substitute improvements in lieu of fencing. In such a case, permanent improvements, of the value of 6s. per £ of purchase money but not exceeding £384, are required within three years, and these improvements must be brought up to the value of 10s. per £ of purchase money, but not exceeding an aggregate value of £640, within five years from the date of confirmation. In the case of non-residential purchases, the land must be fenced within one year after date of confirmation, and within five years other improvements to the value of £1 per acre must be effected. Fencing may be superseded by other improvements equivalent to 30s. per acre, within five years after confirmation.

Under the Crown Lands Amendment Act, 1908, an original non-residential conditional purchase, with any additional non-residential conditional purchase made in virtue of it, may be converted into an original residential conditional purchase, provided that the five years' residence commences from the date of application for such conversion. This term of residence is subject to reduction, and all moneys previously paid are credited towards payment of the converted conditional purchase.

A conditional purchase, residential or otherwise, may be converted into a homestead farm under certain conditions.

Transactions in respect of conditional purchase applications and deeds issued from 1862 to 30th June, 1920, were as follows :—

Year.	Conditional Purchase— Applications made.		Conditional Purchase— Applications confirmed.		Conditional Purchases for which Deeds have Issued.		Conditional Purchases in existence.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.
		acres.		acres.		acres.		acres.
1862-1910	282,912	40,093,758	67,321	12,101,888	106,258	13,928,053	93,567	14,362,463
1911	1,602	221,537	1,613	227,520	4,657	632,738	93,403	15,614,086
1912	1,258	190,969	1,099	175,044	5,231	671,564	92,203	16,529,008
1913	783	103,844	839	105,167	3,265	406,019	92,183	17,307,305
1914	512	65,306	554	67,534	2,338	322,556	91,935	17,837,702
1915	362	46,175	287	35,249	2,354	304,012	90,904	18,035,210
1916	216	22,495	183	23,552	2,462	307,016	89,670	18,315,095
1917	168	25,761	108	13,025	2,881	357,228	88,493	18,693,429
1918	271	32,085	121	16,211	2,861	388,338	87,651	19,225,738
1919	511	75,370	201	24,911	3,698	559,779	86,293	19,436,856
1920	773	126,179	257	35,612	5,397	686,385	82,938	19,365,856
Total (as at 30th June, 1920)	289,368	41,003,479	72,538	12,825,713	141,402	18,564,288	82,938	19,365,856

In 1908 the Conversion Act was passed, and since 1909 the number of selections has been reduced by forfeitures, cancellations, conversions into homestead selections, &c., and increased by conversions from various other tenures under the Crown Lands Act, so that the land wholly alienated, or in process of alienation, by conditional purchase, on 30th June, 1920, amounted to 37,930,144 acres, contained in 224,340 purchases. Included in the foregoing are 141,402 completed purchases, covering 18,564,288 acres, upon which deeds have now been issued. The balance represents the number of purchases still in force, but upon which the conditions, payments, &c., have not yet been fulfilled, viz., 82,938 with an area of 19,365,856 acres.

Applications for conversion to mineral conditional purchase may, under the 1910 Act, be annulled or withdrawn, and all moneys, less authorised deductions for cost, refunded with the application.

Improvement Purchases.

Holders of miners' rights or of business licenses on a gold-field, being in authorised occupation by residence on land containing improvements, may purchase such land without competition. Improvements must include a residence or place of business, and be of the value of £8 per acre on town land, and of £2 10s. per acre on any other land.

During 1919-20, 70 applications were granted for a total area of 28 acres 1 rood and 6 perches, the total purchase price being £1,240.

Auction Sales and After-auction Purchases.

Crown lands are submitted for auction sale under two systems. Under the ordinary system the balance of purchase money is payable, without interest, within three months of the day of sale, while, under the deferred payment system, the balance is payable by instalments, with 5 per cent. interest, distributed over a period not exceeding ten years; in either case, not less than 10 per cent. of the purchase money must be deposited at the time of sale.

Auction sales are limited by law to 200,000 acres in any one year. Town lands may be sold in blocks not exceeding half an acre, at an upset price of not less than £8 per acre; and suburban lands must not exceed 20 acres in one block, the minimum upset price being £2 10s. per acre. Country lands may be submitted in areas not exceeding 640 acres, the upset price being not

less than 15s. per acre. The value of improvements on the land may be added to the upset price.

Town or suburban land or portions of country land of less than 40 acres each, which have passed at auction may be bought, with the Minister's consent, at the upset price; a deposit of 25 per cent. of such upset price is payable at the time of application, the balance being payable on the terms fixed for the auction sale.

Special Non-competitive Sales.

Any unnecessary road which bounds or intersects freehold land may be closed and sold to the freeholder at a price determined by the Land Board, and any unnecessary road which passes through land held under conditional purchase may be closed and added to the area.

Reservations are maintained in many Crown grants of land having water frontage, being usually 100 feet from high-water mark; but the Crown may rescind the reservation, and convey the land to the holder of the adjoining land, at a price to be determined by the Land Board.

The owner in fee-simple of land having frontage to the sea, or to any tidal water or lake, who desires to reclaim and purchase any adjoining land lying below high-water mark, may apply to the Minister for Lands to do so, except in the case of Port Jackson, the control of which is vested in the Sydney Harbour Trust. Reclamations which might interrupt or interfere with navigation are not authorised.

Land encroached upon by buildings erected on granted land, or land situated between granted land and a street or road, which forms, or should form, the way of approach to the granted land, or land to which no way of access is attainable, or land which is insufficient in area for conditional purchase, may be purchased by the owner in fee-simple of the adjoining land, at a price determined by the Board.

Exchange of Land between the Crown and Private Owners.

Before the granting of fixity of tenure in connection with pastoral leases, the lessees had made it a practice to secure portions of their runs by conditional purchases and purchases in fee-simple. The practice was disadvantageous to the public estate, because Crown lands were left in detached blocks severed by lessees' freehold properties; and the lessees realised that it would be convenient to them to gather their freeholds together in one or more consolidated blocks by surrender of the private lands in exchange for Crown lands elsewhere.

Under the provisions of the Crown Lands Consolidation Act, 1913, the Governor, with the consent of the owner, may exchange any Crown lands for any other lands of which a grant in fee simple has been issued.

The Governor may accept in exchange for Crown lands, lands in respect of which a balance of purchase money remains unpaid, if upon payment of such balance the right to a grant in fee simple becomes absolute. In any such case a grant of Crown lands in exchange will not be issued until the balance of purchase money has been duly paid.

Applications received under this head during the year 1919-20 numbered 52, and 99 applications were outstanding on the 30th June, 1919. Twenty-two applications, embracing 45,170 acres, were granted in 1919-20, and 21 were either refused or withdrawn, &c.

Homestead Selection and Homestead Grant.

The appropriation of areas for homestead selection was a prominent feature of the Act of 1895, the land chosen for subdivision being good agricultural land.

Under the Crown Lands (Amendment) Acts, of the years 1908 and 1912, a homestead selection or grant may be converted into a homestead farm, or a conditional purchase lease, or a conditional purchase, or a conditional purchase and conditional lease, provided the area contained in such conditional lease does not exceed three times the area in the conditional purchase.

Lands are not now made available for homestead selections, such tenure having been practically replaced by that of homestead farm. Applications dealt with subsequent to 1912, are either in connection with areas previously set apart for homestead selection, or as additional areas, principally the latter. A large number of persons have, however, selected under this form of holding, as will be seen from the following statement which shows the applications and confirmations in regard to homestead selections and homestead grants issued up to 30th June, 1920.

Year.	Homestead Selections.				Homestead Grants issued.	
	Applications.		Confirmations.		No.	Acres.
	No.	Acres.	No.	Acres.		
1895 to 1910 ... (Year ended 30th June)	9,059	3,582,134	7,059	2,555,805	4,028	1,628,177
1911	359	98,155	294	76,651	287	123,086
1912	537	119,278	466	94,641	196	88,517
1913	65	19,595	106	30,879	175	55,377
1914	19	4,941	22	5,707	231	39,231
1915	30	16,983	18	7,233	198	59,919
1916	8	3,141	17	7,559	161	48,479
1917	5	3,970	5	1,337	212	54,791
1918	24	18,175	10	5,535	189	49,306
1919	20	17,266	23	19,232	172	30,807
1920	23	15,365	8	9,690	55	20,502
Total	10,149	3,899,003	8,028	2,814,269	5,904	2,198,192

After making allowance for conversions to and from other tenures, forfeitures, &c., the number of homestead selections and grants in existence on 30th June, 1920, was 2,936, of an area of 912,573 acres.

Homestead Farms.

The new tenures created by the Crown Lands Amendment Act of 1912 were homestead farms, suburban holdings, Crown leases, and irrigation farms. Crown lands are set apart for disposal as homestead farms, but the land may be made available before survey. Crown Lands available for conditional purchase (unless otherwise notified in the *Gazette*) are also available for homestead farm, and land may be set apart for additional homestead farms.

A person—including an alien—of a minimum age of 16 years, if a male, or 18 years, if a female, may apply for a homestead farm, provided that the applicant does not hold under any tenure—except lease which has less than five years to run, and does not confer right to purchase the freehold—an area of land which, added to the area of the homestead farm, would substantially exceed a home-maintenance area. In estimating what constitutes a home-maintenance area, the joint area held by husband and wife (unless judicially separated) is taken into account as lands held by one person. An alien becoming the holder of a homestead farm, suburban holding, Crown lease, or irrigation farm, must become naturalised within three years. A

married woman may apply if possessed of a separate estate. Persons who have selected previously are disqualified in certain circumstances.

The title of a homestead farm is a lease in perpetuity. The annual rent is charged at the rate of $2\frac{1}{2}$ per cent. of the capital value, but for the first five years the holder, in lieu of payment of rent, may expend an equal amount on improvements of a permanent character, the same (except boundary fencing) being in addition to those which are otherwise required as a condition of improvement or expenditure of the lease. The capital value is subject to reappraisal after the first twenty-five years and for each subsequent period of twenty years.

A condition of five years' residence is attached to every homestead farm, but in special cases residence in a town or village, or anywhere within reasonable working distance, may be allowed. Residence may be permitted on a holding of a member of the same family, or on another of the selector's holdings within reasonable working distance. Suspensions or remissions may be granted for such periods as determined by the Land Board. In certain cases a wife may carry out residence on her husband's holding, or, conversely, a husband may carry out residence on his wife's holding.

The Minister may permit improvements in lieu of residence where the unimproved value of the area is not greater than £300.

The perpetual lease grant will be issued after the expiration of five years from confirmation of the application, if the holder has complied with all required conditions. The holder of a conditional purchase, or conditional purchase and conditional lease, or homestead selection, or homestead grant, or conditional purchase lease, under certain conditions, may convert such holding into a homestead farm. A homestead farm may be protected against sale for debt in certain circumstances. Under certain conditions, a homestead farm may be converted into a conditional purchase lease or into a conditional purchase, with or without a conditional lease. A homestead farm, which is a conversion of a settlement purchase under provision now repealed, may be reconverted into a settlement purchase.

Applications received for homestead farms and those dealt with during the last nine years are as follow:—

Year ended 30th June.	Applications.				Created by Conversion from other tenures.	Reversal of forfeiture and increased area.	Less— Forfeited, decrease in area, and conversions into other tenures.				Homestead Farms in existence at end of year.			
	Received.		Confirmed.				No.	Area.	No.	Area.	No.	Area.	No.	Area.
	No.	Area.	No.	Area.										
		acres.		acres.		acres.		acres.				acres.		
1912	145	93,254	46	27,815	...	...	...	...	...	...	46	27,815
1913	400	217,186	356	203,365	19	10,041	...	...	...	...	421	241,221
1914	468	284,640	358	221,576	9	7,337	...	...	32	19,635	756	450,499
1915	605	467,873	437	327,098	11	4,550	1	210	50	33,439	1,155	748,918		
1916	372	281,685	348	252,166	6	3,848	...	...	57	35,479	1,452	969,453
1917	271	181,722	167*	115,259	2	1,209	2	486	75	49,722	1,548	1,036,686		
1918	245	186,853	158*	89,020	...	...	4	2,783	82	46,866	1,628	1,081,622
1919	498	572,713	339*	383,833	3	1,602	4	2,379	107	58,824	1,867	1,410,612		
1920	840	989,884	491*	507,417	5	3,211	1	857	76	32,988	2,288	1,889,109		

* Includes 82 original farms of 64,476 acres for Returned Soldiers in 1916-17; 51 of 36,208 acres in 1917-18, 164 of 275,011 in 1918-19, and 273 of 315,520 in 1919-20. Three applications for additional areas of 526 acres were also confirmed in 1917-18, 7 applications for 3,413 acres in 1918-19, and 10 for 13,073 acres in 1919-20.

Suburban Holdings.

The conditions of perpetual rent and five years' residence are attached to suburban holdings. The area of a suburban holding is determined by the Minister for Lands; the rent—minimum 5s. per annum—is calculated at the rate of $2\frac{1}{2}$ per cent. of the capital value, to be appraised for each period of twenty years. Males under 16 years, and females under 18 years, are disqualified from applying. A married woman may, in certain cases, apply, provided her husband has not acquired a suburban holding. A suburban holding may be protected against sale for debt in certain circumstances, and may be purchased under certain conditions. After the expiration of five years from date of confirmation, and subject to fulfilment of all conditions, a perpetual lease grant will be issued.

Any suburban Crown lands, or Crown land within population boundaries, or within the Newcastle pasturage reserve, or any other Crown land, may be set apart for disposal by way of suburban holding.

The number of applications for, and confirmations of Suburban Holdings during the past nine years, were as under:—

Year ended 30th June.	Applications.		Confirmations.		Suburban Holdings in existence at the end of year.		Annual Rent.
	No.	Area.	No.	Area.	No.	Area.	
		a res.		acres.		acres.	£
1912	48	1,964	21	1,085	21	1,085	136
1913	548	12,704	373	8,730	388	9,731	1,146
1914	762	15,885	570	13,415	902	22,114	2,473
1915	563	10,499	477	9,299	1,311	30,717	3,495
1916	504	7,343	400	6,775	1,535	34,110	4,043
1917	299	4,300	230	2,937	1,662	36,631	4,246
1918	240*	4,576	186	3,318	1,815	38,643	4,381
1919	237*	4,792	183	3,226	1,945	41,227	4,670
1920	263*	5,668	181	4,073	1,826	40,198	4,401

*Includes 3 of 71 acres, as additional to holdings in 1917-18, 23 for 252 acres in 1918-19, and 19 for 714 acres in 1919-20.

Total number of suburban holdings shown as existing at the end of each year include 11 of 289 acres, capital value, £915, applications to purchase which had been approved up to 30th June, 1918, and 136 applications for 2,057 acres, capital value £12,035, in 1919; but they exclude 259 applications for 4,252 acres, capital value £23,207, approved of, up to 30th June, 1920. No rent is chargeable on these holdings, the principal with interest at the rate of $2\frac{1}{2}$ per cent. per annum on the balance, being paid by annual instalments extending over a period of 10 years.

Week-end Leases.

This tenure, created by the Crown Lands Amendment Act, 1916, is a lease in perpetuity, and is subject to payment of rent at the rate of $2\frac{1}{2}$ per cent. of the capital value; to the effecting of substantial improvements worth £1 per acre within five years from confirmation, and to the performance of such special conditions as may be notified. Residence is not necessary. The minimum rent is £1. Anyone (except a married woman not judicially separated) not under 21 years, may apply.

Persons who already hold land within areas defined in a notification setting apart the land for week-end leases, are disqualified in special circumstances.

Transfers may be made at any time with the Minister's consent, but must be to a qualified person, except in cases of devolution under a will or intes-

tacy. The consideration for a transfer must not exceed the capital value of the improvements on the land. Week-end leases, on approval by the Minister, may be purchased, and payment must be made within 3 months from date of demand, or within such further period as the Minister may allow.

During the year ended 30th June, 1920, 6 applications for 71 acres were received, and confirmation was made in the case of 9 for an area of 76 acres at an annual rental of £9. At 30th June, 1920, these leases numbered 61, of an area of 281 acres, and annual rental £66.

Leases of Town Lands.

Crown lands within the boundaries of any town may be leased by public auction or by tender. The lease is perpetual, and the area included must not exceed half an acre. The amount bid at auction or offered by tender (not being less than the upset value) is the capital value on which the annual rent at the rate of $2\frac{1}{2}$ per cent. is based for the first period of twenty years. The capital value for each subsequent twenty years' period is determined by the Land Board.

The lease may contain such covenants and provisions as may be gazetted prior to sale or tender. Residence is not necessary.

No person is allowed to hold more than one lease, unless with the permission of the Minister on recommendation by the Land Board. The holder of a town lease may be allowed to purchase.

In the year 1919-20, after auction tenders were received and accepted for 4 lots of an area of 1 acre and annual rental of £1 7s. On 30th June, 1920, there were 52 leases, containing $19\frac{1}{4}$ acres, the annual rental being £46 18s. 9d.

Settlement of Returned Soldiers.

Under the Returned Soldiers' Settlement Act, 1916, special provision is made for the settlement of discharged soldiers on Crown Lands, including the Murrumbidgee Irrigation Areas, and on lands acquired under the Closer Settlement Acts and otherwise.

Land is made available under one or other of the following tenures:—

1. Homestead Farm.—Lease in perpetuity.
2. Crown Lease.—Lease for 45 years.
3. Returned Soldiers' Special Holding.—Purchase or lease.
4. Suburban Holdings.—Lease in perpetuity.
5. Irrigation Farm.—Lease in perpetuity.
6. Group purchase.

In addition, discharged soldiers may purchase privately-owned land upon terms approved by the Minister for Lands, and the Government will provide the whole of the purchase money, the only restriction being that the transaction must provide additional settlement, as, for instance, in the way of subdivision, not merely by the replacement of one settler by another. The maximum value of land and improvements which may be so purchased is £3,000; in special cases, however, this may be increased to £3,500 or £4,000 for purely grazing areas.

An advance not exceeding £625 may be made available for each soldier settler, but it must be used only for the general improvement of the land, purchase of implements, stock, seed, and other necessities, or in the erection of buildings.

Terms of repayment are usually as follows:—

House and other Permanent Improvements.—By payments over 25 years, interest only being charged during first five years.

Stock and Implements.—Six years, interest only being charged during first year.

Seeds, Plants, &c.—One year.

Interest is fixed under the Act as not exceeding $3\frac{1}{2}$ per cent. for the first year, and 4 per cent. for the second year, and it increases progressively by not more than $\frac{1}{2}$ per cent. for each subsequent year, the maximum rate being $5\frac{1}{2}$ per cent.

If the circumstances so warrant, sustenance may be obtained for a period not exceeding six months, the rates being :—

For a Single Man.—£1 per week inclusive of pension.

Married Man.—£1 10s. per week, plus 2s. 6d. for each child (up to 4) under 16 years of age (inclusive of pension).

Certain colleges and farms are available for training of intending settlers. Sustenance will be provided by the Repatriation Department at the following rates :—

Soldiers without Dependents.—£2 2s. per week.

Soldier with Wife.—£2 17s. per week (inclusive of pension) with allowances for children.

The rates may possibly be altered from time to time.

Subject to such conditions as to security and terms of repayment as the Commission may think fit to impose, soldier settlers on the Murrumbidgee Irrigation Areas may obtain an advance, or have payment of rent and water rates suspended.

These advances will be made irrespective of the general advance of £625, which is made to all soldier settlers.

Details of the settlement of discharged soldiers on the land up to 30th June, 1920, under the special provisions noted, are shown below. It should be remembered, however, that many soldiers have taken up land upon areas not specially set apart for returned soldiers, and are not included herein :—

Returned Soldiers—Special Holdings.

During the year 1919-20 confirmation was made in respect of 123 holdings for 9,865 acres, and there were in existence at the 30th June, 1920, 293 holdings of 17,888 acres. Included in the latter are 25 holdings of 314 acres and value £3,057, approved for purchase.

Homestead Farms.

	Original Areas.		Additional Areas.
	No.	acres.	acres.
Confirmed, year ended 30th June, 1917	82	64,476	.....
" " " 1918	51	36,208	526
" " " 1919	164	275,011	3,413
" " " 1920	273	315,520	13,078
Total	570	691,215	17,017

Crown Leases.

	Original Areas.		Additional Areas.
	No.	acres.	acres.
Confirmed to 30th June, 1917	40	99,885	.....
" year ended 30th June, 1918	21	66,197	.....
" " " 1919	36	83,943	10,311
" " " 1920	61	171,882	381
Total	158	421,907	10,692

Irrigation Farms.

	Murrumbidgee.		Wentworth.		Total.	
	No.	acres.	No.	acres.	No.	acres.
Granted to 30th June, 1919	6	347	7	72	13	419
Year 1919-20	315	17,381	...	...	315	17,381
„ 1920-21	130	6,232	...	...	130	6,232
Total	451	23,960	7	72	458	24,032

The number of estates purchased by the Government for soldiers' settlement up to 30th June, 1920, was as follows:—

	No. of Estates.	Area.	Value.
		acres.	£
By direct purchase	39	268,562	461,202
Under Crown Lands Act	23	28,350	160,648
Closer Settlement Fund	24	306,027	1,466,177
Total	86	602,939	2,088,027

The figures shown above under the head of Closer Settlement Fund relate only to estates subdivided as group settlements. Many more estates have been acquired for returned soldiers under the promotion sections of the Closer Settlement Act.

The number of returned soldiers who had been placed upon the land up to 30th June, 1920, in New South Wales through the agency of the State's machinery in connection with the repatriation scheme was 4,836.

MURRUMBIDGEE IRRIGATION AREAS.

The disposal of lands within these irrigation areas is regulated by the Crown Lands Consolidation Act, 1913, and the Irrigation Act, 1912. These areas are administered by the Water Conservation and Irrigation Commission. A special land board, with the powers and duties of a local land board, has been appointed in connection with certain provisions of the Crown Land Acts relating to lands within an irrigation area; the lands are classified as town, irrigable, and dry or non-irrigable lands. A person (except a married woman not separated from her husband by judicial decree) 16 years or over, if a male, or 18 years or over, if a female, or two or more such persons, may apply for an irrigation farm or block. An alien is not barred, but he must become naturalised within three years under penalty of forfeiture. The title is perpetual lease, subject to perpetual payment of rent and performance of residence. The rent is at the rate of 2½ per cent. of the capital value—minimum for town land blocks, £1 per annum. At the expiration of five years after the granting of the application, a grant of the farm or block will be issued to the holder, provided that the required conditions have been observed. The holding may be protected against sale for debt in certain circumstances.

In respect of town land blocks, the conditions of residence are not imposed, and no person may hold more than three adjoining blocks for residence, or four adjoining blocks for business purposes.

On the 30th June, 1920, 1,165 farms were held, representing a total area of 57,170 acres. In addition 321 Town Lands Blocks were held.

Irrigation settlements have been established also at Hay and at Curlwaa, near Wentworth. These were, in 1913, placed under the control of the Water Conservation and Irrigation Commission.

The Hay Irrigation Area consists of an area of 4,500 acres, and the Curlwaa Area 10,600 acres. Practically the whole of these areas are under occupation.

ALIENATED AREA.

From the early days of settlement until the year 1861 the Crown disposed of land, under prescribed conditions, by grants and by sales, so alienating, by the end of 1861, an aggregate area of 7,146,579 acres, made up as follows:—

	acres.
1. By grants, and sales by private tender to close of 1831	3,906,327
2. " " in virtue of promises of early Governors made prior to 1831, from 1832-40 inclusive	171,071
3. " sales at auction, at 5s., 7s. 6d., and 10s. per acre, from 1832-38 inclusive	1,450,508
4. " " " " 12s. and upwards per acre, at Governor's discretion, from 1839-41 inclusive	371,447
5. " " " " 20s. per acre, from 1842-46 inclusive	20,250
6. " " " and in respect of pre-emptive rights, from 1847-61 inclusive	1,219,375
7. " grants for public purposes, grants in virtue of promise of Governor made prior to the year 1831, and grants in exchange for lands resumed from 1841-61 inclusive	7,601

Total area alienated on 31st December, 1861 7,146,579

The figures relating to land alienation, under the legislation of 1861, and to its subsequent amendments, show that up to 30th June, 1920, 14,939,206 acres had been sold by auction and other forms of sale.

The total area alienated by volunteer land orders to 30th June, 1920, amounted to 172,198 acres. Free grants ceased as from 31st January, 1912.

From 1862 to 30th June, 1920, the Crown dedicated 240,917 acres for public and religious purposes, the dedications during the last year covering 693 acres.

The area and the purposes for which land was dedicated during 1919-20, were as follows:—

Area.			Area.				
	a.	r.	p.		a.	r.	p.
Electric Light Station	0	2	3½	Public Recreation and Water Conservation	0	0	31½
Fire Station Site	0	1	19	Public Roads	88	3	12½
Literary Institute	0	1	0	Public Schools	100	2	22½
Monument and Public Park	0	1	8½				
Permanent Common	298	1	4	Total	693	0	8
Public Recreation	114	1	26½				
Public Recreation, Racecourse, and Show Ground	89	1	0				

The foregoing areas are inclusive of various tenures within the Federal Capital Territory, aggregating approximately 173,451 acres, and will be subject to modification when the territorial boundaries shall have been surveyed.

The operations of the various Orders, Regulations, and Acts of Council and of Parliament for the disposal of the public lands, since the foundation of New South Wales, have produced the following results:—

Area granted and sold by private tender and public auction at prices ranging from 5s. to 20s. per acre, prior to the year 1862	...	...	...	...	acres. 7,146,579
Area sold by auction and other forms of sale, 1862 to 30th June, 1920, inclusive	...	...	...	...	14,939,206
Area sold under system of conditional purchase for which deeds issued, 1862 to 30th June, 1920, inclusive	...	...	...	...	18,564,288
Area granted under Volunteer Land Regulations of 1867	...	...	...	...	172,198
Area dedicated for public and religious purposes, less resurreptions, 1862 to 30th June, 1920	...	...	...	...	240,917
Homestead selections and grants existing on 30th June, 1920	...	...	...	...	912,573
Homestead farms	...	...	...	...	1,889,109
Suburban holdings	...	...	...	...	40,198
Returned Soldiers Special Holdings	...	...	...	...	17,888
Lands (acquired and Crown) alienated for Closer Settlement to 30th June, 1920	...	...	...	...	1,488,250
<i>Less—</i>					45,411,206
Alienated and dedicated lands within Federal Capital Territory	...	...	...	...	acres. 173,451
Area acquired for Closer Settlement, to 30th June, 1920	...	...	...	...	1,482,328
					1,655,779
Total area alienated, 30th June, 1920	...	...	...	...	43,755,427
Area in process of alienation under system of conditional purchase standing good on 30th June, 1920 (exclusive of Federal Capital Territory)	...	...	...	...	19,365,856
Area of suburban holdings approved to purchase	...	...	...	...	4,252
Area of week-end leases under process of alienation	...	...	...	...	26

Total area alienated, and in process of alienation on 30th June, 1920 (exclusive of Federal Capital Territory) ... 63,125,561

It is not possible to separate the area alienated by grant from that sold by private tender, as the records of early years are incomplete upon this point.

Under the provisions of the Crown Lands Amendment Act, 1912, the holder of a settlement purchase under the Closer Settlement Acts other than those acquired under the Closer Settlement Promotion Act, 1910, was permitted, under certain conditions, to convert such holding into a homestead farm. The Crown Lands Amendment Act, 1917, withdraws this right, and provides that those conversions already made may be re-converted into settlement purchase tenures. (See page 675.)

The progress of alienation and of conditional settlement by purchase and lease at various periods from 1861 to 30th June, 1920, is shown in the following table:—

Year.	Area Alienated to end of year.	Area Conditionally Purchased, standing good at end of year.	Total area alienated and in course of alienation.	Area under Leases with right to convert. (See page 683.)	Total Area placed beyond State control.
	acres.	acres.	acres.	acres.	acres.
1861	7,146,579	...	7,146,579	...	7,146,579
1871	8,630,604	2,280,000	10,910,604	...	10,910,604
1881	22,406,746	12,886,879	35,293,625	...	35,293,625
1891	23,775,410	19,793,321	43,568,731	11,234,131	54,802,862
1901	27,934,627	20,044,703	47,979,330	13,980,942	61,960,272
1906	33,470,512	16,499,823	49,970,335	15,807,249	65,777,584
1911	38,501,167	15,614,036	54,115,203	25,352,311	79,467,514
1916	41,172,383	18,315,095	59,487,478	22,044,506	81,531,984
1917	41,549,337	18,693,429	60,242,766	21,124,423	81,367,189
1918	41,794,364	19,225,738	61,020,102	20,554,771	81,574,873
1919	42,641,451	19,435,807	62,077,258	20,115,919	82,193,177
1920	43,755,427	19,370,134*	63,125,561	19,848,301	82,973,862

* Includes purchases of suburban holdings and week-end leases.

CONVERSION OF TENURES.

In reference to the various methods of acquisition and occupation, details have been given of provisions of the Crown Lands Amendment Acts, passed in 1908 and 1912, which confer on certain holders of Crown lands the right of conversion into more desirable tenures. The following statement shows the applications for conversion, and those confirmed, during year 1919-20:—

Class of Holding for which Conversion applied for.	New Tenures Applied for.													
	Conditional Purchase.		Con- ditional Purchase and associated Con- ditional Lease.		Con- ditional and Con- ditional Purchase Leases.		Home- stead Selection.		Settle- ment Lease.		Home- stead Farm.		Total Applica- tions.	
	No.	Area.	No.	Area.	No.	Lease.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Conditional Leases	996	361,188	..	..	..	..	..	..	..	..	..	..	996	361,188
Conditional Purchase Leases	59	24,541	..	..	..	..	..	..	..	..	..	..	59	24,541
Conditional Purchases	..	..	..	..	..	..	..	..	..	..	..	1	320	1
Homestead Selections or Grants	127	48,645	13	22,119	1	500	..	..	..	..	..	..	141	71,264
Settlement Leases	12	20,681	33	113,429	..	..	1	2,180	..	..	..	..	46	147,290
Non-residential Conditional Purchases	6	660	..	..	..	..	..	..	..	..	..	..	6	660
Special Leases	519	65,948	2	305	61	14,044	14	4,211	7	2,356	13	7,866	616	94,730
Prickly Pear Leases	..	..	..	..	..	..	2	1,200	..	..	..	..	2	1,200
Scrub Leases	..	..	..	..	..	..	5	39,665	..	..	..	..	5	39,665
Improvement Leases	..	..	..	..	..	..	27	102,519	..	..	..	..	27	102,519
Leases under Improvement Conditions	..	..	..	..	..	..	1	485	..	..	..	..	1	485
Crown Leases	98	24,211	25	35,381	1	770	..	..	..	..	..	..	127	60,362
Homestead Farms	68	17,960	2	6,414	..	..	..	..	..	..	..	..	70	24,374
Total	1,855	569,834	78	182,648	63*	15,314	50	150,260	7	2,356	14	8,186	2,097	928,596

Class of Holding of which Conversion Confirmed.	New Tenure Granted.													
	Conditional Purchase.		Con- ditional Purchase and associated Con- ditional Lease.		Con- ditional and Con- ditional Purchase Leases.		Home- stead Selection.		Settle- ment Lease.		Home- stead Farm.		Total Confirma- tions.	
	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.	No.	Area.
Conditional Leases	951	334,190	..	..	..	..	..	..	..	..	..	..	951	334,190
Conditional Purchase Leases	59	26,330	..	..	..	..	..	..	..	..	..	..	59	26,330
Conditional Purchases	..	..	..	..	..	..	..	..	..	..	..	1	320	1
Homestead Selections or Grants	138	54,015	27	30,386	..	..	..	..	..	..	..	..	165	84,401
Settlement Leases	17	18,205	33	145,662	..	..	..	..	..	..	..	..	55	163,867
Non-residential Conditional Purchases	5	600	..	..	..	..	..	..	..	..	..	..	5	600
Special Leases	342	39,412	..	..	30	6,099	6	856	3	380	4	2,301	385	49,635
Improvement Leases	..	..	..	..	..	..	1	2,322	..	..	..	..	1	2,322
Crown Leases	87	21,016	28	34,382	..	..	..	..	..	..	..	..	115	55,398
Homestead Farms	60	17,547	3	7,405	..	..	..	..	..	..	..	..	63	24,952
Total	1,659	511,315	96†	217,835	30‡	6,099	7	3,178	3	380	5	3,211	1,800	742,018

* Includes 2 Conditional Purchase Leases, 110 acres. † Includes 96 associated Conditional Leases 157,219 acres. ‡ Includes 2 Conditional Purchase Leases, 47 acres.

OCCUPATION OF PASTORAL LANDS—LIMITED TENURE.

The pastoral lands of New South Wales have been occupied under various systems of tenure. In the early days land was held for grazing by virtue of tickets of occupation, the issue of which was stopped in 1827, when holders

of such lands were required to pay a quit-rent of 20s. per 100 acres per annum, and to vacate the land at six months' notice. The necessity for depasturing increasing flocks induced settlers to extend their occupation to Crown lands without any right except that of first discovery, until the Legislature, in 1833, passed an Act protecting Crown lands from intrusion and trespass, Commissioners being appointed to safeguard the interests of the State.

Many subsequent enactments have been made, and a summary of the leading features of the principal Acts appeared in the 1919 issue of this Year Book.

All existing original as well as amended and unrepealed portions of the various Acts dealing with the alienation, occupation, and management of Crown Lands were consolidated in the Crown Lands Consolidation Act, 1913. The Crown Lands (Amendment) Act, 1917, which came into force on 1st January, 1918, provided for conversion of certain tenures and modified the conditions relating to certain holdings particularly in regard to residence. It also amended the existing Acts in other respects.

Annual Leases.

Unoccupied lands, not reserved from lease, may be obtained for pastoral purposes as annual leases, on application, or they may be offered by auction or tender. They may be obtained also by "after auction" tender, or "after tender" tender. No conditions of residence or improvement are attached to annual leases, which convey no security of tenure, the land being alienable by conditional purchase, auction sale, etc. The area in any one lease is restricted to 1,920 acres. In certain circumstances an annual lease may be converted into a lease under improvement conditions for a term not exceeding ten years.

The number of annual leases current at 30th June, 1920, was 6,514, embracing 2,953,296 acres, with an annual rent of £23,074.

Conditional Purchase Leases.

This form of tenure was created in 1905; but, as in the case of homestead selections and settlement leases, it is obsolete for the purposes of selection, as lands are not now made available under it. There are, however, considerable numbers of conditional purchase leases still standing.

Two applications for an area of 740 acres were received for original, and 7 of 2,749 acres for additional conditional purchase leases during the year 1919-20; and 4 of 1,455 acres were confirmed. Three applications for 254 acres for special conditional purchase leases were also received, and 6, of 903 acres, were confirmed, during the year. Two leases of 47 acres were converted from other tenures. The increase in area amounted to 25 acres. Fifty-nine leases of 26,330 acres were converted into conditional purchases. The leases holding good at 30th June, 1920, numbered 540 with an area of 384,868 acres, the rent amounting to £13,600.

Special Conditional Purchase Leases.

Under the Crown Lands Act, 1908, land might be set apart for disposal as special conditional purchase lease, provided that for six months the land had been available for some class of residential holding. The areas must be not less than 20, nor more than 320 acres. There were no conditions of residence, but substantial improvements of value of £1 per acre, or any lesser value not being less than 10s. per acre, must be completed within three years. Although no lands are now set apart for special conditional purchase lease, there are areas still available for application in certain districts.

Three applications for an area of 254 acres were received during 1919-20, and 6 applications of 903 acres were confirmed as above

Conditional Leases.

A conditional lease may be obtained by any holder of a conditional purchase (other than non-residential), or a conditional purchase within a special area in the Eastern Division. Lands available for conditional purchase are also available for conditional lease, with the exception of lands in the Western Division, or within a special area or a reserve.

Applications must be accompanied by a provisional rent of 2d. per acre and a survey fee, unless as otherwise provided. The area which an applicant may obtain as conditional purchases and conditional leases is restricted to 1,280 acres in the Eastern Division, and 2,560 acres in the Central Division; but the Land Board may permit specifically larger areas. The area that may be leased is limited to three times the area of the conditional purchase in virtue of which it is obtained. The lease is for a period of forty years, at a rent determined by the Land Board, payable yearly in advance. The conditions of fencing, or substitution of improvements in lieu of fencing, which attach to a residential conditional purchase, apply equally to a conditional lease, and residence is required as in the case of an additional conditional purchase.

After confirmation, a conditional lease may be converted, either wholly or in part not less than 40 acres, into a conditional purchase.

Applications for 557 leases, of an area of 215,575 acres, were lodged during 1919-20, and 212, including applications outstanding from the previous year, representing 64,060 acres, were confirmed. These confirmations include 3 leases of 2,117 acres, incorrectly shown as confirmed in the previous year.

Conditional leases, to the number of 951, embracing 334,190 acres, were converted into conditional purchase, and conditional leases containing an area of 163,271 acres, were created by conversion. Leases in existence at 30th June, 1920, numbered (gazetted) 24,853, embracing 14,340,048 acres, rent £191,352, and not gazetted (under provisional rent), 455 leases of 157,248 acres, and rent £1,310.

Leases of Scrub and Inferior Lands.

Scrub leases may be obtained by application, by auction, by tender, by after-auction tender, or by after-tender tender, but inferior-lands leases may be acquired only by auction or by tender, after-auction tender, or after-tender tender. There is no limitation as to area, and in the case of a scrub lease obtained by application the rent is appraised by the Local Land Board. The initial rent of an inferior-lands lease prevails throughout the whole term; but the terms of a scrub lease may be divided into periods, the rent for each period being determined by reappraisal. The term of each class of lease may not exceed twenty-eight years. The holder of a scrub lease must take such steps as the Land Board may direct for the purpose of destroying the scrub, and keep the land clear afterwards. During the last year of any of the leases application may be made for a homestead grant of an area not in excess of a home-maintenance area.

There were in existence at 30th June, 1920, 224 scrub leases with an area of 1,537,704 acres, and rental of £6,138, and 28 inferior land leases, embracing 69,710 acres, and rent, £254.

Occupation Licenses.

Occupation licenses may be (a) preferential occupation licenses, consisting of the area within the expired pastoral leases, and (b) ordinary occupation licenses, which relate to the parts of the holdings formerly known as resumed areas. They may be acquired by auction or tender, after-auction tender, or after-tender tender. Occupation licenses extend from January to December being renewable annually at a rent determined by the Land Board.

The area under occupation license (Crown Lands Act) was represented at 30th June, 1920, by ordinary 647 of 3,625,750 acres, rental £7,502, and preferential 307 leases, representing 806,755 acres, and rent, £3,124.

18th Section and Pastoral Leases.

Under the Crown Lands Amendment Act of 1903, the registered holder of any pastoral lease, preferential occupation license, or occupation license, could apply for a lease, for not more than twenty-eight years, of an area not exceeding one-third of the total area of the land comprised within the lease or license, subject to such rent, conditions of improvement, and withdrawal for settlement as may be determined. These are known as 18th Section Leases, having been granted under Section 18, Act of 1903, which has now been repealed.

At 30th June, 1920, these leases, also known as "Leases to Outgoing Pastoral Lessees," numbered 111 with an area of 627,833 acres, and rental of £5,504. There were no pastoral leases in existence on 30th June, 1920, in the Western Division, and not brought under the provisions of the Western Lands Act.

Special Leases.

Special leases are issued chiefly to meet cases where land is required for some industrial or business purpose, and may be obtained by application, auction, or otherwise, the term of the lease not to exceed twenty-eight years. The conditions attached are suitable to the circumstances of each case, being, like the rent, determined by the Minister. The Crown Lands Act, passed in 1908, provides for the conversion of special leases, for certain purposes, and of agricultural or pastoral Church and School lands leases, into original or additional conditional purchase leases; or original or additional conditional purchases; or original or additional homestead selections; or original or additional settlement leases; or conditional leases; or homestead farms.

The number of special leases granted during 1919-20 numbered 570 of 95,444 acres, and 385 leases representing 49,638 acres were converted into other tenures. After allowance has been made for leases which were terminated, were forfeited, surrendered, &c., and those which expired by effluxion of time, 6,930 leases (exclusive of leases within the Commonwealth territory) with an area of 703,673 acres and rental of £37,929, were current at 30th June, 1920.

Residential Leases.

The holder of a "miner's right" within a gold or mineral field may obtain a residential lease. A provisional rent of 1s. per acre is charged, the maximum area is 20 acres, and the longest term of the lease twenty-eight years; the annual rent is appraised by the Land Board. The principal conditions of the lease are residence during its currency, and the erection within twelve months of necessary buildings and fences. Tenant-right in improvements is conferred upon the lessee. The holder of any residential lease may apply after the first five years of his lease to purchase the land.

There were 944 leases embracing 13,327 acres and a rental of £1,695 current at 30th June, 1920.

Improvement Leases.

Improvement leases may consist of any scrub or inferior land not suitable for settlement in the Eastern or Central Divisions, and are obtained only by auction or tender, after-auction tender, or after-tender tender. The

rent is payable annually, and the lease is for a period of twenty-eight years, with an area not exceeding 20,480 acres. Upon the expiration of the lease the last holder will have tenant-right in improvements. During the last year of the lease the lessee may apply for a homestead grant of an area not in excess of a home maintenance area, including the area on which his dwelling-house is erected. Should the Advisory Board, constituted under the Closer Settlement Act, 1907, report that land comprised in an improvement lease or scrub lease is suitable for closer settlement, the Minister may resume the lease, the lessee being compensated.

During 1919-20, 1 lease, comprising 3,250 acres, was let by tender at a total rental of £13 10s. 10d., and no leases were, under improvement conditions, granted. One improvement lease was converted into a homestead selection. After allowance has been made for leases, which were forfeited, voided, surrendered, expired and resumed, there remained current at 30th June, 1920, 788 leases with an area of 3,688,890 acres and rental £24,289.

Settlement Leases.

Under this tenure, which now has been superseded practically by that of Crown lease, farms gazetted as available for settlement lease were obtainable on application, accompanied by a deposit consisting of six months' rent and at least one-tenth of survey fee.

Under the Crown Lands Act of 1908, the holder of a settlement lease may convert such lease into a conditional purchase, or into a conditional purchase and conditional lease under certain provisions, but the area of the land to be converted into conditional purchase may not exceed a home-maintenance area.

During 1919-20, 1 application for 2,500 acres for original lease, and 7 applications for additional leases relating to 11,364 acres were lodged. Three applications of 3,460 acres were confirmed. Three settlement leases of 380 acres were created by conversion, and 55 leases for an area of 163,867 acres were converted into other tenures. After making allowance for leases forfeited, &c., and subdivision, there remained current at 30th June, 1920, 1,501 leases, comprising 4,248,826 acres, and rent, £55,716.

Snow Leases.

Vacant Crown lands which for a portion of each year are usually covered with snow, and are thereby unfit for continuous use or occupation, may be leased by auction or tender, by after-auction tender, or by after-tender tender as snow leases. Not more than one snow lease may be held by the same person. The maximum area is 10,240 acres. The term of the lease is seven years, but may be extended for three years.

At 30th June, 1920, there were 21 leases current, embracing 134,420 acres; and rent, £1,272.

Crown Leases.

Crown leases were constituted under the Crown Lands Amendment Act, 1912, and lands are specially set apart by notification in the *Gazette* as available for Crown lease. Crown lands available for conditional purchase (unless otherwise specified in the *Gazette*) are also available for Crown lease. Land may be set apart for Crown lease to be acquired only as additional holdings. The term of lease is forty-five years, and the annual rent $1\frac{1}{4}$ per cent. of the capital value, as determined every fifteen years. The rent payable for the first year may be remitted if, in addition to the improvements required as a condition of the lease, an equal sum be spent by the lessee in improving the land. The lessee is required to reside on the land for

five years, and during the last five years of the lease, unless debarred by notification setting the land apart, may apply to convert into a homestead farm so much of the land as will not exceed a home-maintenance area. Under certain conditions, conversion may also be made into a conditional purchase, with or without a conditional lease. The lease may be protected against sale for debt in certain circumstances. Any person qualified to apply for a homestead farm may apply for a Crown lease.

Operations under this class of lease during the past nine years were as follow :—

Year ended 30th June.	Application.		Confirmed.		Leases current at 30th June.		
	No.	Area.	No.	Area.	No.	Area.	Rent.
		acres.		acres.		acres.	£
1912	116	311,360	54	168,392	54	168,392	1,588
1913	477	554,424	278	390,096	330	555,864	5,621
1914	836	697,425	493	356,727	805	880,785	9,259
1915	628	643,189	598	487,155	1,600	1,563,684	16,114
1916	571	864,158	501	780,373	1,760	1,896,765	21,561
1917	541	595,409	445*	441,313	2,033	2,134,446	24,845
1918	463	500,386	291*	285,248	2,337	2,449,587	28,292
1919	628	934,072	313*	341,324	2,565	2,694,879	31,303
1920	1,039	1,399,270	419*	593,554	2,841	3,092,904	34,521

* Includes 40 original leases of an area of 99,885 acres, and annual rental of £1,448, for returned soldiers in 1917; 21 of 66,197 acres rental £948, in 1918; 36 of 83,943 acres, and rental £1,190, in 1919, and 61 of 171,882 acres, and rental £1,654, in 1920. In addition to these, additional areas were confirmed for 10,311 acres and rental £145, in 1919, and 381 acres, rental £4, in 1920.

Church and School Land Leases.

Certain grants were made under special enactments, and instructions from the Imperial authorities to Sir Thomas Brisbane, then Governor (1821–25), directed him to reserve one-seventh of the Crown lands in each county for Church and School purposes.

The aggregate area of such reserves up to the year 1832, shown by survey to be actually 454,050 acres, did not attain the proportional area specified in the instructions. These lands were administered by the Clergy and School Land Corporation until its abolition by Order of Council on the 4th February, 1833, when the lands reverted to the Crown, and an agent was appointed to determine the claims of purchasers, to whom deeds of grant were made and confirmed by a subsequent Act of Council, dated the 5th August, 1834.

Of the reserves mentioned above, 171,746 acres were alienated up to the year 1880, when, by the Church and School Lands Dedication Act of that year, the balance of 282,304 acres came under the control of the State Legislature to be administered for the purpose of Public Instruction. Subsequently the Church and School Lands Act, 1897, re-vested all these lands in the Crown, free from any trust or condition, but subject to the provisions of the Crown Lands Act of 1884 and its subsequent amending Acts, thus determining the land as Crown land. Until a notification classifying any area of Church and School lands has been published in accordance with

the Crown Lands Act, such area may be dealt with only by reservation, dedication, license, or held under special or annual lease.

The total area of Church and School lands held under lease at 30th June, 1920, in the Eastern Division was 11 acres, at a rental of £330 per annum, the subdivisions being as follows:—

	No.	Area. acres.	Ren . £
Agricultural	1	1	...
Ninety-nine Year	37	10	326
Total	38	11	327

In addition to the above, there was one water-race, aggregating about 10 miles, with a rental of £3.

Other leases in existence at 30th June, 1920, were as follow:—

Homestead leases in the Western Division not brought under the provisions of the Western Lands Act were 4, containing an area of 35,687 acres, and rent £55. Three leases expired during the year.

There were also 1 block-holder's lease, 1 acre, and rent £6; and 90 prickly-pear leases, embracing an area of 37,692 acres, with a rental of £431. Permissive occupancies in existence at the same date were 3,987, for an area of 1,774,935 acres, and rental £13,559.

In addition to the foregoing leases, there were at 30th June, 1920, exclusive of leases to mine on private lands, 213,367 acres, approximately, held under mineral and auriferous leases. Permits to mine under roads and reserves covered an area of 1,241 acres.

WESTERN DIVISION.

The administration of the Western Division under the Western Lands Acts, 1901 and 1905, is vested in three Commissioners, constituting "The Western Lands Board of New South Wales," who, sitting in open Court, also exercise all the powers conferred upon Local Land Boards by the Crown Lands Acts.

Subject to existing rights and extension of tenure granted under certain conditions, all forms of alienation (other than by auction) and lease prescribed by the Crown Lands Acts, ceased to operate within the Western Lands Division from 1st January, 1902.

The registered holder of a homestead selection or grant, pastoral, homestead, settlement, residential, special, artesian well, improvement, scrub, or inferior lease or occupation license, of land in the Western Division, may apply to bring his lease or license under the provisions of the "Western Lands Acts of 1901 and 1905"; in cases where application has not been made, such lease or license is treated as if the Acts had not been passed.

Crown lands within this division are not available for lease until so notified in the *Gazette*, but leases for special purposes may be granted upon certain conditions, and holders of areas, which are considered too small to maintain a home or to make a livelihood, may obtain an additional area under certain conditions as a lease. Lands are gazetted open for lease at a stated rental under specified conditions with respect to residence, transfer, mortgage, and sub-letting.

All leases issued or brought under the provisions of the "Western Lands Acts of 1901 and 1905," except special leases, expire on 30th June, 1943. In cases where a withdrawal is made for the purpose of sale by auction or to provide small holdings, the lease of the remainder may, as compensation, be extended for a term not exceeding six years.

The rent on all leases brought under the provisions of the Act is determined by the Commissioners for the unexpired portion. The

remained a balance of 21,832,200 acres, representing the area of country neither alienated nor leased, and including roads, reserves for public purposes, travelling-stock routes and water.

The following statement shows the tenure under which the areas leased with right or provision to convert into freehold, under the Crown Lands (Amendment) Act of 1908, are held :—

	acres.
Conditional Leases	14,497,296
Conditional Purchase Leases	384,868
Settlement Leases	4,248,826
Special Leases	703,673
Residential Leases on Mineral Fields... ..	13,327
Church and School Land Leases	11
Week-end Leases	281
Town Land Leases	19
Total	19,848,301

The areas under long contracts of lease, in some cases with right of renewal, are given below :—

	acres.
Crown Leases	3,092,904
Leases to outgoing Pastoral Lessees	627,833
Homestead Leases	35,687
Scrub Leases and Inferior Land Leases	1,607,414
Snow-land Leases	134,420
Improvement Leases	3,688,890
Western Land Leases	67,718,062
Other Leases	252,301
Total	77,157,511

AREA AVAILABLE FOR SETTLEMENT.

As has been shown previously on page 674, the area which had been placed practically beyond State control at the end of June, 1920, was as follows :—

	acres.
Area alienated	43,755,427
Area conditionally purchased standing good	19,370,134
Area under Lease with right to convert... ..	19,848,301
Total area placed practically beyond State control	82,973,862

Adding the 82,973,862 acres practically beyond State control, to the 77,157,511 acres of land leased on long contracts, a total of 160,131,373 acres is obtained showing the extent of territory which can now be more closely settled and intensely cultivated only by voluntary action of the holders, or by more systematic and probably costly resuptions. The balance is 37,912,787 acres; of this 2,969,080 acres represent the water area, and a considerable area, probably 3 or 4 million acres, must be deducted for roads and for useless land, leaving perhaps 32 million acres available for occupation under various tenures.

There is, however, a difficulty attending any calculation of the area included in land under long leases, which might be made available for settlement. This is apparent when the conditions under which the leases

are now held are taken into consideration. Except where right to renewal on expiration of the lease exists, certain areas are continually reverting to the Crown by effluxion of time, and again in respect of certain leases provisions have been made whereby the Minister may at his discretion withdraw a part, and in some cases the whole, of a leased area, or he may resume such leases for the purposes of settlement.

AREAS FOR SETTLEMENT, 1919-20.

With a view to classifying and bringing forward those areas which are suitable for settlement, systematic inspections of Crown lands are made in each district. To meet the demand for land, 2,328,799 acres, including 1,508,336 acres for Returned Soldiers, were made available during the year 1919-20, for the classes of holdings specified below :—

	For Ordinary Settlement.	For Returned Soldiers.	Total.
	acres.	acres.	acres.
For Crown Lease	269,642	171,611	441,253
Homestead Farms	99,130	1,010,671	1,109,801
Suburban Holdings	3,624	2	3,626
Additional Holdings (ordinary)	243,884	19,607	263,491
Irrigation Farms and Allotments	1,524	12,999	14,523
Conditional Purchase (original)	2,914	189	3,103
Conditional Purchase and Conditional Lease	14,075	120	14,195
Homestead Selection (original)	640	...	640
Week-end Leases	92	...	92
Returned Soldiers' Special Holdings ... ..	...	10,821	10,821
Settlement Purchases	12,348	8,221	20,569
Area acquired (Closer Settlement) ... ..	...	...	...
Closer Settlement Promotion Act... ..	23,454	188,384	211,838
	<hr/>	<hr/>	<hr/>
	671,327	1,422,625	2,093,952
Area gazetted prior to 30th June, 1920, but not available until after that date	149,136	85,711	234,847
	<hr/>	<hr/>	<hr/>
Total	820,463	1,508,336	2,328,799

The total areas available for settlement under the various tenures on 30th June, 1920, were as follow :—

	For Ordinary Settlement.	For Returned Soldiers.	Total.
	acres.	acres	acres.
For Crown Lease	1,618,186	24,687	1,642,873
Homestead Farms	94,071	584,334	678,405
Suburban Holdings	19,267	...	19,267
Conditional Purchase (Original)	4,316,942	...	4,316,942
Additional Holdings (Generally)	718,238	748	718,986
Week-end Leases	728	...	728
Town Lands Leases... ..	126	...	126
Returned Soldiers' Special Holdings ... ..	...	6,150	6,150
	<hr/>	<hr/>	<hr/>
Total	6,767,558	615,918	7,383,477

RESERVES.

The total area of reserved lands in the State as at 30th June, 1920, was 21,482,773 acres. A classification of reserves according to the purpose for which used is shown below :—

Class of Reserves.	Acres.
Travelling Stock	5,945,096
Water	866,216
Mining	1,329,424
Forest	3,598,758
Temporary Commons	461,529
Railway	105,164
Recreation and Parks	230,857
Pending Classification and Survey	4,505,841
For Conditional Purchase, within Gold-fields	734,348
Miscellaneous	3,705,540
Total	21,482,773

The extent of land set apart for timber conservation amounts to 3,598,758 acres ; for routes and camping-places for travelling stock 5,945,096 acres have been reserved, 3,713,663 acres being in the Western Division ; water reserves embrace 866,216 acres, of which 96,974 acres are in the Western Division.

Reserves are not necessarily unoccupied, and are in part held under Annual, Special, or Scrub Leases, occupation license, or permissive occupancy.

A revision of the reserved lands is being made in each Land District with the object of withdrawing from reserves any area the continued reservation of which is not required in the public interest.

LAND RESUMPTIONS.

Land required by the State may be obtained by resumption, purchase, exchange, surrender, or gift. Resumptions are those made under the Public Works and Lands for Public Purposes Acquisition Acts, and are treated by the Government Land Valuer, except those made for purposes of Public Instruction or of Railways. Resumptions under the Commonwealth Lands Acquisition Act, 1906-16, Lands Acquisition (Defence) Act, 1918, and War Service Homes Act, 1918-19, are also included.

The following statement shows the area of such resumptions and purchases which were made during the past five years :—

Year.	Resumptions and Purchases.			Gifts.			Total.		
	a.	r.	p.	a.	r.	p.	a.	r.	p.
1916	25,111	2	15	13	0	25	25,124	3	0
1917	12,789	0	9	7	0	0	12,796	0	9
1918	3,774	0	33	17	0	32	3,791	1	25
1919	3,411	2	10	26	3	8	3,438	1	18
1920	27,840	1	22	17	2	2	27,857	3	24

Resumptions and purchases, and the purposes thereof, during 1919-20 were:—

	Area.				Area.		
	a.	r.	p.		a.	r.	p.
Abattoirs... ..	29	0	1	Storm Water Channels..	5	3	15·70
Causeway	0	3	36·25	War Service Homes ...	197	3	26·90
Cottage Hospital ...	0	0	8·75	Water Conservation and			
Defence	2	3	34	Irrigation	17,182	3	28
Housing	227	3	27·25	Water Storage and River			
Public School Sites ...	230	2	19·75	Weir	341	3	21·60
Railways and Tramways.	260	0	3	Water Supply	9,278	1	5·45
River Improvements ...	2	3	29	Water Trusts	5	0	0
Road of access to Water				Welfare Centre for			
Supply Catchment				Mothers	0	1	0·75
Area	24	0	7				
Sewerage	67	0	20·75	Total... ..	27,857	3	24·15
State Workshops	0	0	19				

REVENUE FROM PUBLIC LANDS, 1916-20.

The following statement shows the Revenue received from Public Lands during the years ended 30th June, 1916 to 1920, also the Revenue per capita:—

Head of Revenue.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.
	£	£	£	£	£
Auction and Special Sales ...	46,419	36,731	65,593	81,475	73,365
Conditional Purchases	1,017,827	941,153	1,008,893	978,448	1,052,338
Pastoral Occupation	506,619	484,882	495,994	482,361	481,106
Mining Occupation	128,174	130,018	130,431	144,662	137,955
Miscellaneous Land Receipts ...	183,538	177,135	186,011	174,939	211,805
Gross Revenue	£ 1,892,577	1,769,919	1,886,922	1,861,885	1,956,569
Refunds	£ 27,264	22,910	25,462	33,478	41,130
Net Revenue	£ 1,865,313	1,747,009	1,861,460	1,828,407	1,915,439

REVENUE PER CAPITA.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Auction and Special Sales ...	0 9 6	6 0 5	0 0 8	0 0 10	0 0 9
Conditional Purchases	0 10 11	0 10 1	0 10 8	0 10 1	0 10 6
Pastoral Occupation	0 5 5	0 5 3	0 5 3	0 5 0	0 4 10
Mining Occupation	0 1 6	0 1 5	0 1 5	0 1 6	0 1 4
Miscellaneous Land Receipts ...	0 1 11	0 1 9	0 1 7	0 1 10	0 2 1
Gross Revenue	£ 1 0 3	0 18 11	0 19 7	0 19 3	0 19 6
Refunds	£ 0 0 3	0 0 3	0 0 3	0 0 4	0 0 5
Net Revenue	£ 1 0 0	0 18 8	0 19 4	0 18 11	0 19 1

CLOSER SETTLEMENT.

Under the Closer Settlement Act, 1901, provision was made for the acquisition of private lands, or of lands leased from the Crown, for purposes of closer settlement, but as power of compulsory resumption was not conferred, the Act was practically inoperative.

The Closer Settlement Act, 1904, repealed the 1901 enactment, and provided for compulsory resumption of private land for purposes of closer settlement when the value exceeds £20,000, exclusive of improvements, and owners could offer to surrender private lands at specified prices, such offer to be binding on the owner for a period of nine months. These provisions were repealed by the Closer Settlement (Amendment) Act, 1914.

The Closer Settlement Amendment Act, 1907, constituted Advisory Boards to report upon lands suitable for closer settlement, the land being purchased by agreement with the owner, or acquired by resumption when the value, without improvements, exceeds £20,000. Within six months after the passing of an Act sanctioning the construction of a line of railway, the Governor may notify a list of estates within 15 miles of a railway line; within six months of this notification the Governor may notify his intention to consider the advisableness of acquiring for purposes of closer settlement land so notified the property of one owner and exceeding £10,000 in value.

Land comprised in an improvement or scrub lease, or section 18 lease, may also be resumed or purchased under agreement for closer settlement upon the recommendation of an Advisory Board constituted under the Act of 1907.

Before land acquired is available for settlement, the areas and values per acre of the proposed settlement purchases must be approved by the Minister. The area available may include not only land acquired under the Act but also any adjacent Crown lands set apart for the purpose. Settlement Purchase areas are notified for disposal in farms of three classes, viz., agricultural lands, grazing lands, and agricultural and grazing lands.

In the Closer Settlement Amendment Act, 1909, provision is made that at any time after a proclamation of intention to consider the advisableness of acquiring an estate, if an agreement be made that the land shall be subdivided for closer settlement by the owner, the power of resumption may be suspended for a term not exceeding two years. Any sale or lease made under such agreement, and any subsequent sale, lease or transfer made within five years of the original sale or lease, must be submitted to the Minister, and if it be found that the owner has failed to fulfil the conditions, the suspension of the power of resumption shall cease.

Males over the age of 16 years, and females over 21 years, may apply for land under the Act, if they are not holders, except under annual tenure, of land which, with the area sought, will substantially exceed a home-maintenance area; but if any person divests himself of land in order to apply for a settlement purchase, his application will be disallowed, unless the

Minister's consent in writing be obtained to the making of an application. Ministerial consent is not, however, necessary in the case of a discharged soldier or sailor, who has at any time previously obtained a title to and held any other land, if he no longer holds the same.

The person applying, if a woman, must be unmarried or widowed, or if married, be living apart from her husband under a decree for judicial separation; but with the Minister's consent a married woman not living apart from her husband may apply for a settlement purchase, in which case the lands held by her husband will be considered in estimating whether the area held, together with that sought, substantially exceeds a home-maintenance area; and in considering any application by a married man not so living apart, the total area held by husband and wife will be similarly considered.

Unless otherwise prescribed or notified under the present regulation, applications, on or after the 1st September, 1917, accompanied by a deposit of $6\frac{1}{2}$ per cent. of the notified capital value of the land, must be lodged with the Crown Land Agent of the district, or with any other officer duly appointed. The purchase money is payable in thirty-two annual instalments at the rate of $6\frac{1}{2}$ per cent. of the capital value of the land, including interest at $5\frac{1}{2}$ per cent. on the unpaid balance of purchase money. Where the settlement purchase is within a settlement purchase area notified prior to 1st January, 1913, the deposit and subsequent instalments are at the rate of 5 per cent. per annum, and the interest is at the rate of 4 per cent. per annum. Discharged soldiers or sailors are not, however, required to pay any deposit.

Residence for a period of five years is required, and commences at any time within twelve months after the decision of the Land Board allowing the purchase; but the term may be extended to any date within five years of the allowance of purchase, and on such terms and conditions as to improvement, cultivation, or otherwise, as may be arranged between the applicant and the Land Board. Residence implies continuous and *bona fide* living upon any farm or township settlement allotment in the same settlement purchase area. Subject to the approval of the Land Board, the condition as to residence may be observed in any adjacent town or village; or by permission may be suspended or remitted. Residence may be permitted on another holding (within reasonable working distance) subject to such conditions as may be imposed.

The purchaser is required to effect substantial and permanent improvements to the extent of 10 per cent. of the capital value within two years from the date of application, with an additional 15 per cent. within five years. Existing improvements on the land are held to fulfil this condition to the amount of their value. Every purchaser is subject to conditions as to mining, cultivation, destruction of vermin and noxious weeds, insurance of improvements against fire, &c.

The Minister may give consent to the temporary occupation, subject to certain conditions, of any lands within a settlement purchase area which remain unselected. The permit to occupy does not exempt the land from settlement purchase.

One Central Advisory Board now deals with closer settlement for the whole State.

The following table contains information regarding areas administered under the Closer Settlement Acts as at 30th June, 1920 :—

Land Board District.	Land contained in Settlement Purchase Areas.			Price paid for Acquired Land.	
	Acquired Land.	Additional Crown Land.	Total.	Total.	Per Acre.
Estates acquired under Closer Settlement Act—	acres.	acres.	acres.	£	£ s. d.
Armidale	53,929	19,271	73,200	138,866	2 11 6
Dubbo	6,477	6,049	12,526	19,426	3 0 0
Forbes	140,832	55,078	195,910	355,121	2 10 5
Goulburn	54,431	2,047	56,478	207,604	3 18 3
Grafton... ..	Nil.	Nil.	Nil.	Nil.	Nil.
Hay	"	"	"	"	"
Kempsey	"	"	"	"	"
Maitland	1,870	38	1,908	9,352	5 0 0
Metropolitan	Nil.	Nil.	Nil.	Nil.	Nil.
Morce	12,357	528	12,885	49,022	3 19 8
Orange	42,855	902	43,757	186,119	4 6 10
Tamworth	157,071	462	157,533	660,143	4 4 1
Wagga	274,261	10,507	284,768	1,081,127	3 18 10
Total	744,083	94,882	838,965	2,706,780	3 4 6
Estates acquired under the Promotion provisions of the Closer Settlement Acts—					
Armidale	9,641	...	9,641	54,915	5 13 11
Dubbo	12,169	...	12,169	46,517	3 16 5
Forbes	79,808	...	79,808	349,389	4 7 7
Goulburn	10,790	...	10,790	50,668	4 13 11
Grafton... ..	13,965	...	13,965	167,476	11 19 10
Hay	16,878	...	16,878	60,817	3 12 1
Kempsey	7,177	...	7,177	67,861	9 9 1
Maitland	5,465	...	5,465	77,508	14 3 8
Metropolitan	4,547	...	4,547	75,221	16 10 10
Moree	5,499	...	5,499	20,187	3 13 5
Orange	18,661	...	18,661	85,163	4 11 3
Tamworth	48,677	...	48,677	178,600	3 13 5
Wagga Wagga... ..	33,864	...	33,864	181,676	5 7 4
Total	267,141	...	267,141	1,415,998	5 6 0
Estates acquired under Closer Settlement Promotion Act of 1910—					
Armidale	13,462	...	13,462	72,818	5 8 2
Dubbo	20,495	...	20,495	105,358	5 2 10
Forbes	158,476	...	158,476	711,305	4 9 9
Goulburn	13,041	...	13,041	46,917	3 12 0
Grafton... ..	24,856	...	24,856	225,972	9 1 10
Hay	46,852	...	46,852	197,336	4 4 3
Kempsey ... ..	...	...	...	...	...
Maitland	2,970	...	2,970	19,747	6 13 0
Metropolitan	7,358	...	7,358	76,132	10 7 0
Moree ... ..	...	...	...	...	...
Orange	10,047	...	10,047	43,647	4 6 10
Tamworth	9,375	...	9,375	37,847	4 0 9
Wagga Wagga... ..	164,172	...	164,172	992,151	5 9 11
Total	471,104	...	471,104	2,439,230	5 3 7
Total	1,482,328	94,882	1,577,210	6,562,008	4 8 6

NOTE.—In addition to the above, 24 estates of an area of 306,027 acres, valued at £1,466,177 have been acquired for Soldiers' Settlements.

Of the total area of Closer Settlement lands, 26,739 acres have been reserved for roads and other purposes, and 812,226 acres have been divided into 1,674 farms, the average area per farm being 485 acres.

Particulars of the subdivisions are shown in the following statement :—

Land Board District.	Farms.	Capital Value of Areas contained in Farms.			Farms allotted to 30th June, 1920.	Area allotted.	Capital value of Farms allotted.
		Acquired Lands.	Crown Lands.	Total.			
Estates acquired under Closer Settlement Act—	No.	£	£	£	No.	acres.	£
Armidale	134	138,716	27,231	165,947	134	67,820	165,947
Dubbo	18	19,886	11,571	31,457	18	12,306	31,457
Forbes	171	387,095	96,211	483,306	131	149,130	374,241
Goulburn	154	220,321	9,274	229,595	154	55,387	229,595
Grafton	Nil.	.....	.....	.....	.....	.....	.....
Hay	Nil.	.....	.....	.....	.....	.....	.....
Kempsey	Nil.	.....	.....	.....	.....	.....	.....
Maitland	4	10,702	254	10,956	2	1,139	5,833
Metropolitan	Nil.	.....	.....	.....	.....	.....	.....
Moree	76	51,721	868	52,589	75	12,615	51,523
Orange	119	165,444	2,551	197,995	117	43,001	197,808
Tamworth	410	712,057	1,497	713,554	410	154,361	713,554
Wagga Wagga	588	1,144,032	26,717	1,170,749	588	278,930	1,170,748
Total	1,674*	2,879,974	176,174	3,056,148	1,629	774,719	2,940,706
Estates acquired under the Promotion Provisions of the Closer Settlement Acts—							
Armidale	30	54,915	.....	54,915	30	9,941	54,915
Dubbo	21	46,517	.....	46,517	21	12,169	46,517
Forbes	143	349,389	.....	349,389	143	79,808	349,389
Goulburn	23	50,668	.....	50,668	23	10,790	50,668
Grafton	91	167,476	.....	167,476	91	13,965	167,476
Hay	23	60,817	.....	60,817	23	16,878	60,817
Kempsey	37	67,861	.....	67,861	37	7,177	67,861
Maitland	57	77,508	.....	77,508	57	5,465	77,508
Metropolitan	82	75,221	.....	75,221	82	4,547	75,221
Moree	8	20,187	.....	20,187	8	5,499	20,187
Orange	45	85,163	.....	85,163	45	13,661	85,163
Tamworth	79	178,600	.....	178,600	79	48,677	178,600
Wagga Wagga	82	181,676	.....	181,676	82	33,364	181,676
Total	731	1,415,998	.....	1,415,998	731†	267,141	1,415,998
Estates acquired under Closer Settlement Promotion Act, 1910—							
Armidale	47	72,818	.....	72,818	47	13,462	72,818
Dubbo	45	105,358	.....	105,358	45	20,495	105,358
Forbes	307	711,305	.....	711,305	307	158,476	711,305
Goulburn	29	46,917	.....	46,917	29	13,041	46,917
Grafton	141	225,972	.....	225,972	141	24,856	225,972
Hay	88	197,336	.....	197,336	88	46,852	197,336
Kempsey	Nil.	.....	.....	.....	.....	.....	.....
Maitland	12	19,747	.....	19,747	12	2,970	19,747
Metropolitan	38	76,132	.....	76,132	38	7,353	76,132
Moree	Nil.	.....	.....	.....	.....	.....	.....
Orange	23	43,647	.....	43,647	23	10,047	43,647
Tamworth	18	37,847	.....	37,847	18	9,375	37,847
Wagga Wagga	401	902,151	.....	902,151	401	164,172	902,151
Total	1,149	2,439,230	.....	2,439,230	1,149‡	471,104	2,439,230
Total	3,554	6,735,202	176,174	6,911,376	3,509	1,512,964	6,795,334

* Includes 22 farms of 17,861 acres (Forest Vale Estate), being utilised in connection with Government scheme of share-farming.

† Includes 1 farm which was subsequently forfeited and was vacant at 30th June, 1920.

‡ Includes 5 farms which were subsequently forfeited and were vacant at 30th June, 1920.

Up to 30th June, 1920, the total farms allotted were 1,629, containing 774,719 acres, of the capital value of £2,940,706, representing an average cost to the settler of £3 15s. 11d. per acre and of £1,805 per farm.

Of the above number, 45 farms, with 24,714 acres and valued at £107,716, have been converted into homestead farms, leaving 1,584 farms allotted under the Closer Settlement Act, in existence at 30th June, 1920, the area of which is 750,005 acres and the capital value £2,832,990.

On the 30th June, 1920, there were 45 farms containing 37,507 acres unallotted; 22 of these of 17,864 acres are being utilised in connection with the Government scheme of share-farming, leaving 23 farms of 19,643 acres available for settlement.

The farms which have not yet been selected are let under permissive occupancy, and remain available for settlement purchase application.

Promotion Section of the Closer Settlement Acts.

The Promotion Section of the Closer Settlement Acts, which replaces the Closer Settlement Promotion Act, 1910 (repealed), enables three or more persons, or one or more discharged soldiers, each of whom is qualified to hold a settlement purchase, to negotiate with an owner of private lands, and under certain conditions to enter into agreements with him to purchase a specified area on a freehold basis, for a price to be set out in each agreement. Any one or more discharged soldiers or sailors may also enter into agreements to purchase on a present title basis from the holder—a conditional purchase; a conditional purchase lease; a conditional purchase and conditional lease, including an inconvertible conditional lease; a homestead selection; a homestead farm; a settlement lease; a Crown lease, or any part of one or more of such holdings; or an improvement or scrub lease, not substantially more than sufficient for the maintenance of a home.

Upon approval by the Minister, the vendor, in the case of private land, surrenders the area to the Crown, and the purchaser acquires it as a settlement purchase. In the case of land acquired on present title basis, the vendor transfers it to the purchaser. The vendor is paid by the Crown, either in cash or in Closer Settlement Debentures, and the freehold value of the land, inclusive of improvements thereon, purchased for any one person must not exceed £3,000, except in special cases where the improvements warrant it, when the freehold value may be up to £3,500; if the land is found suitable for grazing only, the freehold value may be up to £4,000.

Each farm is worked independently, the co-operation of the applicants ceasing with the allotment of an area. Each applicant has to pay a deposit of $6\frac{1}{2}$ per cent. of the Crown valuation of the farm granted to him, except discharged soldiers or sailors, who are not required to pay any deposit. Repayments of the balance of the purchase money to the Crown are subject to the regulations in force at the date of commencement of title. At present the regulations provide for repayment at the rate of $6\frac{1}{2}$ per cent. per annum of the capital value of the farm, where the purchase money is paid in cash; this includes interest at the rate of $5\frac{1}{2}$ per cent. on the outstanding balance, the whole indebtedness being discharged in thirty-two years, where the initial deposit is paid. If the land is paid for by debentures bearing interest at $4\frac{1}{2}$ per cent., the deposit and annual instalments to be paid by applicants will be 6 per cent., and interest 5 per cent.

Postponement of instalments and payment of interest only for a period may be sanctioned in special circumstances, and holders of farms may obtain advances from the Government Savings Bank Commissioners on account of improvements effected.

From the commencement of the Closer Settlement Promotion Act in September, 1910, till 30th June, 1920, promotion proposals were received in respect of 6,886 farms of a total area of 3,504,909 acres, the amount involved being £15,770,939, and many of these proposals were either withdrawn or refused. The total number of promotion proposals under the Closer Settlement Acts, allotted and finally dealt with and for which payment had been made by the Government Savings Bank, and from the Closer

Settlement Fund as at 30th June, 1920, were 1,880 farms representing 738,245 acres, and value £3,855,228; of this number 1,149 farms embracing an area of 471,104 acres at a cost of £2,439,230, were paid for by the Government Savings Bank, and payment was made from the Closer Settlement Fund in respect of proposals under the promotion provisions of the Closer Settlement Acts in regard to 731 farms of an area of 267,141 acres, and value £1,415,998. Included in the foregoing are 6 farms which were subsequently forfeited and were vacant at 30th June, 1920.

A detailed statement of these transactions in Land Board Districts will be found under the head of Closer Settlement. (See pages 689 and 690.)

The following table shows the operations under the Promotion Section of the Closer Settlement Acts during the ten years ended 30th June, 1920:—

Year ended 30th June.	Farms Allotted.		
	Number.	Area.	Amount Advanced.
		Acres.	£
1911	26	10,785	54,131
1912	209	84,279	418,941
1913	274	107,791	599,145
1914	183	62,598	361,351
1915	95	35,963	201,163
1916	157	68,219	331,037
1917	57	28,877	123,330
1918	154	71,942	351,011
1919	153	57,934	293,780
1920	572	209,857	1,121,339
Total...	1,880	738,245	3,855,228

In addition to the land acquired by the State for closer settlement a number of estates have been subdivided for that purpose by private owners.

RURAL SETTLEMENT.

The State may be classified for the purpose of considering rural settlement into five divisions, viz., Coast, Tableland, Western Slopes of the Great Dividing Range, Central Plains and Riverina, and the Western Division. Each Division has its own special character, and its natural resources are characteristic of its climatic conditions. From Sydney as the centre, settlement extended first along the coast, then to the central and more accessible parts of the tableland, following the course of the great inland rivers towards the southern and western parts of the State when pressed by lack of pasturage for the growing flocks and herds, and debouching upon the great plains of the west.

Geographical features and climate have been the primary factors in determining the trend of settlement; and other considerations, such as the fertility of the soil, the distribution of the rainfall, the density of the timber-growth, and the consequent cost and difficulty of clearing, etc., naturally regulated the character of the rural settlement in a given locality and determined the purposes to which lands were applied.

Another matter of great importance was the question of communication between the sparsely-settled and the populous centres, with access to a market which would assure to the settler a reasonable prospect of the disposal of his products, and would permit an effort to regulate supply according to demand.

RURAL HOLDINGS.

Rural holdings may consist of alienated or Crown lands, or of both. If the statements in this section in relation to Rural Holdings be compared with corresponding statements in previous issues of this Year Book, it will be seen that apparently there was a large reduction in the number of holdings in 1919-20. The reason is that the returns for the year 1919-20 were collected only from holdings (over 1 acre in extent) on which improvements had been effected and upon which agricultural or pastoral activities were conducted; in that they covered all lands particulars of which serve a practical purpose. In previous years many holdings, nearly all from 1 to 5 acres in extent, were included which were not used for agricultural or pastoral purposes.

The number of holdings thus excluded from the 1919-20 return was 19,569, with an aggregate area of 87,984 acres, comprising mainly unoccupied blocks in the vicinity of towns, held for urban extension, and residential sites over 1 acre in extent. The remainder included schools, mining areas, factory sites, &c.

Holdings—Areas, Numbers, and Cultivation.

The following statement shows for the year 1920 in each Division the relation of the alienated holdings occupied to population and cultivation. The area cultivated per head of population, 1.9 acres, is low compared with

the year 1916, when the area was 3·1 acres; it is, however, higher than the average prevailing before 1916:—

articulans.	Divisions.					Whole State.
	Coastal.	Tableland	Western Slopes.	Central Plains and Riverina.	Western.	
Population .. per 1,000 acres	62	9	9	3	1	10
Holdings—						
Number.. .. .	37,427	17,901	16,305	12,909	1,677	86,219
Average area acres	356	1,129	1,294	3,245	45,791	2,104
Per 1,000 of Population	27·1	73·8	77·0	104·9	38·8	43·1
Population per Holding	37	13	13	10	26	23
Area of Land—						
Alienated acres	9,416,396	11,875,750	14,677,637	22,804,096	1,637,545	60,411,424
,, per head	6·9	49·0	69·3	185·3	37·9	30·2
Crown	3,921,233	8,327,592	6,409,849	19,072,316	75,154,479	112,885,379
,, per head	2·8	34·3	30·3	155·0	173·4	56·4
Total	9·7	83·3	99·6	340·3	1775·3	86·6
Cultivation—						
Total area	254,337	339,178	1,479,380	1,690,610	6,650	3,770,155
Per Holding	6·8	18·9	90·7	131·0	4·0	43·7
Per Head of Population	0·2	1·4	7·0	13·7	0·2	1·9
Percentage of area of Holdings ..	1·91	1·68	7·02	4·04	0·00	2·18

In the above table the State has been divided, according to the terrain, into geographical strips, each running from the Northern to the Southern boundary.

The Coastal Division, containing the metropolis, naturally shows the greatest density of population, but, as the divisions move westward, population is found to be more and more scattered. The density of land settlement is shown to be distributed in the same way by considering the number of holdings and the average area of holdings in each Division, while the number of holdings per 1,000 of the population shows that the area of holdings in the three main inland divisions—tableland, slopes, and plains—is inversely related to the population per holding.

Little more than one-third of the area under occupation is alienated, but of the land which remains to the Crown, the greater part is in the Western Division and, owing to the scanty and uncertain rainfall, has not yet been found capable of supporting a large population; large areas of other Crown lands are under lease for lengthy terms.

With the exception of the coastal belt, most of the land of the State is devoted to sheep, even in localities where cultivation has been found profitable; on the coastal areas dairy-farming and cattle-breeding are the principal pursuits and the area cultivated is small.

Agriculture necessarily leads to closer settlement than is possible where pastoral pursuits are followed, and a comparison of the average area cultivated per holding with the average area of holdings in various divisions shows how large a development is still possible in agriculture on the slopes and plains of the interior. In relation to the size of holdings agriculture is most widely practised on the Western Slopes, while the average area is largest on the Central Plains and Riverina.

Less than 2 acres per head of population are cultivated and little more than 2 per cent. of the area of the State is placed under crop.

The extent of alienated or freehold land occupied in holdings of 1 acre and over, as at 30th June, 1920, was 60,411,424 acres, of which 56,539,328 acres were occupied by the owners and 3,872,096 acres were rented. The Crown lands in occupation amounted to 112,885,379 acres, the area attached to alienated holdings was 85,760,895 acres, the balance, 2,7124,484 acres, being in separate holdings.

The following table shows the area occupied in each Division of New South Wales, according to the class of tenure:—

Division.	Area Alienated in Holdings.			Crown Lands.		Total Area in Holdings.
	Occupied by Owner.	Rented.	Total.	Attached to Alienated Holdings.	In Separate Holdings.	
	acres.	acres.	acres.	acres.	acres.	acres.
Coastal	8,024,162	1,392,234	9,416,396	3,427,308	493,925	13,337,629
Tableland	11,051,315	824,435	11,875,750	7,093,667	1,233,335	20,203,252
Western Slopes	13,963,669	713,768	14,677,437	4,652,256	1,757,393	21,087,486
Central Plains and Riverina	21,910,060	894,036	22,804,096	12,860,493	6,211,823	41,876,412
Western	1,590,122	47,423	1,637,545	57,727,171	17,427,308	76,792,024
New South Wales	56,539,328	3,872,096	60,411,424	85,760,895	27,124,484	173,296,803

Of the total area occupied, 34·9 per cent. was freehold, and 65·1 per cent. was leased from the Crown. More than two-thirds of the Crown lands so leased were in the Western Division, and utilised almost exclusively for depasturing stock.

Tenancy, as understood in older settled communities oversea, has made comparatively little progress, 93·6 per cent. of the alienated land being in the occupancy of the proprietors; but in some districts the system of working on shares has been instituted—the owner providing the land and the capital for the cultivation of the soil, and the farmer supplying the labour and the machinery, &c.

The proportions of the total area of the respective Divisions, occupied in holdings of various classes are shown in the following table:—

Division.	Alienated Lands.			Crown Lands.		Total Holdings.
	Occupied by Owner.	Rented.	Total.	Attached.	Separate.	
	per cent.	per cent.	per cent.	per cent.	per cent.	per cent.
Coastal	35·89	6·23	42·12	15·33	2·21	59·66
Tableland... ..	42·78	3·19	45·97	27·46	4·78	78·21
Western Slopes	57·58	2·94	60·52	19·18	7·25	86·95
Central Plains and Riverina	47·81	1·95	49·76	28·06	13·56	91·38
Western	1·98	·06	2·04	71·83	21·68	95·55
New South Wales	28·46	1·95	30·41	43·18	13·65	87·24

The foregoing ratios show that slightly more than 87 per cent. of the total area contained within the boundaries of the State is occupied in holdings of one acre and upwards used for agricultural or pastoral purposes. The highest proportion of absolute alienation, 60·5 per cent. of the area of the Division, has taken place in the Western Slopes, and the lowest, 2 per cent., in the Western Division, but taking the total area of holdings, the Western Division shows the maximum proportion of its area—95·5 per cent.—under occupation; the proportions are high also in the Central Plains and Riverina, 91·4 per cent., and in the Western Slopes, 86·9 per cent.

Number of Holdings and Average Areas.

Excluding from consideration land held simply under lease from the Crown and holdings used for other than agricultural or pastoral purposes, there were in the State of New South Wales on the 30th June, 1920, 78,354 holdings of one acre and upwards in extent, comprising land acquired from the Crown by grant or by purchase, with, in some cases, areas of Crown lands attached thereto.

The number of holdings as returned by occupiers, and the alienated area at intervals since 1881, are shown in the following table, together with the average area contained in the holdings.

Year.	Number of Alienated Holdings.	Alienated Area.		Year.	Number of Alienated Holdings.	Alienated Area.	
		Total.	Average per Holding.			Total.	Average per Holding.
		acres.	acres.			acres.	acres.
1880-1	39,992	27,765,318	694	1910-1	87,503	52,164,454	596
1885-6	43,727	34,031,104	778	1915-6	94,177	56,288,979	598
1890-1	49,960	38,959,225	780	1917-8	96,085	57,787,075	601
1895-6	60,529	42,321,926	699	1918-9	96,684	58,974,689	610
1900-1	69,439	46,043,244	663	1919-20	78,354*	60,411,424	771
1905-6	77,136	48,728,542	632				

* Used for Agricultural and Pastoral purposes only.

The average area of alienated land per holding increased from 694 acres in 1881 to 780 acres in 1891, and then declined gradually to 598 acres in 1916; between that date and 1919 it advanced to 610 acres. The decrease in the number of holdings in 1920 is due, as already explained, to the elimination of small holdings used for other than agricultural or pastoral purposes. This, combined with the fact that there is an increase in the area of lands alienated, is responsible for the marked increase in the average size of the alienated holdings. In actual comparison with the figures of the previous year, that is, including the number and areas of the holdings eliminated, it has been found that the upward tendency of the average area was maintained, and for the year 1919-20 would have been 620 acres. In 1919 an average area of 934 acres of Crown lands was attached to each alienated holding; consequent on the reduction in the number of alienated holdings tabulated, this figure was increased to 1,095 acres in 1920, thus increasing the average area to 1,866 acres, and if holdings consisting of Crown lands only be taken into consideration the average area under all forms of tenure was 2,010 acres. Particulars of the average area of holdings in each Division of the State are shown below.

Division.	Alienated Area Only.	Alienated and attached Crown Lands.	All Tenures, including Holdings consisting of Crown Lands Only.
	acres.	acres.	acres.
Coastal	257	351	356
Tableland	727	1,238	1,129
Western Slopes	991	1,305	1,293
Central Plains and Riverina	2,327	3,640	3,244
Western	2,057	74,579	45,791
New South Wales	771	1,866	2,010

In the past sixty years land legislation in New South Wales has been directed principally towards an increase in the number of land holdings, and, at the same time, efforts have been made to discourage the aggregation of large areas under individual owners; for, when settlers had spread throughout the State, the existence of large estates began to prove an obstacle to further development.

Since the first Crown Lands Act was passed in 1861 the legislature has been frequently occupied with the problem of rural development but has achieved only a limited success in promoting fresh settlement. Many varieties of attractive and seemingly easy tenures have been devised, but one after another has been found incapable of populating effectively the vast tracts of land in the interior. Large holdings over 5,000 acres in extent have

increased, and far more land has been alienated than is necessary to maintain the number of settlers actually remaining upon it.

The whole story of rural settlement in recent years may be summed up in the following way. Between 1861 and 1920 the number of original selections made was approximately 131,730, and this number does not include such holdings as Suburban, Returned Soldiers' Special, Residential on Goldfields and Irrigation Farms which are generally small in extent. At the last-named date there were in existence 61,794 alienated holdings over 30 acres in area. Allowing for the number of holdings already in existence in 1861, and for the inclusion in the number of original selections of some less than 30 acres in extent, it is clear that more than half of the individual selections made during the period have been disposed of and combined into large holdings either for the profit accruing from the sale, or through the financial or other disabilities of the original selectors.

Omitting holdings of less than 30 acres in extent, which are not important in relation to rural settlement, it is possible to trace from 1881 the development of land alienation and the increase in holdings. This is shown in the following table:—

Year.	Alienated Holdings—over 30 acres.			Total area placed beyond State control.
	Number.	Area.	Average Area.	
		acres.	acres.	acres.
1881	32,521	27,791,076	855	35,293,625
1891	38,706	41,046,249	1,060	54,802,862
1901	48,360	45,869,742	948	61,960,272
1911	57,089	51,943,846	910	79,467,514
1916	60,435	56,047,062	927	81,531,984
1918	60,718	57,534,749	947	81,574,873
1919	61,020	58,717,344	962	82,193,177
1920	61,794	60,208,430	974	82,973,862

Size of Holdings.

Information regarding the size of the rural holdings has been tabulated in two distinct classifications, one in accordance with the size of the alienated area, and the other in accordance with the total area of alienated and Crown land contained in each holding. The alienated holdings numbering 78,354 as at 30th June, 1920, contained 60,411,424 acres of alienated land and 85,760,895 acres of Crown lands attached. There were also 7,865 holdings containing Crown lands only.

The following table shows as at the 30th June, 1920, the alienated area and the Crown lands attached classified according to the size of the privately-owned land.

Size of Holding.	Number of Holdings.	Area Occupied.			Proportion in each area group.	
		Alienated.	Crown Lands Attached to Alienated.	Total.	Holdings.	Alienated Land.
acres.		acres.	acres.	acres.	per cent.	per cent.
1— 50	22,408	445,495	1,604,705	2,050,200	28·60	0·74
51— 100	8,256	645,703	877,116	1,522,819	10·54	1·07
101— 500	26,350	6,820,346	13,148,556	19,968,902	33·63	11·29
501— 1,000	10,379	7,300,648	14,515,238	21,815,886	13·25	12·08
1,001— 3,000	7,696	12,693,814	22,625,193	35,319,007	9·82	21·01
3,001— 5,000	1,425	5,458,350	11,158,079	16,616,429	1·82	9·03
5,001— 10,000	1,050	7,183,801	8,920,225	16,104,026	1·34	11·89
10,001— 20,000	485	6,617,494	7,053,324	13,670,818	0·61	10·96
20,001— 50,000	230	6,667,439	4,186,853	10,854,292	0·29	11·04
50,001—100,000	53	3,709,813	792,122	4,501,935	0·07	6·14
Over 100,000	22	2,868,521	879,484	3,748,005	0·03	4·75
Total ...	78,354	60,411,424	85,760,895	146,172,319	100·00	100·00

It will be seen that while, on the one hand, the holders of estates exceeding 1,000 acres constitute but 13·98 per cent. of the total number of occupiers, the land so held represents 74·82 per cent. of the total alienated area. It will further be noted that in the case of 75 estates of 50,001 acres and upwards, which represent only 0·10 per cent. of the total number of holdings, the area alienated in that group contains 10·89 per cent. of the total classified under this heading.

In addition to the alienated holdings—with or without Crown lands attached—there were at the 30th June, 1920, 7,865 holdings consisting of Crown lands only, the total area thus occupied being 27,124,484 acres. The total number of holdings of one acre and upwards was, therefore, 86,219, and the total area was 173,296,803 acres—consisting of 60,411,424 acres of alienated lands, and 112,885,379 acres of Crown lands.

In the next table the results are inclusive of all holdings of one acre and upwards, the actual land occupied being taken as the basis for each area group—whether the holdings are classed as alienated only, as alienated with Crown lands attached, or as Crown lands only.

Size of Holding.	Number of Holdings.		Total Area.		Percentage in each Series.			
	1914-15.	1919-20.	1914-15.	1919-20.	Holdings.		Area.	
					1914-15.	1919-20.	1914-15.	1919-20.
acres.			acres.	acres.				
1— 50...	22,678	24,114	428,500	469,985	27·39	27·97	0·24	0·27
51— 100...	8,158	8,033	648,474	625,624	9·85	9·31	0·37	0·36
101— 500...	24,702	24,789	6,436,948	6,459,974	29·83	28·75	3·69	3·73
501— 1,000...	10,086	11,137	7,181,583	7,925,032	12·18	12·92	4·11	4·57
1,001— 3,000...	10,472	11,020	17,979,635	18,889,435	12·65	12·78	10·30	10·90
3,001— 5,000...	2,531	2,761	9,752,748	10,658,239	3·05	3·20	5·59	6·15
5,001— 10,000...	2,022	2,142	13,739,946	14,450,918	2·44	2·48	7·87	8·34
10,001— 20,000...	968	1,071	13,174,831	14,435,723	1·17	1·24	7·55	8·33
20,001— 50,000...	721	709	21,516,509	21,331,869	0·87	0·82	12·32	12·31
50,001—100,000...	213	215	14,818,593	14,693,511	0·26	0·25	8·49	8·48
Over 100,000...	254	228	68,906,809	63,356,493	0·31	0·28	39·47	36·56
Total ...	82,805	86,219	174,583,676	173,296,803	100·00	100·00	100·00	100·00

It has been explained that in 1919-20 nearly 20,000 holdings in the area group 1-50 acres were excluded from the tabulations because they were not used for agricultural or pastoral purposes. In order to make the results of 1914-15 comparable with those of last year, they were modified on the assumption that the proportion of holdings, both as to number and area, which were not used as described, was the same as in 1920; on this assumption 18,406 holdings and an area of 88,637 acres in the group 1-50 acres were deducted, and to that extent the quotations above for 1914-15 differ from any previously published.

The general tendency of areas in the holdings up to 20,000 acres is to increase, both absolutely and relatively. In the groups over 20,000 acres the actual reduction of area during the five years was 5,860,000 acres, but by far the greatest number of the large holdings are in the Western Division, and consist chiefly of Crown lands.

During the five years the total number of holdings increased by 3,414, but the area in occupation decreased by 1,287,000 acres; the alienated area increased by 5,006,000 acres, but the Crown lands decreased by 6,293,000 acres.

SETTLEMENT IN DIVISIONS.

The following statements show for each Division of the State the holdings of alienated land, classified according to size, and the Crown lands attached to such holdings; also the classification of all holdings, according to the total area of alienated and Crown lands.

The Coastal Belt.

From the metropolitan County of Cumberland settlement advanced westward, and after the alluvial lands of the Hawkesbury and the Nepean valleys had been occupied, the lower portion of the valley of the river Hunter, abounding with natural resources, agricultural as well as mineral, soon attracted settlers, so that more population is now concentrated in that district than in any other part of New South Wales outside the metropolitan area. Settlement extended gradually to the whole of the watershed of the Hunter and the Manning, particularly along the intermediate river courses, such as the Paterson, the Allyn, the Williams, the Kuruah, and the Myall.

The Division of the North Coast, occupied by an agricultural and dairy-farming population, exhibits the most satisfactory results as regards settlement, which during recent years has extended very rapidly along the banks of the Hastings, the Macleay, the Bellinger, the Orara, the Clarence, the Richmond, and the Tweed.

Early in the nineteenth century settlement took a southerly direction from the metropolis, and extended along the lower river valleys of the South Coast, where the best lands were alienated in grants of large areas to a few families. Later on, the nature of the country, and a more intelligent conception of the principles which should guide settlement, brought about the subdivision of some of these large estates into numerous small holdings. The development was, however, arrested about the period of the Federation of the States. Large numbers of the agricultural and dairy-farming population migrated to the North Coast, the Division losing over 2,000 of its inhabitants between the census years 1901 and 1911. The only county to retain its population was Camden, owing to the persistence of the coal-mining industry.

The figures in the following table show the rural settlement of the Coastal Division in holdings of one acre and upwards at the 30th June, 1920, and are exclusive of parks and reserves within the boundaries of Sydney and suburbs.

Size of Holding.	Number of Holdings.	Area Occupied.		
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30 ...	10,692	127,872	45,762	173,634
31— 400 ...	21,087	3,172,461	896,780	4,070,241
401— 1,000 ...	3,378	2,068,032	613,171	2,681,203
1,001— 10,000 ...	1,410	3,056,821	1,245,825	4,302,646
10,001— and upwards ...	52	990,210	625,770	1,615,980
Coastal Division ...	36,619	9,416,396	3,427,308	12,843,704

The total area of this division is 22,355,401 acres, of which 9,416,396 acres of alienated land were occupied in holdings of one acre and upwards, and 3,427,331 acres of Crown lands were held in conjunction with the alienated, making a total of 12,843,727 acres. In addition, there were 808 holdings, consisting of 493,925 acres of Crown lands only.

Holdings under 31 acres represent 29.2 per cent. of the total number, and are generally market gardens and orchards in the vicinity of towns. The moderate-sized holdings consist mainly of dairy-farms.

Rural settlement in the valleys of the northern coastal rivers, and in the country extending from the sea to the foot-hills of the Great Dividing Range, has proceeded in a way very different from that of the Tableland, which extends from north to south, and divides the rich agricultural valleys of the coastal rivers and their broken mountainous watersheds from the immense plains of the Western Division.

The Tableland.

After crossing the ranges which form the western boundary of the Coastal Belt, settlement proceeded in the Central Tableland, thence south and north, and later westwards, at first following the courses of the great rivers.

On the Northern Tableland the majority of the settlers are freeholders, tenants constituting a very small section of the occupiers of alienated land. The Central and Southern Tablelands have not advanced appreciably, owing to greater inducements offering in the wheat-growing districts of the Slopes and Riverina.

The following statement shows the extent of rural settlement in the three Divisions of the Tableland at the 30th June, 1920.

Size of Holding.	Number of Holdings.	Area Occupied.		
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30	2,687	34,172	69,867	104,039
31— 400	8,210	1,399,298	1,781,083	3,181,281
401— 1,000	2,971	1,891,591	1,547,802	3,439,393
1,001—10,000	2,302	5,835,696	2,848,394	8,684,090
10,001 and upwards	154	2,714,993	845,621	3,560,614
Tableland Division	16,324	11,875,750	7,093,667	18,969,417

The holdings containing alienated land numbered 16,324, and contained 11,875,750 acres of alienated land and 7,093,667 acres of Crown land; there were also 1,577 holdings of Crown land only, the area being 1,233,835 acres.

The Western Slopes.

The districts situated on the Western Slopes of the Great Dividing Range mark the transition between the agricultural settlements of the Coastal Belt and the Tableland and the purely pastoral settlements of the Great Western Plains. There is a great extent of arable land in the Western Slopes, and although the proportion devoted to cultivation is greater than in any other Division, it is inconsiderable when compared with the total area. Distance from a market has been the principal obstacle to a rapid development of agriculture; but with the extension of the railway system during recent years, improvement in methods of wheat-growing, and a development in the practice of share-farming, a considerable impetus has been given to this branch of rural industry.

In the South-Western Slope, which is traversed by the principal permanent inland rivers of New South Wales, the land has been alienated to a large extent and immense areas of freehold estate are in the hands of a small number of holders. The extent of rural settlement in the Western Slopes at the 30th June, 1920, is shown in the following table:—

Size of Holding.	Number of Holdings.	Area Occupied.		
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30	2,331	30,024	60,037	90,061
31— 100	5,207	966,313	693,638	1,659,951
401— 1,000	4,077	2,577,472	1,234,510	3,811,982
1,001—10,000	3,032	7,728,356	2,154,854	9,883,210
10,001 and upwards	169	3,375,472	509,217	3,884,689
Western Slopes Division	14,816	14,677,637	4,652,256	19,329,893

In the Division of the Western Slopes there were 16,305 holdings with a total area of 21,087,486 acres, including 1,489 holdings of Crown lands only.

The Central Plains and the Riverina.

The portion of the Central Land Division of New South Wales which lies beyond the Western Slope of the Great Dividing Range constitutes the Division known as the Central Plains and the Riverina. The latter is the southern Division of the series and may be considered as the most important agricultural region of the State, not only on account of the total area alienated, but also from the fact that it contains a considerably greater section under cultivation than any other Division, except the Western Slopes; the average size of the holdings also is comparatively large.

The following statement shows the extent of rural settlement in the Central Plains and the Riverina at the 30th June, 1920 :—

Size of Holding.	Number of Holdings.	Area Occupied.		
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30 ...	710	9,526	128,118	135,644
31— 400 ...	1,777	370,532	691,435	1,061,967
401— 1,000 ...	3,685	2,426,047	2,173,267	4,599,314
1,001— 10,000 ...	3,246	8,121,707	5,807,880	13,929,587
10,001 and upwards ...	381	11,876,284	4,061,793	15,938,077
Central Plains and } Riverina Division }	9,799	22,804,096	12,860,493	35,664,589

In this Division there were 9,799 holdings containing alienated, and 3,110 holdings of Crown lands only, the total area in occupation being 41,876,410 acres.

The Western Division.

In the Western Division of the State, settlement progresses slowly, and the population status is maintained by the mining communities of a few counties. The great mining centre of Broken Hill, situated close to the boundary of South Australia, has attracted a large population, and the copper and gold mines in the region east of the Darling, with a few other places, support many people, but excluding these closely-settled areas, the whole of this vast terrain, greatly exceeding in extent a third of New South Wales, is given up to the depasturing of stock.

The following statement shows the extent of rural settlement in the Western Division at the 30th June, 1920 :—

Size of Holding.	Number of Holdings.	Area Occupied.		
		Alienated.	Crown Lands attached to Alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30 ...	140	1,400	230,357	231,757
31— 400 ...	299	43,092	7,557,199	7,600,291
401— 1,000 ...	142	93,360	12,423,689	12,517,049
1,001— 10,000 ...	181	593,385	30,646,544	31,239,929
10,001 and upwards ...	34	906,308	6,869,382	7,775,690
Western Division ...	796	1,637,545	57,727,171	59,364,716

The proportion of land alienated is only 2 per cent. of the total area, being an aggregate of 1,637,545 acres out of 80,368,498 acres which the Division is estimated to contain. The land in the Western Division can be alienated only by auction, or it can be held under lease from the Crown. The area of Crown lands held is therefore very large, 57,727,171 acres being attached to alienated holdings, and 17,427,308 acres in 881 holdings consisting of Crown lands only. The general character of the country militates against agricultural production and the successful rearing of cattle, and apart from the silver, gold, copper, and opal fields sheep-breeding is practically the only industry, except in the vicinity of townships, where market-gardens and fruit orchards are cultivated.

The Whole State.

The following table shows the number and area of alienated holdings in New South Wales, and is a summary of the particulars given in the foregoing tables for the five principal divisions of the State :—

Size of Holding.	Number of Holdings.	Area occupied.		
		Alienated.	Crown Lands attached to alienated Holdings.	Total.
acres.		acres.	acres.	acres.
1— 30	16,560	202,994	532,141	735,135
31— 400	36,580	5,952,696	11,621,035	17,573,731
401— 1,000	14,253	9,056,592	17,992,439	27,048,941
1,001— 10,000	10,171	25,335,965	42,763,497	68,039,462
10,001 and upwards	790	19,863,267	12,911,783	32,775,050
Total, New South Wales	78,354	60,411,424	85,760,895	146,172,319

CROWN LAND HOLDINGS.

Crown lands are held, as has been explained, either in conjunction with alienated land or as separate holdings. The total area held in conjunction with alienated lands on 30th June, 1920, was 85,760,895 acres, and particulars as to the distribution, &c., of this area are given in connection with the alienated lands. Holdings consisting of Crown lands only numbered 7,865, representing 27,124,484 acres, of which over 64 per cent. was in the Western Division. The following figures show the distribution of these holdings in the different divisions of the State :—

Division.	Number of Holdings.	Area held.	Average area of Holdings.
		acres.	acres.
Coastal	808	493,925	611
Tableland	1,577	1,233,835	782
Western Slopes	1,489	1,757,593	1,180
Central Plains and Riverina	3,110	6,211,823	1,997
Western... ..	881	17,427,308	19,781
New South Wales	7,865	27,124,484	3,449

SOCIAL CONDITION.

THE social condition of the people of New South Wales, judged from the standpoint of health and living conditions, compares favourably with that of any other part of the world. The climate is salubrious with plenty of sunshine, practical measures to promote the wellbeing of the people, through the prevention or relief of sickness and destitution are directed by the State, free education is provided, wages are fixed with the view of securing to all workers a reasonable standard of comfort, and pensions are paid to the aged and infirm.

PUBLIC HEALTH SERVICES.

Executive powers in relation to Public Health in New South Wales are vested primarily in local authorities, who carry out the functions under supervision of the Board of Health as the central controlling authority. Within municipalities the local council is the local authority, and outside municipal areas the duties are performed either by the shire councils or by persons or bodies specially appointed for the purpose.

The most important legislative enactments are the Public Health Act dealing with public health and sanitation, and Acts relating to dairies supervision, noxious trades, diseased animals and meat, and pure food; also provisions of the Local Government Act specify the powers and duties of the municipal and shire councils for ensuring the health of the incorporated areas. Control of sanitation by means of by-laws and regulations is the method adopted generally, as being readily adaptable to the varying conditions of a widely-scattered community.

The executive personnel of the public health services includes medical officers of health and sanitary inspectors. The former are permanent salaried officers, appointed by the Government, who devote the whole of their time to matters relating to public health in groups of populous districts. It was intended that all the more densely-populated districts should be placed under the supervision of medical officers, but up to the present they have been appointed in three areas only, viz., the Metropolitan district; the Hunter River districts, which include Newcastle; and the Broken Hill district. Outside these areas expert advice may be obtained from medical officers attached to the central staff of the Public Health Department, who visit localities when required. In every town a local medical practitioner is appointed as a Government medical officer for the purpose of attending to Government medical work, e.g., inquests, sickness in gaols, etc.; they have no regular duties or legal powers, and are paid in fees for services rendered.

The Department of Public Health, under the control of a Minister of the Crown, includes two branches, one directed by the Board of Health and the other by the Director-General of Public Health; their functions, though distinct, are closely co-ordinated, as they are served by the same staff, and the Director-General, who is a permanent salaried officer of the Government, is *ex officio* President of the Board. The Public Health Act provides that the Board shall consist of not less than seven and not more than ten

members, including four legally qualified medical practitioners, all being nominated by the Government. The Board is the executive and administrative authority in connection with the health laws; it acts in an advisory capacity towards the Minister for Public Health and the Government, and exercises supervision over the manner in which local authorities carry on their public health functions. The Public Health Act provides that if a local authority neglects the performance of these duties they may be undertaken by the Board.

Other Government Departments supervise measures in connection with child welfare, assistance to public hospitals, and charitable relief; while a special department has been organised for the care of State children.

Government Expenditure on Hospitals and Charitable Relief.

The expenditure by the State on hospitals and charitable relief in 1919-20 amounted to £1,830,243; of this amount, £103,768 was expended from the Public Works Account on buildings, etc., and £1,726,475 was from Consolidated Revenue.

The following statement shows the growth of expenditure in the five years ended 30th June, 1920:—

Payments from—	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£
Consolidated Revenue	872,501	946,418	983,483	1,283,114	1,726,475
Public Works Account	69,334	78,830	49,683	77,132	103,768
Total	£ 941,835	1,025,248	1,033,166	1,360,246	1,830,243

The expenditure from Consolidated Revenue on hospitals and charities includes the cost of maintenance of the State institutions, also subsidies granted to other institutions, on condition that an equal amount be raised by private contributions, and that the Government through approved officers have the right of recommending the admission of patients.

The Government issues orders authorising the holders to secure relief from the institutions. During 1919 orders numbering 8,882 were granted, 6,154 were to the Government asylums, 1,407 were to the Coast Hospital, and 550 were for outdoor treatment at hospitals; the balance were distributed among other institutions. The total applications numbered 8,920, as compared with 9,885 in 1918.

The expenditure on hospitals and charities during the last two years was greatly augmented by reason of expenses in connection with the influenza epidemic of 1919; large sums were expended in providing treatment for persons affected with the disease and in compensating for the closure of schools and businesses during the period of the epidemic.

Taking into account the subvention paid by the State Government to friendly societies, as well as the old-age and invalidity pensions and the maternity allowances provided by the Commonwealth Government, the expenditure from Consolidated Revenue on eleemosynary objects in New South Wales in 1919-20 amounted to £3,661,623, or £1 16s. 8d. per head. A classification of the items of expenditure during the last two years is shown below in comparison with the expenditure ten years earlier. Expenditure

in connection with the medical inspection of school children is not included, nor costs of administration, except in regard to the State Children Relief Department, the mental hospitals, and the protection of aborigines.

Head of Expenditure.	1909-10.	1918-19.	1919-20.
	£	£	£
General Hospitals and Charitable Institutions	112,807	309,204	327,353
Mental Hospitals	184,373	369,591	473,902
Children's Relief	101,083	196,436	264,282
Government Asylums for the Infirm ...	81,655	112,520	146,633
Destitute and Deserted, Sick and other ...	29,526	42,307	140,922
Aborigines' Protection	15,256	17,073	21,072
Charitable Societies	5,788	3,763	4,128
Subvention to Friendly Societies	14	32,530	33,000
Expenses of Influenza Epidemic ... ..	...	218,892	328,944
Miscellaneous	875	13,328	19,239
State	531,377	1,315,644	1,759,475
Old-age and Invalidity Pensions	695,632*	1,450,999	1,657,603
Maternity Allowances... ..	...	248,885	244,545
Commonwealth	695,632*	1,699,884	1,902,148
Total	£ 1,227,009	3,015,528	3,661,623
Per head of Population—	£ s. d.	£ s. d.	£ s. d.
State	0 8 1	0 13 8	0 17 7
Commonwealth	0 7 11	0 17 7	0 19 1
Total	£ 0 16 0	1 11 3	1 16 8

* Includes £131,765 paid by State.

The expenditure in 1919-20 was nearly three times the amount spent ten years previously; the cost to the State per head of population increased from 8s. 1d. to 17s. 7d., notwithstanding the transfer to the Commonwealth of the charges in respect of invalidity pensions.

TREATMENT OF SICKNESS.

Institutions for the treatment of sickness and disease include private hospitals, which are owned entirely by private persons and conducted as business enterprises; public hospitals maintained by the State or conducted by charitable organisations; and mental hospitals conducted by the State or under license, for the treatment of persons with mental or nervous ailments.

The State exercises a measure of supervision over the practice of professional persons engaged in the treatment of sickness and disease; medical practitioners, dentists, and pharmacists are required to register with a board established for each profession under statutory authority. Members of the nursing profession are certificated by the Australasian Trained Nurses' Association, though the organisation has no legal status as to supervision. At the end of the year 1920 there were on the registers 2,312 medical practitioners, 1,723 dentists, 1,324 pharmacists, and 376 other persons licensed to sell poisons, and 3,617 nurses, viz., 2,266 general nurses, 1,314 obstetric, and 37 mental.

The State subsidises medical practitioners in outlying bush settlements, with a view to encouraging them to practise in these sparsely-populated localities; usually the Government arranges to contribute an amount necessary to bring their earnings to a certain sum.

Private Hospitals.

A private hospital may not be conducted except under license in accordance with the Private Hospitals Act of 1908; the licenses are issued annually by the Minister for Public Health on the recommendation of the Board of Health, and it is prescribed that every private hospital must be under the direct control of a person approved by the Board. Licensees are required to comply with regulations as to structure, management, and inspection.

In 1920 the private hospitals numbered 560; viz., 191 in the metropolitan district and 369 in the country. Particulars as to the classification of the hospitals and the accommodation are shown in the following statement:—

District.	Classification.				Accommodation.			
	Medical, Surgical, and Lying-in.	Medical and Surgical.	Lying-in.	Total.	1 to 3 Beds.	4 to 10 Beds.	11 to 20 Beds.	Over 20 Beds.
Sydney	48	14	129	191	69	64	25	33
Country	129	15	225	369	149	171	45	4
Total	177	29	354	560	218	235	70	37

Public Hospitals.

Public hospitals embrace all institutions for the care of the sick, except those owned and maintained entirely by private persons. There are four State institutions, viz., the Coast Hospital and the Lady Edeline Hospital for Babies in the Metropolitan district; and the David Berry Hospital and the Waterfall Hospital for Consumptives in the country districts. In addition there are hospitals attached to State asylums, of which particulars are not included in the following tables, but are shown separately on a later page. The other public hospitals, with five exceptions, receive financial aid from the public revenue; some are conducted by religious organisations.

The Public Hospitals Act of 1898, as amended in 1900, defines the procedure in the election of officers, and in matters relating to the property of the public hospitals to which the provisions of these Acts have been extended. Every public hospital under its jurisdiction is managed by a committee elected annually by the persons who contribute to its funds.

There were in New South Wales, at the end of 1919, 157 general public hospitals for the treatment of the sick, of which 26 were in the Metropolitan area, and 131 in country districts. The accommodation comprised 7,500 beds (including 715 in the open air), viz., in the Metropolitan hospitals, 3,462, or an average of 133 per hospital; and in country districts, 4,038, or an average of 31 per hospital. The cubic capacity of Metropolitan hospitals was an average of 1,140 cubic feet per bed; in the country hospitals the average was 1,201 cubic feet; the average for New South Wales being 1,173 cubic feet per bed. The average daily number of patients was 2,612 in all the Metropolitan hospitals, and 2,347 in the country.

The following statement shows the extent to which the general hospital services have increased since 1901:—

Particulars.	1901.		1911.		1919.	
	Metropolitan.	Country.	Metropolitan.	Country.	Metropolitan.	Country.
Hospitals	15	103	21	120	26	131
Beds, including those in open air	1,453	1,938	2,113	2,976	3,462	4,038
Indoor patients	16,919	16,093	29,610	26,954	45,349	41,535
Outdoor patients	72,645	7,614	104,466	11,880	150,645	22,773
Average daily number of patients	2,045		3,302		4,959	
Indoor patients per 1,000 of mean population	24.1		34.0		44.2	
Average annual cost per occupied bed	£72 12s. 11d.		£85 18s. 9d.		£133 14s.	

The number of indoor patients is exclusive of those treated in Government asylum hospitals, and the outdoor patients are exclusive of 4,843 and 3,483 patients treated at the Dental Hospital during the years 1911 and 1919 respectively.

The following statement shows the medical and nursing staffs attached to public hospitals during 1919:—

Hospitals.	Medical Staff.		Nursing Staff.			
	Honorary.	Salaried.	Qualified Nurses.	Nurses Training.	Wardsmen & Wardmaids.	Total.
Metropolitan	400	91	644	566	84	1,294
Country	246	126	578	376	72	1,026
Total	646	217	1,222	942	156	2,320

During the year 86,884 persons were under treatment as indoor patients, 45,349 in Metropolitan, and 41,535 in country hospitals, and the number remaining in hospitals at the close of the year was 4,657 (2,544 males and 2,113 females). These figures include transfers, and represent the aggregate of the number of cases treated at each hospital; cases admitted more than once during the year are counted each time admitted.

The following statement shows the number of indoor patients treated, and the discharges and deaths during the past five years:—

Year.	Patients under Treatment.	Discharges.	Deaths.	Patients at the end of Year.
1915	73,183	64,088	4,788	4,307
1916	75,856	66,642	5,027	4,187
1917	76,660	67,890	4,627	4,143
1918	77,253	68,215	4,818	4,220
1919	86,884	75,603	6,624	4,657

The increase in the number of patients treated has been steady, and has been more rapid than the growth of population, the proportion of the population treated in hospitals having risen gradually from 28 per 1,000 in 1906

to 44 per 1,000 in 1919. The increase does not indicate a larger degree of sickness in the community, but is due principally to a wider knowledge concerning the benefits to be derived from expert treatment which is provided in the hospitals; also the increased cost of home-nursing and the scarcity of domestic labour probably cause more patients to go to hospitals for treatment.

During 1919 176,901 persons were treated as outdoor patients of the general hospitals, viz., 154,128 at Metropolitan hospitals, including 3,483 at the Dental Hospital, and 22,773 at country hospitals.

The following statement shows the revenue and expenditure of the public hospitals in the year 1919; the expenditure in connection with the institutions controlled entirely by the Government has been included:—

Items.	Metropolitan.	Country.	New South Wales.
Receipts—	£	£	£
State Aid... ..	197,445	188,871	386,316
Subscriptions and Donations	113,322	129,912	243,234
Contributions by Patients	45,066	50,615	95,681
Miscellaneous	38,251	12,623	50,874
Total Receipts ...	£ 394,084	382,021	776,105
Expenditure—			
Buildings and Repairs	68,760	63,829	132,589
Salaries and Wages	157,460	131,419	288,879
Provisions, Stores, etc.... ..	172,689	157,968	330,657
Miscellaneous	40,648	24,822	65,470
Total Expenditure ...	£ 439,557	378,038	817,595

According to the hospital accounts the total amount of State aid received by the hospitals in the Metropolitan area in 1919 was £197,445, and by the country hospitals £188,871. The total for the State was £386,316, comprising special grants amounting to £65,796 to Metropolitan and £68,304 to country hospitals; and subsidies, £131,649 to Metropolitan and £120,567 to country institutions.

These amounts do not include the expenditure in connection with the treatment of sick persons in the State asylums for the infirm, as it is not practicable to separate the expenditure incurred in the treatment of sickness from the expenses in respect of the ordinary functions of the asylums.

The revenue and expenditure of public hospitals at intervals since 1901 are shown below:—

Year.	Revenue.					Expenditure.				
	State aid.	Subscriptions and Donations.	Contributions by Patients.	Other.	Total.	Buildings and Repairs.	Salaries and Wages, Provisions, Stores, etc.	Other.	Total.	
1901	£ 91,363	£ 50,939	£ 23,698	£ 16,727	£ 182,727	£ 17,554	£ 141,399	£ 17,365	£ 176,118	
1906	109,296	85,421	31,525	16,617	242,859	26,815	179,431	18,666	224,912	
1911	159,147	131,244	50,099	22,867	363,357	50,902	263,037	34,877	348,816	
1916	235,385	163,018	85,551	24,981	558,935	80,182	433,339	37,516	551,067	
1917	296,861	174,805	91,336	27,933	590,935	85,997	473,148	43,496	602,641	
1918	318,291	243,892	97,431	52,528	712,192	97,930	534,407	54,324	686,661	
1919	386,316	243,234	95,681	53,874	776,105	132,589	619,536	63,470	817,595	

Of the total revenue, State aid represents about 50 per cent., contributions by patients 12 per cent., and subscriptions and donations 31 per cent. The expenditure per head of population increased from 2s. 7d. in 1901 to 8s. 4d. in 1919.

The balances of the funds of the hospitals as at the beginning and end of the year 1919 are shown in the following statement:—

Hospitals.	Current Account.		Invested Funds.	
	At 1st Jan., 1919.	At 31st Dec., 1919.	At 1st Jan., 1919.	At 31st Dec., 1919.
	£	£	£	£
Metropolis ...	(-)112,129	(-)147,166	156,667	146,231
Country ...	20,053	27,929	134,947	101,954
Total ...	(-)92,076	(-)119,237	261,614	247,285

(-) Indicates debit balance.

During the year 1919 the debit balance of the current accounts increased by £27,161, and the invested funds decreased by £14,329. Under the existing method of financing hospitals by unorganised charity and supplementary grants from the public revenue there is increasing difficulty in meeting obligations. The Government propose to introduce a new policy. Legislation will be passed to authorise the hospital committees to collect from employers and employees weekly contributions towards the upkeep of the hospitals, which, with proportional grants from the State, will ensure a regular source of revenue; and State aid towards the erection of new buildings will be limited to one-third of the cost, and the residents of the district to be served by the institution will be required to provide two-thirds.

The average annual cost of maintenance per patient in 151 public hospitals during 1919 was £133 14s.; the average is calculated on the average daily number of patients, and is exclusive of cost of buildings, repairs, outdoor treatment, and district nursing. Particulars as to six hospitals are not included, viz., the Thomas Walker Convalescent Hospital, a privately-endowed institution of which the information is not available, the Dental Hospital, and 4 country institutions in which no patients were treated during the year.

Average Daily Number Resident.	Number of Hospitals.	Average Annual Cost per Occupied Bed.			
		Wages.	Provisions, Stores, &c	Miscellaneous.	Total.
		£	£	£	£
Under 1	7	517.83	333.57	103.14	954.54
1 to 3	9	186.93	148.85	23.89	334.67
3 ,, 5	11	138.45	100.55	25.36	264.36
5 ,, 10	37	83.45	88.68	17.94	190.07
10 ,, 15	17	79.09	74.43	14.99	159.51
15 ,, 20	16	51.84	63.29	8.51	128.64
20 ,, 25	11	41.05	59.73	8.75	109.53
25 ,, 30	3	33.54	54.26	7.57	98.37
30 ,, 35	8	36.03	58.94	7.17	102.17
35 ,, 40	3	43.10	60.89	5.56	109.55
40 ,, 100	19	36.85	49.56	10.42	97.83
Over 100	10	65.22	65.89	14.08	145.19
Total ...	151	57.27	63.90	12.53	133.70

The average cost of maintenance declines as the average daily number of patients rises up to 30, then it appears to increase in hospitals with 30 to 40 patients; but the average cost is lowest in hospitals with 40 to 100. Where the average daily number of patients is more than 100, the average cost per occupied bed is greater than in any other group of hospitals in which more than 15 patients are treated daily.

Convalescent Hospitals.

Two State Convalescent Hospitals have been established—Denistone House, at Eastwood, for men; and the Strickland Convalescent Home, for women, Carrara, Rose Bay. These institutions receive persons who are convalescing from serious illness, and thereby accommodation is made available for urgent cases at the Metropolitan public hospitals. During 1919 the number of persons treated was 123 men and 227 women; 17 men and 14 women remained in the institutions at the end of the year. During four months of the year these hospitals were used as influenza hospitals exclusively.

At the Carrington Centennial Convalescent Hospital, Camden, patients from the Metropolitan district are accommodated for rest and change in the bracing climate of the southern highlands; the hospital is subsidised by the Government. The Thomas Walker Convalescent Hospital, Parramatta River, is privately endowed.

TREATMENT OF COMMUNICABLE DISEASES.

Measures for the treatment and prevention of infectious diseases are taken under the authority of the Public Health Act. Cases of such diseases as leprosy, bubonic plague, smallpox, scarlet fever, typhoid fever, diphtheria, infantile paralysis, cerebro-spinal meningitis, must be notified to the Board of Health; no case of typhus, yellow fever, or cholera has occurred in New South Wales, and bubonic plague is practically non-existent. Cases of pulmonary tuberculosis must be notified in certain areas, viz., the Metropolitan and Hunter River districts, in the Katoomba Municipality, and in the Blue Mountains shire. Acute malarial fever was proclaimed a notifiable disease on 17th March, 1915, in order to prevent its spread amongst the population by soldiers returning from service in the tropics; the proclamation was revoked in November, 1919.

Where necessary, special provision is made for the isolation of infectious cases. In the Metropolis the majority are treated at the Quarantine Station, or at the Coast Hospital; country cases are accommodated in special wards of the local hospitals.

The cases of infectious diseases notified during 1919 were as follow:—

Disease.	Sanitary District.		Other Districts.	Total.
	Metro-politan.	Hunter River.		
Typhoid Fever	335	76	446	857
Scarlet Fever... ..	424	17	518	959
Diphtheria	988	253	1,555	2,826
Infantile Paralysis	8	...	...	8
Acute Malarial Fever	32	1	2	35
Cerebro-spinal Meningitis	14	5	9	28
Tuberculosis	862	64	176	1,102
Leprosy	3	...	1	4

In comparison with the previous year there was a decrease in 1919 in the notifications of all these diseases except typhoid fever, acute malarial fever, and leprosy, which showed increases of 47, 24, and 3 cases respectively.

Leprosy.

Persons suffering from leprosy are segregated in the Leper Lazaret, which was opened for the admission of patients in 1883, though statutory provision for the compulsory notification of the disease and detention of lepers was not made until 1890. During 1919 four persons were admitted, 2 died, and 2 were discharged, leaving 24—19 males and 5 females—in the lazaret at 31st December, 1919. The birthplaces of the inmates of European descent were New South Wales, 8; Victoria, 1; England, 3; Ireland, 1; Germany, 1; and Greece, 1. There were 9 coloured inmates; 2 were born in China, 4 in the Pacific Islands, 1 each in Syria and Java, and one is an Australian aboriginal. The cost of management was £3,307, or an average of £138 4s. per inmate.

Tuberculosis.

A remarkable reduction in the mortality from tuberculosis has been effected since the enactment of the Dairies Supervision Act of 1886, the Pure Food Act of 1908, and other legislation for the protection of the food supply from insanitary conditions, but the fact, as shown in the chapter Vital Statistics, that nearly 7 per cent. of the deaths in New South Wales are caused by tuberculosis, demonstrates the necessity for further drastic measures to prevent the spread of the disease.

In July, 1912, an Advisory Board was appointed to assist the Government in matters relating to the treatment of tuberculous diseases. This Board is composed of medical practitioners representing the University, the hospitals, the Government Medical Service, the general practitioners, and the various branches of medical science, medicine, surgery, pathology, State medicine, and diseases of women and children, also a veterinary scientist.

Pulmonary tuberculosis was proclaimed as notifiable in the Metropolitan and Newcastle districts in 1915 and in the Blue Mountains tourist district in 1916. The Board of Health may prohibit affected persons from working in connection with preparation or packing of food.

Cases of tuberculosis may receive treatment of a temporary character at the general hospitals, and there are special institutions, such as the State Hospital at Waterfall, the Queen Victoria Homes for Consumptives at Wentworth Falls and Thirlmere, and the R. T. Hall Sanatorium at Hazelbrook, as well as various private hospitals; tuberculous cases are received also at the Sacred Heart Hospice for the Dying, Sydney. At the hospitals attached to the State asylums at Lidcombe and Newington, accommodation is reserved for a limited number of tuberculosis patients, and arrangements have been made with the Government of South Australia to provide sanatorium treatment in that State for patients from Broken Hill. Five homes have been established for the treatment of returned soldiers affected with tuberculosis.

The Waterfall Hospital was established in 1909 for the treatment of persons suffering from pulmonary tuberculosis. There are 408 beds, of which 92 are in the open air; 565 males and 223 females were accorded hospital treatment during 1919. The expenditure during the year was £22,568; the average cost of treatment, excluding buildings, repairs, etc., was £67 15s. 10d. per occupied bed.

The National Association for the Prevention and Cure of Consumption opened the first Anti-tuberculosis Dispensary in Sydney in 1912. The dispensary system is being extended with the co-operation and financial assistance of the Government; throat and chest dispensaries have been established

in connection with three Metropolitan hospitals, and at Newcastle. Medical advice is given to patients, and nurses are employed to visit their homes and instruct the inmates in precautionary measures to prevent the spread of the disease.

Veneral Diseases.

The treatment of venereal diseases is regulated under the Venereal Diseases Act, 1918, which prescribes that all persons suffering from such diseases must place themselves under treatment by a qualified medical practitioner.

Clinics for the treatment of venereal diseases have been established at two of the Metropolitan public hospitals, and all public hospitals are required to provide free treatment, drugs and instruments being supplied by the Government. Special wards for these cases have been opened at the Newington and Liverpool State Asylum Hospitals. Prisoners suffering from venereal diseases are detained for treatment in lock hospitals under the Prisoners Detention Act. Particulars are given in the chapter relating to Police and Prison services.

Other Notifiable Diseases.

Infant paralysis—acute anterior poliomyelitis—was made notifiable in New South Wales from 1st January, 1912; there were 8 notifications in 1919, as compared with 50 in the previous year.

Cerebro-spinal meningitis was proclaimed a notifiable disease on 11th October, 1915, when an outbreak occurred in a military encampment and spread to some extent amongst the civil population. The notifications in 1919 numbered 28, or 92 less than in the previous year.

MENTAL HOSPITALS.

The hospitals for the treatment of mental patients are under the control of the Inspector-General for the Insane, who is empowered to inspect hospitals, reception-houses, wards, and private institutions in which mental patients are treated. Persons with mental disease may be admitted to an institution if certified of unsound mind by two qualified medical practitioners, either at the request of relatives or upon the order of two Justices of the Peace.

The business affairs of mental patients are managed by the Master in Lunacy, who in December, 1919, controlled trust funds amounting to £349,048.

Private institutions must obtain a license before receiving mental patients; licenses may be granted also for the reception of a single patient, but unauthorised persons are not permitted to take charge for profit of a person of unsound mind.

The institutions for the treatment of persons certified as of unsound mind consist of nine Government hospitals, in addition to a hospital for criminal insane at Parramatta, and three private licensed institutions at Tempe, Ryde, and Turramurra; for patients from the Broken Hill District of New South Wales, accommodation is provided in a hospital in South Australia.

The medical staff of the hospitals and licensed houses numbered 23; the nursing staff and attendants numbered 626 men and 501 women, and the average daily number of patients resident, excluding patients on leave, was 7,143, comprising 4,216 males and 2,927 females.

At the end of the year 1919 there were in the New South Wales hospitals 7,047 patients—4,148 males and 2,899 females; in the South Australian hospitals the patients from New South Wales numbered 23 men and 28 women; in addition there were 188 men and 309 women on leave from various institutions, making a total number of 7,595 under official cognisance—4,359 males and 3,236 females.

In the following table is stated the number of mental patients under official notice at the close of each year, with the proportion per 1,000 of the population at intervals since 1881:—

Year.	Number of Mental Patients.			Proportion per 1,000 of Population.		
	Males.	Females.	Total.	Males.	Females.	Total.
1881	1,354	726	2,080	3·16	2·06	2·66
1891	1,912	1,222	3,134	3·04	2·29	2·70
1901	2,684	1,804	4,488	3·72	2·75	3·26
1911	3,810	2,573	6,383	4·30	3·19	3·77
1916	4,264	3,020	7,284	4·62	3·23	3·92
1917	4,339	3,048	7,387	4·64	3·26	3·91
1918	4,416	3,212	7,628	4·62	3·30	3·96
1919	4,359	3,236	7,595	4·32	3·27	3·80

From these figures it appears that generally the proportion of patients treated in the mental hospitals is increasing. The slight decrease in 1919 must not be taken as an indication that the incidence of insanity in the community is declining, as the admissions in that year were the highest on record, but the decrease is due to the influenza epidemic, which was responsible for a large number of deaths in the mental institutions. To ascertain the general insanity rate it would be necessary to consider the extent to which patients are treated in private houses, and the proportion of persons whose mental condition, while not calling for certification, might be relieved by treatment.

The influx of insane persons is restricted by legislation, which renders the owner, charterer, agent, or master of a vessel liable for the maintenance of any insane person landed in the State. In 1919 16 insane patients were received from places beyond the State, 15 being discharged after a few days' treatment at the Reception House, and 1 admitted to a mental hospital.

The numbers of admissions and re-admissions to mental hospitals during the last five years are shown below:—

Year.	Admissions.			Re-admissions.		
	Males.	Females.	Total.	Males.	Females.	Total.
1915	685	435	1,120	124	102	226
1916	747	477	1,224	109	93	202
1917	710	393	1,103	109	98	207
1918	670	493	1,163	150	145	295
1919	726	561	1,286	104	94	198

Of the admissions in 1919, natives of New South Wales numbered 875, England 216, Ireland 70, Scotland 57, other British countries, 206, foreign countries 60.

During 1919 the number of patients who died in the mental hospitals was 798, or 11·2 per cent. of the average number resident; 555 persons, or 7·8 per cent. were discharged as recovered, and 159, or 2·2 per cent., as relieved. The death-rate is usually between 7 and 8 per cent.

The records of persons admitted during 1919 show that among the exciting causes of insanity intemperance in drink is most prominent, particularly among men; among predisposing causes the most important are congenital defects, hereditary influence, and old age.

The average weekly cost of maintaining mental patients in Government hospitals during the year 1919 was 21s. 2d. per patient, of which the State paid 18s. 2½d., the balance being derived from private contributions. The following table shows the average weekly cost per patient from 1915 to 1919 :—

Year.	Annual Cost of Maintenance of Patients.	Cost of Maintenance of Patient per week.		
		To State.	Private Contributions.	Total.
	£	s. d.	s. d.	s. d.
1915	268,795	13 0½	2 9	15 9½
1916	306,569	14 7½	2 9½	17 5½
1917	311,757	14 9½	2 10	17 7½
1918	335,559	15 6	2 10½	18 4½
1919	391,517	18 2½	2 11½	21 2

The increase in the cost of maintenance is due mainly to benefits conferred on the staff, such as increased remuneration, Workmen's Compensation Act insurance, and to the higher cost of commodities. In 1919 the cost of 65 voluntary patients is included.

Reception houses have been established at Sydney, Newcastle, and Kenmore, where affected persons are placed under observation, and treatment is provided for attacks of short duration, and for alcoholic cases which have developed mental symptoms. The number of patients under care during 1919 was 1,714; 1,030 were transferred to mental hospitals, and 658 were discharged as recovered or relieved.

There is a small State hospital adjoining the Reception House at Sydney, for the treatment of uncertificated patients in the earlier and curable stages of mental diseases. Accommodation is provided for 20 male patients; and during 1919 the number treated was 109; 92 were discharged, and 16 remained at the end of the year.

Provision is made also in the State mental hospitals for the admission of persons who submit themselves voluntarily for treatment, and a new hospital was opened recently for voluntary patients with incipient mental and nervous affections. Thus expert treatment may be obtained by persons whose condition does not warrant certification as insane or compulsory detention.

DEAF-MUTISM AND BLINDNESS.

The number of persons who were deaf and dumb, as ascertained at the census of 1911, was 640, equivalent to one person in every 2,573 of the population.

The rate at ages 10 to 20 is the highest; whereas, since deaf-mutism is an affliction of childhood, it is reasonable to expect that the rates below those ages would be the highest. The anomaly probably arises from the unwillingness of parents to make known this infirmity in their children.

Excluding children under 10, the rate declines more or less regularly as the age advances. At all ages over 30 the female rate is higher than the male.

The number of persons afflicted with blindness at the census of 1911 was 1,011; this is equivalent to one person in every 1,629. The higher proportion which exists among males is probably due to the greater risk of accident to which they are exposed.

Among both sexes the rate increases from the lowest to the highest ages, and rapidly after age 60. Practically at all ages the male rate is higher than the female. The majority of young persons afflicted with blindness were probably so at birth or soon after.

The care and education of the deaf and dumb and the blind are undertaken at several institutions. The New South Wales Institution for the Deaf and Dumb and the Blind is maintained partly by Government subsidy and partly by public subscriptions; special educational courses are provided, the fees being remitted in cases of financial inability. The Sydney Industrial Blind Institute undertakes the care of the adult blind, and provides industrial training to enable them to earn a livelihood. Homes for the blind are conducted in connection with this institution, and a free circulating library of embossed books is provided. Denominational institutions for the instruction of deaf mutes are conducted at Waratah and Westmead, and one for blind girls at Liverpool.

Under the Commonwealth invalid pension system provision is made for the payment of pensions to permanently blind persons above the age of 16 years.

CHILD WELFARE.

The measures adopted in New South Wales to promote the welfare of children fall within three classes, viz., those relating to the preservation of infant life, to the care and maintenance of neglected, destitute, or defective children, and to the reformation of delinquent children.

Legislation.

The State Children Relief Act, 1901, which consolidated Acts of 1881 and 1896, relates to State wards; it provides for the establishment of the State Children Relief Board to direct a system of boarding-out the children, and to provide special treatment when necessary, also to afford assistance for the maintenance of children of widows and deserted wives.

The Children Protection Act, 1902, regulates the adoption, nursing, and maintenance of children under 3 years of age who are placed in foster-homes by private persons; it provides also for the inspection of maternity hospitals, and for the protection from neglect or ill-treatment of boys under 14 years of age and girls under 16 years, and prohibits the employment of children in unsuitable occupations.

The Infant Protection Act of 1904 provides for the supervision of institutions used for the care of children under 7 years of age, and for the determination of claims for maintenance in respect of illegitimate children.

The Neglected Children and Juvenile Offenders Acts of 1905, amended in 1913, deals with the protection and control of neglected and uncontrollable children and juvenile offenders; under its provisions the Children's Courts have been established, of which particulars are given in the chapter on Law Courts. These Acts provide also for the establishment of industrial schools and reformatories, and of shelters for the temporary detention of children, and for the licensing of children engaged in street-trading.

The Deserted Wives and Children Acts of 1901 and 1913 relate to the maintenance of wives and legitimate children; any person failing to comply with an order to contribute towards their maintenance may be committed to prison, and his earnings there are applied to the satisfaction of the order.

The Notification of Births Act of 1915, which is operative in the districts of Sydney and Newcastle, requires that the birth of a child must be notified to the Health authorities within thirty-six hours. By this law, cases in which advice or assistance is needed are brought under cognisance at the stage when measures to safeguard the health of infants are most efficacious. A Federal law passed in 1912 authorises the payment of a maternity allowance of £5 to mothers of children born in Australia.

The Juvenile Smoking Suppression Act of 1903 restricts the use of tobacco by juveniles; the Liquor Act prohibits the supply of intoxicating liquor to young children, or their entry to the bar of licensed premises. Conditions of child labour and of apprenticeship are regulated by laws which have been discussed in the chapters relating to the Manufacturing Industry and to Employment. The Public Instruction Act requires the regular attendance at school of all children between the ages of 7 and 14 years. The Testator's Family Maintenance and Guardianship of Infants Act, 1916, assures to the family of a testator maintenance from the estate, and regulates the guardianship of infants.

An Act was passed in 1919 to incorporate the Royal Society for the Welfare of Mothers and Babies, which had been established under the ægis of the Government in the previous year, with the object of co-ordinating all measures for the welfare of mothers and babies. The main objects of the Society are the saving of baby life, the amelioration of the conditions of life of children up to school age, and the ensuring of proper nursing and health conditions of mothers before and after childbirth.

Preservation of Infant Life.

Amelioration of the conditions of infant life has become the subject of widespread attention as the result of the recognition of the fact that the greatest improvement can be effected in the initial stages of life with far-reaching results concerning the social and economic welfare of the community. In New South Wales there has been a lack of co-ordination, but steps are being taken to secure a systematic organisation of all public and private effort in this direction.

Facts relating to infant mortality, as shown in the chapter on Vital Statistics, indicate that a large proportion of the deaths are due to preventable causes, and in 1904, with the object of reducing the wastage, the Sydney Municipal Council inaugurated a movement for the instruction of mothers in hygiene, and appointed a trained nurse inspector to visit the homes of newly-born infants. Since 1904 there has been a marked improvement in the infantile mortality rate.

In 1914 Baby Clinics were established by the Government, the first being in the Metropolitan area, where the organisation had been commenced by private effort; subsequently clinics were opened in other industrial centres. A staff

of nurses and an honorary medical officer are attached to each clinic; the nurses instruct the mothers in hygiene, and make arrangements for medical treatment of mothers and children when necessary. During 1920 there were twenty-three clinics in operation; the attendances numbered 117,000, and the nurses paid 32,000 visits to cases within the area served by the clinics; these figures show that there has been substantial progress since the previous year when there were 92,500 attendances and 24,800 visits by nurses. In August, 1921, the number of clinics in operation was 31, viz., Metropolitan 19, Newcastle 5, Maitland 3, and Broken Hill 4.

The Royal Society for the Welfare of Mothers and Children has established a welfare training school for nurses, and in this institution trained nurses may receive a post-graduate course in infant hygiene, and women not holding nurses certificates may be trained as nurses of children in private homes. The Society is establishing two welfare centres in the Metropolis, each with accommodation for a baby clinic, day nursery, kindergarten, playground, and milk and ice dépôt.

In the outlying country districts nurses engaged by the Bush Nursing Association afford assistance to mothers and advise them as to the feeding and treatment of children.

The Day Nursery Association maintains three day nurseries in the city for the benefit of working mothers, who may leave their children at the nurseries during the day; food, clothing, and medical advice are provided, also kindergarten tuition, and during 1920 the daily average number under care was over a hundred.

Institutions for Mothers and Children.

The State has established six maternity homes and hostels in the Metropolitan district and a hospital for the treatment of children suffering from gastro-enteritis and other diseases peculiar to infancy. Other establishments, including several hospitals for women, are maintained by public subscriptions and donations, with the assistance of grants from public revenue, and by religious and other private organisations. The Sydney Benevolent Society, which was founded in 1813 for the purpose of dispensing charitable relief, controls a hospital for women with 180 beds, a hospital for sick children with 85 beds, and a welfare house for homeless children and foundlings; State subsidies and public contributions are the main sources of the Society's revenue.

Sick children are treated in all the general public hospitals, one containing 200 beds being devoted entirely to their care.

The homes for infants, licensed under the Infant Protection Act, are classified in two groups, viz., those for six children or more, being mainly charitable institutions, supported by voluntary subscriptions, and those for the reception of less than six children, being generally private dwellings. In 1920 there were 24 licensed institutions with 579 inmates under seven years of age, and 73 private dwellings were registered.

Maternity Allowances.

The Maternity Allowances Act of the Commonwealth came into operation on 10th October, 1912; it provides for the payment of a sum of £5 in respect of births occurring in Australia. The allowance is payable to the mother upon notification within three months after the date of the birth; payments are made in respect of still-born children if they are viable, but one allowance only is payable in the case of plural births. Women who are Asiatics or aboriginal natives of Australia or of the Pacific Islands are not entitled to

allowances. The following statement shows the number of claims passed for payment in New South Wales in each year up to 31st December, 1920, in comparison with the number of confinements:—

Year.	Confinements. (excluding Still- births).	Maternity Allowances.	
		Claims passed for payment.	Amount.
			£
1912, from 10th October ...	13,304	5,604	28,020
1913	51,587	51,564	257,820
1914	53,042	53,690	268,450
1915	52,280	52,028	260,140
1916	51,511	51,992	259,960
1917	51,834	52,600	263,000
1918	50,149	50,320	251,600
1919	47,990	48,510	242,550
1920	53,368	54,710	273,550
Total	425,065	421,018	2,105,090

During the first three months after the commencement of the Act the number of claims was less than half the number of confinements; at that time the provisions of the Act were not widely known, and many births were not registered until the period of sixty days allowed under the Registration Act had almost expired. Now, however, as a result of the maternity allowance, it has become customary to register births within a week, and it is apparent that all classes of the community, not only those in needy circumstances, claim the benefit provided by the Act. In six out of the last eight years the number of claims passed for payment exceeds the number of confinements; this is due mainly to the fact that still-births are not included in the number of confinements, though allowances may be made in respect of those of viable children.

Neglected, Destitute, and Defective Children.

In New South Wales the treatment of neglected and destitute children has been developed along the lines of the boarding-out system, and it is an accepted principle that when it is necessary for the State to interfere with the conditions of family life in the children's interests, the children should be reared in the natural surroundings of a home; therefore treatment in institutions is restricted to special cases.

When the boarding-out system was inaugurated in 1881 a special Government Department was organised for the purpose of supervising the system, and control was vested in the State Children Relief Board. The Board is appointed by the Governor; membership is limited to nine persons, but the Act contains no proviso as to special qualifications of the members. The executive functions are conducted by a staff of salaried officers, including a number of inspectors, and at the present time the chief executive officer is president of the Board.

The Department is subject to the direction of the Minister for Public Instruction, and the Board is the authority to direct the boarding-out of State children, to issue licenses for the reception of the children as boarders, to apprentice them, to arrange terms for their permanent adoption, or to restore them to parents and guardians. The Board is authorised also to pay contributions from public funds for the maintenance in their own homes of children of widows and deserted wives in necessitous circumstances; and it maintains cottage homes for the reception of sick or invalid children.

In addition to its functions under the State Children Relief Act, the Board is charged with duties under other Acts relating to children, including inspection and supervision under the Children's Protection Act of children placed in private homes by their parents; licensing of private institutions under the Infant Protection Act, and the conduct of affiliation cases in the courts, the care of children committed to its care by the Children's Courts and those released on probation; and the licensing of children engaged in street-trading or employed in theatres.

Children under Supervision.

The number of children under the supervision of the State Children Relief Board, classified in accordance with the statutory provisions under which they are controlled, is shown below.

The total number of children under its supervision in terms of the various Acts at 5th April, 1921, was 22,252, as compared with 19,915 in the previous year:—

Classification.	1901-2.	1911-12.	1915-16.	1918-19.	1919-20.	1920-21.
Boarded-out apart from their Mothers.	3,720	4,677	5,081	4,581	4,979	5,403
Boarded-out with their Mothers...	3,265	4,453	7,310	8,257	10,797	12,839
Registered under Children's Protection Act.	...	559	693	431	355	294
In Institutions Licensed under Infant Protection Act.	...	265	500	429	465	579
Engaged in Street-trading ...	..	856	695	902	1,216	1,058
Employed in Theatres ...	...	216	180	276	320	400
Released on Probation ...	...	1,148	1,566	2,278	1,783	1,679
Total ...	6,985	12,172	16,025	17,154	19,915	22,252

There are a number of institutions conducted by religious bodies and other organisations, in which destitute children are placed by their natural guardians in preference to boarding-out under the State system; the institutions receive a small number of children from the Children's Courts. At the end of the year 1919, there were 2,557 children in these institutions, as shown in the following statement:—

Institutions.	Boys.	Girls.	Total.
General Public ...	189	148	337
Church of England ...	68	164	232
Roman Catholic ...	575	886	1,461
Methodist ...	9	39	48
Presbyterian ...	175	103	283
Salvation Army ...	117	79	196
Total ...	1,133	1,424	2,557

In a few cases the parents contribute towards the support of their children, but usually they are maintained by the organisations controlling the establishments.

Expenditure of State Children Relief Department.

The gross amount expended by the Government during the year ended April, 1921, on account of the services of the State Children Relief Department, was £390,652, of this amount, £109,963 represented the cost of maintenance of children boarded-out apart from their parents, while allowances

to widows and deserted wives towards the support of their own children amounted to £223,583. Contributions by parents and relatives and repayments of maintenance allowance amounted to £7,713.

The following statement shows the expenditure of the State Children Relief Department at intervals since 1901-02:—

Year.	Boarding-out.		Cottage Homes.	Children's Protection Act and Supervision of School Attendance & of Juvenile Offenders.	Total Expenditure.	Contributions by Parents and other Revenue.	Net Expenditure by Government.
	State Wards.	Children of Widows, etc.					
	£	£	£	£	£	£	£
1901-02	43,010	19,262	3,371	73	65,717	1,542	64,174
1911-12	46,001	33,742	13,243	10,187	103,173	4,361	98,812
1915-16	57,996	76,989	11,599	10,047	156,631	6,357	150,274
1916-17	64,378	79,405	17,892	12,828	174,503	5,880	168,623
1917-18	63,534	89,364	14,428	16,030	183,356	6,580	176,776
1918-19	73,680	108,228	12,729	16,870	211,507	7,670	203,837
1919-20	85,554	133,390	20,628	17,794	257,366	6,674	250,692
1920-21	100,963	223,583	27,661	29,445	390,652	7,713	382,939

The increase in 1918-19 in the amount expended in connection with children boarded-out with their own mothers was caused by an increase first granted in that year in the rates of payment.

State Wards.

The State wards are boarded-out to persons deemed to be eligible after strict inquiry by the Board, the maximum number of children under the care of one guardian being three, except in cases of families comprising a greater number, brothers and sisters being placed usually in the same home. Preference is given to districts with favourable climatic conditions and with facilities for supervision by inspectors and for the education of the children.

The supervision is undertaken by salaried inspectors, whose efforts are supplemented by honorary officers. Women inspectors visit and inspect infants placed out apart from their mothers; and all such infants in the Metropolitan area must be submitted to medical examination every fortnight during the first twelve months of life.

In April, 1921, the number of children boarded with private families was 5,403, including 3,118 boys and 2,285 girls; of this number 79 boys and 156 girls were maintained without subsidy from the State. The rate of payment for each child is 10s. per week, irrespective of age.

The Board may arrange the permanent adoption of orphan children or of those surrendered for adoption; under this provision there were at 5th April, 1921, 111 boys and 157 girls. This law, however, does not prohibit the private arrangement of adoptions, and many are arranged without the cognisance of the Board.

State children requiring special treatment are accommodated in cottage homes; there are twelve at Mittagong, four in the Pennant Hills district, and one at Raymond Terrace. Five cottages are reserved for invalids, each accommodating from twenty to twenty-five children, in charge of a matron, who is responsible for the management of the home and the nursing of the children; four cottages are set apart for mentally-deficient children. Eight of the cottages at Mittagong are used for juvenile delinquents committed by the Children's Courts. The number of children in these homes at 5th April, 1921, was, 433, viz., 352 boys and 81 girls. There were also 80 boys and 50 girls under treatment in hospitals.

Children under the control of the Board are trained for work in various industries, and are apprenticed with suitable employers. The terms of indenture prescribe a wage payment and pocket-money on a specified scale, the wages being banked half-yearly to the credit of the apprentice; one-third of the accumulated amount is paid over on completion of the apprenticeship, the balance remaining at interest till age 21 is attained, unless exceptional circumstances arise, when the Board may allow the money to be paid earlier.

The majority of the girls are apprenticed in domestic service, and the boys to farmers, orchardists, and artisans in country districts. In April, 1921, there were 959 apprentices (535 boys and 424 girls) under indentures.

From 1887 to April, 1921, the total collections of the Apprentices Fund were £112,540, of which £92,345 had been paid over on completion of the indentures; £20,810 remained to the credit of the fund, the collections for the year having been £6,583.

Relief of Children of Widows, etc.

A most important provision of the State Children Relief Act provides for contributions towards the support in their own homes of the children of widows in necessitous circumstances and of wives deprived of their husband's support through desertion, illness, infirmity, or imprisonment. There has been a substantial increase in the number of applications for assistance during the last three years on account of the high prices of food and other necessaries.

In April, 1921, the number of mothers receiving this form of relief was 4,800, including 2,546 widows, 948 deserted wives, and 845 wives whose husbands were ill, 306 insane, 155 in gaol. The number of children in respect of whom payments were made was 12,839. There is no law in operation in New South Wales to compel relatives, other than parents, to contribute towards costs of maintenance.

Protection of Children.

Under the provisions of the Children's Protection Act persons in charge of maternity homes are required to furnish particulars to the State Children Relief Board of all births occurring therein, and must undertake the responsibility of seeing that no child is taken from the home without permission, except in the custody of the mother. Children under 3 years of age who are placed in foster homes are subject to inspection.

The Act prohibits the employment of children in dangerous occupations and children are not allowed to take part in public performances unless under license; theatre licenses may be issued in the metropolitan district to children over 10 years of age, but children under 14 are not allowed to travel with touring companies.

The number of foster homes and of the children under supervision during the last five years is shown below, also the number of theatre licenses issued for children.

Particulars.	1916.	1917.	1918.	1919.	1920.
Foster Homes Registered	113	126	110	40	30
Children Registered... ..	1,094	1,112	927	762	693
„ Died	33	34	8	29	33
„ Discharged from Supervision ...	471	579	488	378	366
„ under Supervision at 31st Dec....	590	499	431	355	294
Theatre Licenses for Children	121	240	276	320	400

Street-trading by Children.

Street-trading is defined by law as hawking newspapers, matches, flowers, or other articles, singing, or performing for profit, or any like occupation conducted in a public place. Girls are not allowed to engage in street-trading, and boys under 16 years must be licensed. The minimum age at which a license is granted is 12 years, and in case of certain occupations, 14 years. Licenses are renewable half-yearly, and licensees are required to wear a metal arm-badge whilst trading.

Precautions are taken by supervisors to ensure the regular school attendance of licensees under 14 years of age. The trading hours prescribed for boys between ages 12 and 14 are from 7 a.m. to 7 p.m., and for boys over 14 years of age, from 6 a.m. to 10 p.m.

During the half-year ended 31st March, 1921, licenses were granted to 1,058 boys, their ages and the purposes for which licenses were granted were as follows:—

Street-trading.	12 years and under 14.	14 and under 16.	Total.
Hawking Newspapers	650	322	972
„ Flowers, etc.	29	32	61
„ Other Articles	10	15	25
Total	689	369	1,058

Mentally-deficient Children.

There is not a comprehensive system for the treatment of mentally-deficient children. Special accommodation is available in the State mental hospitals for those who may be classed as lunatics or idiots, but provision has not been made for the treatment of the feeble-minded, *i.e.*, those who are incapable of acquiring education in the ordinary schools, but who, with special training, may be taught to engage in useful employment under supervision. The matter is, however, receiving the attention of the school medical and teaching authorities.

It is recognised that much juvenile delinquency is the result of mental deficiency, and a number of the children brought before the Children's Courts are tested mentally by the medical officers; it is desirable that the examinations should embrace all the children coming under the operations of the Juvenile Offenders Act.

Four of the cottage homes established by the State Children Relief Department are reserved for feeble-minded children and the older boys are trained in such trades as bootmaking, tailoring, toy-making, and carpentering, as well as in out-door work. A teacher from one of the homes was sent recently to America to gain experience in the training of children of this class.

Delinquent Children.

Cases of juvenile offenders under the age of 16 years are dealt with in the Children's Courts, to which are appointed magistrates with special qualifications for the treatment of delinquent children. Leniency is an

outstanding feature in the treatment of the young offenders, and a large number are released after admonishment, in order to obviate the recording of a conviction; in other cases it is the practice where possible to release the children on probation, and committal to an institution is a final resort. The children brought before the courts are classified into thirteen distinct groups, with the object of providing each class with the special treatment they require. Consideration is given to the character of the child and the circumstances surrounding the committal of the offence, the home environment, the character of the parents, and the nature of their control.

The children on probation are under the supervision of the State Children Relief Department. The number released from the Children's Courts during the year ended 5th April, 1921, was 1,679, viz., 1,531 boys and 148 girls; 178 had been brought before the court as neglected, 270 as uncontrollable, 797 had been convicted for stealing, and 434 for other offences. The Metropolitan and suburban courts released 1,284 children, and the country courts 395.

The terms of probation were:—One year and under, 1,499; one or two years, 118; over two years, 62. Cases in which the terms of probation exceeds one year usually relate to children committed to the care of relatives or to private establishments, the length of term implying legal authority to retain custody of the children apart for their parents.

In the Metropolitan district children are accommodated in shelters in proximity to the court whilst awaiting the hearing of their cases or transfer to institutions to which they have been committed; and shelters have been established in eight country towns.

The State institutions for the reformation and training of delinquent children are the Farm Home for Boys at Mittagong, which consists of eight of the cottage homes controlled by the State Children Relief Department, the Gosford Farm Home for Boys, and the Girls' Industrial School at Parramatta. The Mittagong Farm Home is primarily for the reception of children who require treatment before being released on probation, and others guilty of minor delinquencies; the Gosford institution is for older boys, who need stricter discipline or who show tendencies liable to be developed into criminal habits, and those who have failed to respond to probation or to treatment in the Mittagong Farm Home. At Gosford 165 boys were admitted during the year 1920 and 141 were discharged, including 115 who were released on probation. At Mittagong there is a daily average of 320 boys, about 600 being admitted each year. The Industrial School for Girls at Parramatta is divided into two branches for the purpose of classifying the inmates, and a training home is attached; the institution receives uncontrollable girls between the ages of 13 and 16 years. During the year 1920 the number of girls admitted was 62 and 68 were discharged; the number remaining at the end of the year was 124. Under certain conditions children may be committed to approved institutions established by the religious organisations.

The Neglected Children and Juvenile Offenders Act provides that children committed to institutions may be detained in custody until the expiration of the period specified by the Court, or until reaching the age of 18 years; they may be indentured as apprentices with suitable employers or restored to the custody of parents or guardians.

A Truant School is conducted at Guildford for the detention of boys under 14 years of age who are persistent truants; the average period of detention is about two months.

The disposal of the children brought before the Children's Courts during the year ended April, 1921, is shown in the following statement:—

Disposal.	Boys.	Girls.	Total.
Released on Probation to Parents	956	67	1,023
" " " other Persons	93	38	131
Committed to care of State Children Relief Board	2	9	11
" Ormond House, Paddington	38	32	70
" Farm Home, Mittagong	166	...	166
" Farm Home, Gosford	113	...	113
" Girls' Training Home, Parramatta ... ..	...	27	27
" " Industrial School, Parramatta ... ..	...	9	9
" Truant School	125	...	125
Fined	368	3	371
Withdrawn	652	75	727
Dismissed or Discharged	28	4	32
Total	2,541	264	2,805

Further particulars regarding offenders charged at the Children's Courts are given in the chapter of this volume relating to Law Courts.

Medical Inspection of School Children.

A system of medical inspection of school children has been organised in New South Wales, and arrangements have been made to examine each child at least twice during the period of school attendance, which is compulsory between the ages of 7 and 14 years. The inspection is conducted by the medical branch of the Department of Education, with a staff of medical officers, dentists, and nurses.

During the year 1920 the number of pupils examined was 57,494, viz., 11,134 in the Metropolitan area, 26,929 in country towns, and 19,431 in rural areas; 34,472 children or 60 per cent. of the number examined were found to have defects. The majority were dental defects, 28,250 cases; defects of the eyes, 4,093; nose and throat, 8,077, including 3,916 cases of adenoids; and defects of the ears, 1,969 cases.

The medical inspection is, however, of little value unless steps are taken to remedy the defects; therefore in the Metropolitan district special facilities are provided at the hospitals for medical treatment, and a school dental clinic has been established by the Department of Education for dental treatment; school nurses visit the parents in order to induce them to obtain for their children the treatment they require. In the country districts the Department has established a travelling hospital, a travelling ophthalmic clinic, and six travelling dental clinics. At the hospital, to which a medical officer, a dentist, and a nurse are attached, examinations are conducted in the outlying districts and treatment is provided; the ophthalmic and dental clinics visit the larger country centres after medical inspection. At the hospital 2,504 children were examined during 1920, and 14,370 children were treated at the dental clinics; it is estimated that the treatment costs the State about 7s. 6d. per child treated.

Further particulars regarding the work of the medical branch have been given in the chapter "Education."

CHARITABLE RELIEF.

In addition to hospitals for the treatment of sickness or disease, there exist both in the Metropolis and in the country, other institutions, such as homes for the aged, for women, and for the blind, deaf, and dumb; for granting casual aid to indigent persons; and for the help of discharged prisoners.

The State maintains five asylums, others are maintained partly by State aid and partly by private contributions, and a few are wholly dependent on private aid.

Four of the State asylums are for men and one is for women. These institutions were established as asylums for aged and destitute persons, but since the introduction of the old-age pension system the character of the work of the institutions has changed considerably, and now they are used to a large extent for the treatment of chronic ailments and contain special wards for persons suffering from cancer, tuberculosis, and venereal diseases.

The average number resident in the State asylums during the year 1919 was 2,894, as compared with 2,895 during the previous year. The average weekly cost per inmate in the State asylums in each of the three years 1917 to 1919 is shown below:—

Head of Expenditure.	1917.	1918.	1919.
	s. d.	s. d.	s. d.
Salaries and Money Allowances	3 10	4 4	4 3
Provisions, Extras, Medical Comforts, and Forage	8 2	9 10	9 6
All other Expenses	0 7	0 11	0 8
Gross Weekly Cost for Maintenance	12 7	15 1	14 5
Average Weekly Contribution towards Revenue	2 5	2 9	2 5
Net Weekly Cost	10 2	12 4	12 0

In the hospitals attached to these institutions 6,019 cases of illness were treated during 1919—males 4,465, and females 1,554—and at the end of the year 1,192 cases remained under treatment.

The total number of inmates in the charitable institutions during the year 1919 was 22,819 persons, including 8,518 children; the discharges numbered 14,094 and the deaths 1,202; the number remaining at the end of the year was 7,523, viz., 2,986 men, 1,369 women, and 3,168 children. The revenue amounted to £502,471, including State aid £354,452; and the expenditure to £509,281; the value of the outdoor relief afforded by the institutions was estimated at £21,413.

A number of societies are active in the matter of charitable relief, *e.g.*, nursing, ambulance, and shipwreck relief; and in many suburbs and country towns benevolent societies have been formed for the relief of local distress. The District Nursing Association and the Bush Nursing Association engage nurses to visit the sick, gratuitously if needed, the former in the Metropolitan and the latter in the country districts. Public charitable collections are made periodically for the relief of distress or with the object of increasing the revenue of hospitals and charitable agencies. The Hospital Saturday Fund collected £19,465, and the United Charities Fund £4,454, in the Metropolitan district during 1919-20.

The following is a comparative statement of the revenue and expenditure of the charitable institutions and societies:—

Particulars.	1901.	1911.	1916.	1918.	1919.
Institutions and Societies	160	190	202	198	193
Revenue—	£	£	£	£	£
State Aid	153,752	192,941	317,429	342,597	406,282
Subscriptions, etc.	34,906	78,786	109,901	133,460	130,225
Other	44,999	67,519	81,841	76,187	86,164
Total	233,657	339,246	509,171	552,244	622,671
Expenditure—					
Buildings and Repairs	40,247	21,063	24,617	37,222	30,837
Maintenance, Salaries, Wages ...	174,679	293,460	448,097	473,965	574,257
Other	39,008	11,142	24,981	43,165	22,378
Total	253,934	325,665	497,695	554,352	627,472

Financial aid from the State amounted to £406,282 in 1919, and represented 65 per cent. of the total revenue.

PROTECTION OF THE ABORIGINES.

The protection and training of the aboriginal natives of New South Wales are controlled by a Board consisting of the Inspector-General of Police and a maximum of ten other members appointed by the Governor.

At a census taken on 4th April, 1921, there were in New South Wales 7,551 aborigines, viz., 1,281 full-bloods and 4,867 half-castes, 1,047 quadroons, and 356 octoroons.

At the end of December an area of about 21,735 acres in various reserves had been set apart for aborigines. Dwellings have been erected on the reserves; the residents are encouraged to work, and assistance in the form of food and clothing is supplied when necessary. The average number receiving aid during the year 1920 was 1,906.

Aboriginal children are required to attend school until the age of 14 years, and a number of schools have been established for their exclusive use; the attendance in 1920 numbered 708. The Board may assume control of the children, and apprentice them, or place them in training homes.

The expenditure by the Aborigines Protection Board during the year ended 30th June, 1921, amounted to £40,474, including £23,010 for general maintenance, £5,119 for the purchase of stores, £7,315 for educational purposes, and £598 for medical attention. An amount of £4,269 was expended in connection with products raised on the reserves, and £5,915 was received as revenue from sales; the net expenditure during the year was £34,559.

PENSIONS.

New South Wales Government Pensions.

No general pension system, other than the old-age and invalid pensions noted subsequently, is in operation in New South Wales; but pension funds have been established in connection with sections of the Public Service, and are maintained partly by deductions from officers' salaries and partly from the public revenue. The existing funds are the Public Service Superannuation Fund, the Police Superannuation and Reward Fund, and the Government Railways Superannuation Fund.

The first Public Service Superannuation Fund was established by the Civil Service Act, 1884, but since the Public Service Act of 1895 new contributors have not been admitted, and in 1895 the existing contributors were given the option of withdrawing from the fund. The officers who elected to discontinue their contributions are entitled under prescribed conditions to receive refunds and gratuities on retirement; officers who have continued to contribute are entitled to an annual pension equal to one-sixtieth of the average annual salary for the last three years' service, multiplied by the years of service, the pensions being payable on retirement through incapacity or at age 60, or on abolition of office. An Amending Act in 1903 provided that on the Superannuation Account becoming exhausted all amounts payable to or out of that account should be paid to or out of the Consolidated Revenue. During the year 1919-20 the expenditure was £178,268, consisting of pensions, £164,713, and refunds and contributions, £13,555; contributions by public servants amounted to £9,321; the balance, £168,947, represented the net charge to Consolidated Revenue. In addition to these amounts, a sum of £3,500 is appropriated annually in terms of the Constitution Act for the payment of pensions to certain Government officers; the pensions paid during 1919-20 amounted to £1,233, the balance unallotted being £2,267.

The second Public Service Superannuation Fund was constituted by the provisions of the Superannuation Acts, 1916 and 1918, which came into operation on 1st July, 1919. These Acts provide a scheme of pensions and other benefits for employees of the New South Wales Government and other public bodies, except those subject to the Railway Service and Police Superannuation Acts. One-half of the cost of the scheme is borne by the employees, except where otherwise provided, and the balance by the employers. The age of retirement is 60 years, but women may elect to contribute for retirement at age 55; upon the death of a contributor or pensioner his widow receives one-half of the amount of pension for which he has contributed, and £13 per annum for each child under 16 years of age. Contributions by employees are compulsory and vary in accordance with the age and salary of the contributor. Tables showing the rates of contributions and of pensions were published in the 1919 edition of this Year Book.

The Board is empowered to take over insurance policies as desired by employees and to pay the premiums, charging compound interest at the rate of $3\frac{1}{2}$ per cent.; to accept voluntary savings from employees, allowing interest at the rate of $3\frac{1}{2}$ per cent.; or to make advances to employees for the purchase of homes and other purposes. Up to the 30th June, 1920, eleven life insurance policies had been taken over, and one employee was contributing voluntary savings. No advances had been made.

The total number of employees contributing as at 30th June, 1920, was 17,885, made up as follows:—

	Men.	Women.
Corporate Bodies	1,908	202
Public Departments under direct Ministerial control...	9,759	6,016
	<u>11,667</u>	<u>6,218</u>

During the year ended 30th June, 1920, the receipts of the fund amounted to £405,277, including contributions of £163,384 from employees, £237,841 from employers and £3,792 interest; the expenditure amounted to £6,234, including £3,799 refunded to contributors, and £2,231 paid as pensions. The total cost of administration for the year was £7,624, which was a charge on Consolidated Revenue. A sum of £361,455 was invested in securities of the State and Federal Governments and of the Municipal Council of Sydney.

Certain sections of the Superannuation Act, which became operative in 1916, conferred pension rights without contribution on employees who were 60 years of age, and had at least ten years' service; the amount of these benefits during the year ended 30th June, 1920, was £95,656.

A pension fund for the police force was established in 1899, amending legislation being passed in 1906. Annual contributions by members of the service are at the rate of 4 per cent. of salary; other sources of revenue are penalties imposed on members of the police force, and penalties and damages awarded to the police as prosecutors, also the proceeds of the sale of unclaimed goods in possession of the police. The amount of pension payable to members who entered the police service prior to 1906 is graduated in accordance with length of service, and ranges from half the salary, less 3 per cent., on retirement after fifteen years' service, to the whole of the salary, less 3 per cent., after thirty years' service. For the members who entered the service after 1906 the pension is one-fortieth of the salary on retirement for each year of service, less 3 per cent., up to a maximum of three-fourths of the salary on retirement; the retiring age is 60 years, except in cases of incapacitation, but under prescribed conditions the services of any member of the force may be retained until he reaches the age of 65 years. During the year ended 30th June, 1920, the receipts of the Police Superannuation and Reward Fund amounted to £126,379, including deductions from salaries, £49,379, and special appropriation from Consolidated Revenue, £77,000; the disbursements, £124,261, included pensions, £116,485; gratuities, £7,099; and miscellaneous, £677.

The Railway Service Superannuation Fund was established in October, 1910; the contributions from employees of the Railway and Tramway services are at the rate of 1½ per cent. of salary, and the State provides all that is necessary beyond such contributions. The amount of pension payable is one-sixtieth of the average annual salary during term of service, multiplied by the number of years of service, the maximum pension being two-thirds of the average salary. At 30th June 1920, there were 37,593 contributors; the number of pensions in force was 1,957, amounting in the aggregate to £140,886 per annum. The average rate of pension was £72 per annum. Since the inception of the fund 2,531 pensions have been granted, and 526 pensioners have died; 44 officers under 60 have been re-employed, and 4 pensions have been written off the books. During the year 1919-20 the receipts of the fund amounted to £131,398, including a subsidy of £48,750 from the Government; the disbursements, representing pensions, gratuities, refunds, etc., amounted to £150,304.

War Pensions.

The Australian Soldiers' Repatriation Act, 1920, passed by the Commonwealth Parliament, provides for the grant of pensions upon the death or incapacity, as the result of warlike operations, of members of the Commonwealth Naval or Military Forces. The general administration of the Act is entrusted to Commissioners, of whom there are three appointed by the Governor-General, but in each State there is also a Board consisting of three members, which determines the pensions.

The rates of pension payable on total incapacity range from £4 4s. to £6 6s. per fortnight, according to rank; in cases of partial incapacity lower rates are assessed by the Commissioners. The wife of a totally incapacitated member receives a pension ranging from £1 16s. per fortnight to £3 per fortnight; widows receive from £2 7s. to £3 per fortnight; widowed mothers receive pensions ranging from £2 to £6 per fortnight, and a pension is payable also on account of each child under 16 years of age.

The loss of two or more limbs, of both legs, feet, arms, hands, or eyes, or of arm and leg, hand and foot, or one eye together with leg, foot, hand, or arm, or the loss of all fingers and thumbs; or lunacy; or wounds, injuries, or disease involving total permanent disabling effects, and very severe facial disfigurements, are regarded as constituting total incapacitation. The amputation of a leg at the hip, or an arm at the shoulder joint, is held to constitute an incapacity of 80 per cent., while the loss of leg, foot, hand, or arm otherwise constitutes 75 per cent. disablement. Blinded soldiers receive a special pension at the rate of £8 per fortnight. Where the pension payable is not more than 30 per cent. of the rate for total incapacity, payment of a lump sum may be substituted.

The number of pensioners under the War Pensions Act as at 30th June, 1920, was as follows:—

Pensioners.	New South Wales.		Commonwealth.	
	Number of Pensioners.	Average Fortnightly Rate.	Number of Pensioners.	Average Fortnightly Rate.
Incapacitated Soldiers	30,012	£ s. d. 1 7 6	90,158	£ s. d. 1 6 10
Dependents of Deceased Soldiers	13,297	} 0 17 7	49,096	} 0 17 3
Dependents of Incapacitated Soldiers	26,322		86,326	
Total	69,631	1 1 10	225,580	1 1 1

The total cost to the Commonwealth Government on account of war pensions during the year 1919-20 was £5,991,389, including cost of administration £118,619, but a sum of £159,500 advanced to the Money Order Office is not included in this total.

At 30th June, 1921, there were 65,731 war pensions current in New South Wales, and the annual liability was estimated to be £2,150,538. The actual expenditure on account of pensions in New South Wales during the year ended 30th June, 1921, was £2,331,633, and the total cost to the Commonwealth was £7,386,842.

Invalid Pensions.

Invalid pensions were first paid in New South Wales under the Invalidity and Accidents Pensions Act, passed by the State Parliament in 1907, which allowed pensions payable from Consolidated Revenue up to £26 a year to persons over 16 years of age permanently incapacitated for any work.

The State system was maintained until the payment of invalidity pensions was undertaken by the Commonwealth on 15th December, 1910. The pensions paid during the currency of the State Act amounted to £235,012.

The conditions attaching to invalid pensions payable by the Commonwealth are similar to those prescribed by the State Act, the maximum pension being 15s. per week as in the case of old-age pensions. The applicant must have resided for at least five years and have become incapacitated or blind in Australia, but persons permanently incapacitated or blind by reason of congenital defect are regarded as having become so in Australia, if brought to Australia before the age of 3 years. Invalid pensions are not

payable to persons whose income or property exceed the limits prescribed in the case of applicants for old-age pensions, or whose relations adequately maintain them. Aliens, Asiatics (except those born in Australia), and aboriginal natives of Australia, Africa, Pacific Islands, and New Zealand are not qualified to receive invalid pensions.

Prior to the commencement of the Commonwealth invalid pension system, New South Wales was the only State in which such a pension scheme was operative; in Victoria pensions were payable to persons permanently disabled whilst engaged in certain hazardous occupations, but only 111 claims were taken over by the Commonwealth. The pensions taken over from New South Wales at 15th December, 1910, numbered 3,498. Particulars of transactions in New South Wales during the last five years are shown below in comparison with 1912, the first complete year of Commonwealth control.

Year ended 30th June.	New Claims.	Invalid Pensions current in New South Wales at 30th June.			Average Weekly rate of Pension as at 30th June.	Estimated Annual Liability as at 30th June.	Estimated Annual Liability per head of Population as at 30th June.
		Males.	Females.	Total.			
1912	1,784	2,549	2,278	4,827	s. d. 9 9	£ 121,836	s. d. 1 5
1916	2,091	4,819	4,537	9,356	9 10	239,408	2 7
1917	2,335	5,106	5,697	10,803	12 4	346,528	3 9
1918	2,582	5,669	6,500	12,169	12 4	390,442	4 1
1919	2,659	6,086	7,012	13,098	12 4	419,692	4 3
1920	3,480	6,583	7,754	14,337	14 9	550,134	5 5

The invalid pensions current in New South Wales on 30th June, 1920, represented 7·2 per thousand of population, compared with 6·7 for the Commonwealth. On 30th June, 1912, the corresponding rates were 2·9 and 2·4 respectively.

Old-age Pensions.

The State has recognised it as a duty to prevent destitution among aged persons. The measures adopted were similar to those taken in New Zealand in 1898, and consisted of the grant of a modest pension as a free gift of the State to citizens of good character who, in the prime of life, had helped to bear the public burthens of the State by the payment of taxes and by opening up its resources by their labour and skill.

The scheme was initiated by the Old-age Pensions Act passed by the Parliament of New South Wales in 1900. It commenced to operate on 1st August, 1901, and virtually expired on 1st July, 1909, when that portion of the Commonwealth Invalid and Old-age Pensions Act, 1908-1909, which relates to the payment of old-age pensions to men, came into operation. The portion of that Act authorising payment of pensions to women on attaining age 60 commenced to operate on 15th December, 1910.

The total amount paid for old-age pensions for the period of nine years during which the State system was in operation was £4,009,127, and the cost of administration £165,560 approximately. On the introduction of the Commonwealth administration, 21,292 State pensions were transferred.

The conditions governing the payment of old-age pensions under the Commonwealth have varied but slightly from the conditions prevailing under the State Act; the age qualification is 60 years for women and 65 years for men, with a reduction to 60 years in case of men permanently incapacitated; the length of residence qualification is twenty years in Australia, but

absences amounting in the aggregate to one-tenth of the total period of residence are permitted. Naturalised persons are eligible for pensions, but aliens and aboriginal natives are disqualified.

Formerly the maximum pension payable was £26 per annum; this amount was raised to £32 10s. as from 12th October, 1916, and a further increase to £39 per annum was made as from 15th January, 1920, with proportionate reduction in respect of any income or property of the claimant, so that the pensioner's income with the pension shall not exceed £65 per annum in the case of men pensioners and £60 in the case of females. In computing income benefits accruing from friendly societies are not to be reckoned as income, nor gifts nor allowances from children or grandchildren; in assessing the value of property, the home in which the pensioner permanently resides is not included. Money payable to a pensioner while he is an inmate of a benevolent asylum or hospital may be paid to the asylum or hospital for his benefit.

Prior to the introduction of the Commonwealth system, old-age pensions were payable in three States—New South Wales, Victoria, and Queensland.

The following statement shows the applications received in New South Wales, the number of old-age pensions current, and the average rate and total liability for old-age pensions in recent years:—

Year ended 30th June.	New Claims.	Old-age Pensions current in New South Wales at 30th June.			Average Weekly Rate of Pension, as at 30th June.	Estimated Annual Liability, as at 30th June.	Estimated Annual Liability per head of Population, as at 30th June.
		Male.	Female.	Total.			
1912	4,763	13,639	16,029	29,668	s. d. 9 7	£ 734,526	s. d. 8 5
1916	4,375	14,630	18,619	33,249	9 8	834,496	8 11
1917	4,553	14,591	19,350	33,941	12 1	1,068,990	11 4
1918	4,689	14,795	20,283	35,078	12 1	1,098,344	11 6
1919	4,634	14,979	20,543	35,522	12 0	1,112,098	11 4
1920	6,231	15,515	21,843	37,358	14 6	1,405,534	13 11

The old-age pensioners in New South Wales represent 18.6 per thousand of population; in the Commonwealth as a whole the rate is 18.9. At the Census of 1911 the proportion of persons who were eligible for pensions by age was 50.4 per thousand in New South Wales and 52.6 in the Commonwealth.

The number of old-age pensioners is increasing at a rate faster than the increase of population. This is due to a number of reasons, including the increasing proportion of aged persons in the community, the growth of knowledge as to the rights of aged persons, and the decay of the feeling that an old-age pension is of the nature of a charitable dole.

The total expenditure by the Commonwealth on invalid and old-age pensions during the year ended 30th June, 1920, was as follows:—

	£
Paid as Pensions	4,411,629
Paid to Benevolent Asylums for Maintenance of Pensioners ...	72,675
Cost of Administration	74,120
Total	£4,558,424

FRIENDLY SOCIETIES.

Friendly Societies occupy a very important position in New South Wales; it is estimated that probably 600,000 persons, or nearly one-third of the population benefit directly or indirectly from their operations. They exercise a strong influence for good among the industrial classes by inculcating habits of thrift, and by preventing and relieving distress, to deal with which would otherwise become an obligation on the public.

The first Friendly Society in New South Wales was founded in 1834, when the Australian Union Benefit Society was established. This society is still existent.

The earliest societies were founded by former members of English orders who had emigrated to Australia before the business of Friendly Societies in Great Britain was placed on a scientific basis, and subjected to legal regulation. The first bodies, therefore, grew up in a more or less irregular way and performed their functions with little supervision until 1899, when an Act of Parliament conferred on the Registrar power to inspect lodge-books, to prosecute in cases of defalcation, and the authority necessary to enforce the adoption of an adequate scale of contributions. In this way stability was ensured, and subsequent improvements in the administration have placed Friendly Societies on a sound legal and scientific basis.

All legislation affecting Friendly Societies was consolidated in the Act of 1912, but two amendments were made in 1913 and further amendments in 1916 and 1920.

The Act provides for the compulsory registration of societies or branches established for the purpose of providing, by subscription of the members, benefits of various kinds including sick pay, funeral donations, and medical attendance and medicine.

In order that the contributions chargeable shall be sufficient to meet obligations, the Act provides that the tables of contribution payable for benefits susceptible of calculation by way of average shall be duly verified by an actuary.

Provision is made also for safeguarding the funds of the societies. All moneys received or paid on account of any particular fund or benefit must be kept distinct from the moneys paid or received on account of any other fund or benefit, but after valuation the Registrar may authorise surplus moneys belonging to any fund or benefit to be used in any manner for the purpose of any other fund or benefit. If the benefit funds are administered by one central body for the whole society, they may be treated as one fund.

The secretary must furnish to the Registrar a yearly return giving full details relating to the finances and membership of the society.

The Registrar is empowered to appoint inspectors to inquire into and report to him on the affairs of any society or branch. The inspector may demand the production of all books and documents of the society or branch, and may examine on oath its officers, members, agents, and servants in relation to its business.

The benefits assured are fairly uniform in all societies, and consist usually of medical attendance and medicine for a member and his family, with sick pay for the member, and funeral allowances for the member and his wife. The average sickness benefit is 21s. per week during the first six months, 10s. 6d. during the next six months' illness, and 5s. per week during the remainder of illness, this last provision being rendered possible by the system of State subvention, of which more detailed mention is made later. The funeral benefits usually range from £20 to £40 at death of the member, and a contingent benefit of £10 or £15 is payable on death of the wife. A separate benefit for widows of members, usually £10, may be assured in most of the societies for a stated contribution.

A valuation of the assets and liabilities of the societies is made in the office of the Registrar every five years. The first valuation was made in 1904, and a brief statement respecting this and later valuations may be found in the Official Year Book for 1918. By June, 1921, the valuation as at 31st December, 1919, was nearing completion.

At 31st December, 1919, there were 61 Societies, including 22 Miscellaneous; 18 possessed branches, and 43, including 2 with juvenile branches, were classed as Single Societies. No new Societies were registered during 1920.

The societies may be divided into two classes, viz., Friendly Societies proper, and Miscellaneous Societies, whose objects bring them within the scope of Friendly Societies' legislation, but whose benefits differ somewhat from those of ordinary Friendly Societies.

Among the amendments made to the Friendly Societies Act in 1920 it was provided that the annual returns should cover the financial year instead of the calendar year as formerly. In future, therefore, particulars of Friendly Societies will be shown as for the year ended 30th June, but the first return under the amended Act will cover eighteen months ended 30th June, 1921.

The following summary shows the branches, membership, and funds as at 31st December, 1919:—

Classification.	Societies and Branches.	Members.	Funds.
Friendly Societies Proper—	No.	No.	£
Affiliated	1,882	180,502	2,159,002
Single	21	3,672	58,794
	1,903	184,174	2,217,796
Miscellaneous Societies	22	1,280	18,846
Total	1,925	185,454	2,236,642

The societies classified as "Friendly Societies proper" offer such a wide range and appeal so strongly to individual sympathies that the field of operations for new societies is limited, and only one new Society has been established since 1913.

The number of members has grown rapidly since 1899, when Societies were first subjected to supervision by the Registrar. In that year there were 87,245 members, equal to 5.9 per cent. of the population, and thereafter a continuous development proceeded until the outbreak of war, when the number declined owing to enlistments and, subsequently, through deaths on active service. This growth and the decline during the war period are shown in the following table:—

Year.	Aggregate Membership.		Year.	Aggregate Membership.	
	Members.	Percentage of Population.		Members.	Percentage of Population.
1899	78,245	5.9	1915	178,705	9.6
1905	101,463	7.0	1916	178,877	9.6
1910	149,579	9.1	1917	177,602	9.4
1913	188,530	10.3	1918	180,896	9.4
1914	182,325	9.5	1919	184,174	9.2

The number of members entitled to benefits at the close of 1919 was 169,482, the remainder being ineligible on account of brief membership or arrears of contributions. The benefits of medical attendance and medicine accrue also to the member's family, but such persons are not included in the membership.

The membership in 1919 comprised 161,876 men, 10,265 women, and 12,033 juveniles. As compared with the previous year there were increases of 2,646 men, 340 women, and 292 juveniles, the total net increase being 3,278 members. During each of the four years prior to 1918 there were decreases in the male membership attributable directly to the war.

Information regarding receipts and expenditure of Friendly Societies, and the accumulated assets, may be found upon reference to Part Private Finance of this Year Book.

Miscellaneous Friendly Societies.

In addition to the Friendly Societies proper there were at the end of 1919 twenty-two miscellaneous societies registered under the Friendly Societies Act. Eighteen were medical institutes or dispensaries which have no members in the ordinary sense of the term, but are supported by subscriptions from branches of Friendly Societies within their immediate districts, at a fixed rate per head of membership. The dispensaries supply medicine to all members whose names have been placed on their lists by contributing branches, and in some cases arrange also for medical attendance.

The receipts of the dispensaries in 1919 were £38,777, and the expenditure was £37,351, so that there was an excess of receipts amounting to £1,426. These bodies have received liberal grants from the Government, and with this assistance have been able to purchase land and to erect buildings, the shares of the subscribing branches being covered by the issue of interest-bearing debentures; but in addition to making the necessary interest payments, most of the dispensaries have been enabled to make substantial reductions in the principal. The four remaining societies were Accident Societies.

The following particulars relate to miscellaneous Friendly Societies in the year 1919:—

Classification.	Dispensaries.	Other Miscellaneous Societies.	Total.
Societies No.	18	4	22
Membership No.	...	1,280	1,280
Receipts £	38,777	3,060	41,837
Expenditure £	37,351	3,527	40,878
Funds £	16,003	2,843	18,846

It will be seen that dispensaries comprise over 80 per cent. of the Miscellaneous Societies, and by the amending Act of 1920 their scope was extended largely.

State Subvention of Friendly Societies.

To enlarge the sphere of usefulness of the Friendly Societies the **Subvention to Friendly Societies Act, 1908**, now consolidated with the Friendly

Societies Act, assured to the societies which might elect to be bound by its provisions, the following monetary benefits payable from the Consolidated Revenue of the State:—

1. Sickness pay—

- (a) One half of the cost in each year in respect of continuous sickness after twelve months from the commencement of such sickness, for male members less than 65, and for females less than 60 years of age—provided that the maximum cost to the State must not exceed 5s. per week for each case.
- (b) The whole cost of sickness pay in respect of male members aged 65 years and over, and of female members aged 60 years and over—subject to the same proviso as above.

2. Amount equal to contributions payable—

- (a) On account of all male members 65 years and over, and of female members 60 years and over, for medicine and medical attendance, provided that such contributions shall not be more than those payable by members of the same society under the ages stated.
- (b) Under the rules of a society in respect of the aged members above mentioned, to assure payment of funeral allowance at their death.

With one exception, the Irish National Foresters, all affiliated societies have become applicants under the Act.

The following is a summary of the claims for the last five years for which information is available:—

Year.	Applicant Societies.	Sickness Pay.				Contributions.				Total Amount of Claims.
		Continuous Sickness.		Sickness of Aged Members.		Medical.		Funeral.		
		Claimant Members.	Amount.	Claimant Members.	Amount.	Claimants.	Amount.	Claimants.	Amount.	
1915	28	904	£ 4,764	1,871	£ 11,659	4,909	£ 6,423	5,251	£ 2,737	£ 25,583
1916	29	928	5,012	1,852	12,547	5,418	7,219	5,487	2,965	27,743
1917	29	1,018	5,292	2,042	13,623	5,805	8,025	6,218	3,276	30,216
1918	29	1,105	5,564	2,165	14,238	6,318	8,835	6,986	3,553	32,190
1919	28	1,155	6,223	2,334	15,138	6,813	9,865	7,462	3,857	35,083

During the eleven years during which subvention has been payable the total claims have amounted to £252,728, details being as follows:—Continuous sickness pay, £43,865; sickness pay to aged members, £116,126; medical contributions, £64,523; and funeral fund contributions, £28,214.

The system has been of benefit to all the societies, but more particularly to those in which the proportion of aged members is large.

The Friendly Societies' Experience of Sickness.

The returns of the Friendly Societies of New South Wales furnish valuable information relating to the sickness and mortality of the members, and a standard of purely local experience is provided as a basis of the quinquennial valuations of the societies, by their experience recorded for the nine years 1900-08. During this period the sickness of the male members aggregated 859,412 weeks, the annual rate per member being 1·30 weeks.

The following table shows the average annual weeks of sickness per member in New South Wales at every fifth year of age during the years 1900-08 in comparison with the experience of the Manchester Unity Friendly Society of England, 1893-7, the South Australian Friendly Societies, 1895-1904, and the Victorian Friendly Societies, 1903-7:—

Central Age.	New South Wales Friendly Societies, 1900-1908.	Manchester Unity, England, 1893-1897.	South Australian Friendly Societies, 1895-1904.	Victorian Friendly Societies, 1903-1907.
Years.				
18	·84	·95	·74	·91
23	·76	·90	·77	·86
28	·74	·97	·75	·85
33	·75	1·10	·79	·89
38	·84	1·33	·89	·99
43	1·02	1·65	1·04	1·20
48	1·32	2·11	1·32	1·46
53	1·85	2·98	1·80	2·10
58	2·94	4·41	2·84	3·82
63	4·63	7·15	4·44	6·56

The New South Wales experience approximates closely to that of South Australia, but is considerably below the experience of England and of Victoria.

The male rates decrease down to age 29, and then increase regularly to the end of the observed period of life. The phenomenon of high rates at the early ages is not explained on the ground of paucity of data, as the same result was exhibited in the experience of individual societies whether their membership was large or small. The sickness rates of the Friendly Societies of other States of the Commonwealth disclose a similar feature, and it must be concluded that such high rates are peculiar to this class of experience, and probably induced by the liberal benefits available.

STATUS OF WOMEN.

In New South Wales women have had the right to exercise the franchise since 1902 and, in 1918, it was provided that sex should not disqualify any person from acting as member of the Legislative Assembly, as member of a council of any shire or municipality, as judge, magistrate, barrister, solicitor, or conveyancer. There is, however, no female member of the Legislative Assembly, though women have contested elections; a number of women have been appointed justices of the peace and one has been admitted to practice as a barrister. Women may not act on juries; they are eligible for all degrees at the University of Sydney, but are not ordained as ministers of religion.

The employment of women in factories and shops is regulated specially by the Factories and Shops Act, 1912, which limits the continuous employment of women to five hours, restricts the amount of work they may do in excess of forty-eight hours per week and between 6 p.m. and 6 a.m. and limits the employment of girls under 18 years of age. The minimum wage for any employee in a factory or shop is fixed at four shillings per week. A separate living wage for women employees is determined after special inquiry by the Board of Trade, but a definite principle of equality or difference between the pay of women and men is not observed in the industrial awards and agreements. There are only two separate trade-unions for women, but many unions have women members.

No legal age of marriage has been defined, but the average age at which women marry is about twenty-five years; the consent of a parent or guardian is necessary to validate the marriage of minors. The wife of a British subject is deemed to be a British subject throughout Australia. By the Married Women's Property Act, 1901, a married woman is capable of holding, acquiring, or disposing of any real or personal property as her separate property in the same manner as if she were a *femme sole*; her property is not liable for her husband's debts, and her earnings in any occupation apart from her husband's are her own. A wife, however, has no legal share of her husband's income or in any property acquired by their joint efforts after marriage, but a husband is liable for all necessary expenses of his wife and children.

HOUSING.

The problem of housing has assumed considerable importance in New South Wales in the past decade. Fortunately in most country towns land is still comparatively cheap, and the inhabitants have generally been able to build adequate and hygienic dwellings, and, though close supervision of building was not inaugurated until 1919, these happy circumstances have prevented the growth of those State-wide evils which exist in some older countries. Nevertheless, in the city, in some of the large towns possessing an industrial population, and in mining centres, undesirable features have been allowed to obtrude, so that not only unhealthy dwelling places, but, in parts of the Metropolis, "slum" areas have grown up.

In addition to the deep-seated causes, such as poverty, uncertainty of employment, and the lack of knowledge and supervision in past years, which have tended to produce the evils of bad housing, the shortage of houses has operated recently as a powerful force to cause overcrowding. This shortage has resulted from the restriction of building operations due to the rapid rise of costs, to the competition of other investments, and, latterly, to the partial suspension of operations during the war. Further reference is made to this matter under the heading of "House-rents" in Part "Food and Prices" of this Year Book.

Government action to deal with the matter of housing was first taken in 1911, when a Select Committee was appointed by the Legislative Assembly to inquire into the increase in rents. In the following year the State Housing Scheme was launched, and a Royal Commissioner was appointed to investigate the question of the "Housing of Workmen." The report of the Commission drew attention to some little-recognised evils, including the "slum" areas of the city, the poor housing of towns, the absence of town-planning, and the proper supervision of town-building. A number of the points raised by the Commissioner were met by the Local Government Act, 1919, which conferred very extensive powers on Municipal and Shire Councils, not only in supervising and regulating the construction of buildings, but in promoting schemes of town-planning on modern lines.

To assist Councils in their difficulties a Town Planning Advisory Board was appointed by proclamation of the Governor in October, 1918; and this Board is actively engaged with the problems of Metropolitan and country urban settlement. A Town Planning Association was formed in 1913 with the object of promoting legislation for the better laying-out of towns and of propagating knowledge of the advantages accruing from and the need for town-planning.

The number of occupied dwellings in New South Wales at the Census of 1911 was 332,841. Private dwellings, including tenements, numbered 319,766, or 96.07 per cent. of occupied dwellings; boarding and lodging houses, 5,966, or 1.8 per cent.; hotels, 2,795, or .8 per cent.

The inmates of private dwellings numbered 1,494,504, or 91·2 per cent. of the total population of the State. Nearly 25 per cent. of the inmates of private dwellings reside in houses containing 5 rooms, while 84 per cent. reside in houses containing from 4 to 9 rooms.

The principal materials used for building are wood and bricks; 49·7 per cent. of the occupied dwellings being built of the former and 36·4 per cent. of the latter; 3 per cent. are built of stone and 2·7 per cent. of iron.

In Sydney improvements and resumptions have been continuous; 143 new buildings were erected during 1920, and 587 were altered or enlarged. In the suburbs the cottage plan of dwelling-house is favoured, and, as in the city, brick buildings predominate. During the past five years new buildings have been erected in the city and suburbs at an average rate of 6,120 per annum, which is low when compared with the pre-war average (1912-1914) of 8,740. Particulars of recent years are shown below:—

Year.	New Buildings.			Net Increase of Population, Sydney and Suburbs.
	Sydney.	Suburbs.	Total.	
1916	90	4,961	5,051	1,600
1917	88	4,723	4,811	12,700
1918	76	4,878	4,954	15,400
1919	147	6,969	7,116	36,000
1920	143	8,524	8,667	28,400

The extent of building operations, as shown by the records of past years, indicates an increase of dwelling-houses in New South Wales, but the major portion of that increase has been in suburban dwellings.

The following table shows the number of cases in which permission was granted to erect new buildings in municipalities outside the Metropolis during the twelve months ended 31st December, 1920:—

Municipality.	New Buildings (to erect which permission was granted).	Estimated Population, 31st December, 1920.
Albury	52	7,200
Auburn	164	12,430
Bankstown	295	7,900
Dundas	95	2,700
Fairfield	64	3,750
Goulburn	137	11,500
Granville	152	12,500
Katoomba	66	7,600
Lidcombe	156	9,220
Lismore	60	9,030
Lithgow	91	11,270
Newcastle and Suburbs	961	65,780
Orange	56	7,680
Parramatta	64	12,800
Prospect and Sherwood	130	6,500
Wagga Wagga	99	8,000
Other Municipalities (118)	1,217	299,100
	3,859	494,960

Only those municipalities have been shown where permission was granted for the erection of fifty buildings or more; the other municipalities have been grouped.

As a result of the slackening of building operations during the war the shortage of houses, which had been felt already in 1914, was not relieved by construction, partly because the absence of so many men oversea created a weaker demand for houses, and partly because money and enterprise were diverted by the war. Consequently with the return of soldiers from abroad the demand for houses suddenly revived and the shortage was felt more acutely than ever. Though in response to the new demand the rate of building construction revived during 1919 and 1920, it did not exceed the pre-war rate and, largely as a result of the high costs and the scarcity and dearness of money, operations contracted in the first half of 1921 to little more than half their normal volume. This decline affected Sydney and the country towns alike, although rents had risen considerably and there existed a shortage of houses estimated at 18,000 in the Metropolis alone.

STATE HOUSING SCHEMES.

In 1912, when the shortage of small dwelling-houses was becoming acute in Sydney, the Government took steps to supplement the operations of private builders by undertaking to construct modern houses, for lease or for sale, to persons not already possessed of a house.

By the provisions of the Housing Act, 1912, the control of the scheme was entrusted to a Housing Board, consisting of three members, appointed by the Governor, for a period of five years, and removable only by the Governor. This Board was empowered to purchase and subdivide land, to erect on it buildings for residential and other purposes, and to sell or lease such buildings under certain conditions. It was provided that there should be established a Housing Fund, to consist of such moneys as Parliament should provide.

The scope of this scheme was enlarged considerably in 1919 when additional powers were given to the Board, enabling it to make advances to any adult person for the purpose of (a) erecting or making additions to a house on land already owned by him, or (b) of purchasing a dwelling already erected. Such advances, however, were confined to persons who were not already possessed of any other land or dwelling-house exceeding £250 in value, whose income did not exceed £400 per annum, and who intended to use the house as a home.

The maximum amount of any advance was fixed at £1,000, but in practice the Housing Board observed a limit of £750, and in no case advanced more than 95 per cent. of the value of the property; no applications were granted for the purchase of dwellings already erected. Repayment of loans was arranged on an instalment plan to extend over a period of thirty years for brick buildings and twenty years for wooden buildings, interest being added at the rate of 6 per cent. per annum. The purchaser of property under this scheme is not permitted to sell or mortgage it before the expiration of seven years.

Building societies, whose objects include the provision of houses for their members, may be assisted by grants or loans, and councils of shires and municipalities may be assisted similarly subject to the provisions of the Local Government Act, 1919.

As an outcome of the various operations of the Housing Board up to the end of 1920 there had been constructed 1,249 houses, including 222 in course of erection. Of these 805 were built on Crown lands and 444 on private lands; in the latter cases usually money was advanced by the Board and the work of building done by private contract. The total expenditure by the Board on all its operations to 30th June, 1920, was £776,901, exclusive of the cost of a number of sites partially developed but not valued.

The following summary of the work of building actually done by the Board from its inception to 30th June, 1920, indicates the extent of its schemes; particulars of dwellings built by private contract on private lands are not included:—

Site.	Area of Site.	Number of Dwellings.			Expenditure on Dwellings.	
		To be Erected.	Erected.	In course of Erection.	Erected.	In course of Erection.
	acres.				£	£
Daceyville ...	210	1,287	314	...	134,565	...
" No. 1	16	102	42	8	25,200	4,800
" No. 2	48	284	12	44	7,200	13,816
Bunnerong ...	12	110	25	21	15,000	12,742
The Warren ...	12	80	15	46	12,690	20,213
Gladesville ...	23	134	...	106	...	12,667
Stockton... ..	72	400	35	24	17,400	11,720
Hamilton ...	5	29	...	29	...	11,504
Wollongong ...	1½	10	...	10	...	2,018
Forbes ...	2½	12	...	14	...	2,501
Auburn ...	2½	14	...	14	...	2,549
Matrville ...	14	85	2	10	1,258	4,198
Orange ..	1	8	8	...	6,043	...
All Sites...	419½	2,555	453	326	219,356	98,728

During the year ended 30th June, 1920, 153 houses were completed and 326 partially erected, involving an expenditure of £89,066 and £98,728 respectively, in addition to £28,676 spent on sites. At Daceyville 68 houses were completed, at Stockton 35, at Bunnerong 25, at The Warren 15, at Orange 8, and at Matrville 2. Operations during the year were considerably restricted owing to a shortage of funds.

The original scheme, which is still the largest part of the activities of the Board, provides for the construction of a garden suburb at Daceyville, about 5 miles from the centre of the City of Sydney. An area of Crown lands, covering 336 acres, and valued at £21,872, has been appropriated, and reservations have been made for roads, parks, gardens, and other public places, also for public buildings, schools, and churches, the area allotted for various purposes being as follows:—Roads, 70 acres; parks and open spaces, 21½ acres; houses and shops, 169½ acres; public buildings and churches, 7 acres; public school, 5 acres; leaving an area of 63 acres yet to be dealt with. The total number of houses on the 274 acres will be 1,673, being an average of 6.65 to the acre, including roads, but excluding parks and open spaces. The main roadway is 100 feet wide, with secondary roads 66 feet wide.

Building operations were commenced on 6th June, 1912, and 368 cottages, six shops, a clinic, and a picture theatre, had been completed at 30th June, 1920, when 52 dwellings were in course of erection. The cottages are built of brick or concrete blocks, on stone or rubble foundations, with tile and slate roofs. The accommodation of the smallest dwellings is three rooms, and of the largest four rooms, kitchen, etc. The cottages are lighted throughout with electricity, and gas is laid on for cooking purposes. The rentals range from 12s. 9d. to 21s. 6d., and the cost from £276 to £640, the average being £454 each, which includes building, kerbing and guttering, asphaltting footpaths, turfing, sewerage connection, etc.

The capital employed at Daceyville, as at 30th June, 1920, amounted to £234,362, of which £184,581 was absorbed in cottages erected and in course of erection, £9,550 in shops and picture theatre, and the balance, £40,231,

was expended on the site in the construction of the storm-water channel, road formation, etc. During the financial year 1919-20 the rentals contracted for amounted to £13,822, and the rents received to £13,542; at the end of the year the arrears of rent outstanding amounted to £280.

By 31st December, 1920, fifty-nine houses had been erected and sold at Stockton, the total cost of erection being £38,900; eight houses had been built at Orange at a cost of £6,043.

Observatory Hill Resumed Area.

The Observatory Hill Resumed Area is situated on the foreshores of Port Jackson, adjoining the wharves, and contains a number of business premises and residences, including dwellings, erected on the flat system, for waterside workers. The area comprises about 30 acres, and was acquired by the Government in 1900 in connection with the Darling Harbour wharves resumption. Being the oldest settled portion of Sydney, practically the whole of the area required improvement. The capital employed amounted to £1,321,103 as at 30th June, 1920; the total revenue during the year 1919-20 was £69,687; and the expenditure £24,618, exclusive of interest on loan capital.

State Savings Bank—Advances for Homes.

As part of the Government scheme to provide facilities for house-building the Commissioners of the Government Savings Bank were authorised by an Act passed in 1913 to make advances to enable persons to erect or enlarge their homes or to purchase dwellings already constructed.

The Bank advances up to three-fourths of the value of the property to a maximum of £750, and the repayments in the case of new stone, concrete, or brick buildings are to be made within thirty years, and in the case of wooden structures within twenty years. No advance is made to any person who at the time of the application is the owner of another dwelling in the State.

The system came into operation on 1st July, 1914, and up to 30th June, 1920, the amount of £2,646,950 had been advanced to 6,650 borrowers. The transactions during each year were as follow:—

Year ended 30th June.	Applications received.		Advances approved.		Advances made.	
	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£
1915	840	337,894	728	283,870	575	221,900
1916	928	333,490	927	346,175	794	298,375
1917	992	347,810	946	329,100	783	274,785
1918	1,567	573,870	1,251	460,245	875	311,710
1919	2,073	810,415	2,022	793,155	1,373	530,680
1920	1,945	1,304,465	2,608	1,185,170	2,250	1,009,500

The average amount per advance is £400. The scheme proved popular from its inception and, since the termination of the war, has become a most important factor in enabling persons of modest means to acquire a home on easy terms, to make additions and alterations, or to discharge an existing mortgage. In this way the operation of the scheme has provided facilities for improved housing.

The rate of interest charged for advances was raised from 5½ to 6 per cent. on 1st July, 1917, to 6½ per cent. from 1st July, 1920, and to 7 per cent. from 1st July, 1921.

Sydney Municipal Housing Area.

An Act was passed in 1912 to enable the Municipal Council of the City of Sydney to erect and let dwelling-houses, and for that purpose to acquire land.

A block of buildings named "Strickland Dwellings," erected by the Council on land acquired in Chippendale in connection with street improvements, was opened in April, 1914. The buildings are three storeys high, and cover a ground space of 279 feet by 78 feet; the total cost, including land, was £49,814. At each end there are four shops, and the remainder of the building is divided into 71 suites of self-contained flats of two, four, or six rooms; the rents range from 12s. 6d. to 28s. per week.

The City Council has by resumptions acquired other lands and buildings, and after street-widening retained many dwellings which by repairs and improvements of sanitary conditions have been converted into satisfactory residential areas.

WAR SERVICE HOMES.

The Commonwealth War Service Homes Act, 1918, which came into force in 1919, provides for homes for Australian sailors and soldiers and their female dependents. The Commissioner charged with the administration of the Act is authorised to acquire land and dwellings, and to erect dwellings, etc.; he may make advances on mortgage to eligible persons to enable them to acquire homes, or may sell homes to them on the rent-purchase system. The amount of advance on the total cost of land and a dwelling may not exceed £800, and the maximum rate of interest for repayments is 5 per cent. Briefly, the position with regard to operations in New South Wales up to 30th June, 1921, was as follows:—

	No.
Houses completed	1735
Houses in course of construction	532
Applications approved, but work not started	919
Existing houses purchased and mortgages discharged (settlement in every instance not yet effected)	4390

PARKS, RECREATION RESERVES, AND COMMONS.

Excepting areas committed to special trustees, all public parks and recreation reserves in New South Wales are placed by the Local Government Act, 1919, under the control of Municipal and Shire Councils, whose authority extends over parks, children's playgrounds, drill grounds, sports grounds, and public gardens within their boundaries. On all areas, councils are empowered to provide buildings for public entertainments and refreshment rooms, boats and boat-sheds, pavilions, etc., public baths, gymnasia, and musical entertainments. Councils may also preserve places of historical and scientific interest and natural scenery. Most country towns of importance possess extensive parks and recreation reserves.

The city of Sydney contains within its boundaries a large extent of parks, squares, and public gardens. The most important are—Moore Park, where about 368 acres are available for public recreation, including the Sydney Cricket Ground and the Royal Agricultural Society's Ground; the Botanic Gardens and Garden Palace Grounds, 65 acres, with the adjoining Domain, 86 acres, ideally situated on the shores of the Harbour; and Hyde Park, 39 acres, in the centre of the city. The total area covered is 654 acres, or 20 per cent. of the whole of the city proper. This does not include the Centennial Park, 552 acres in extent, situated on the outskirts of the city, formerly reserved for the water supply, but now

used for recreation by the inhabitants of Sydney. This magnificent recreation ground has been cleared, planted, and laid out with walks and drives, and is a favourite resort of the citizens.

The Zoological Gardens were situated in Moore Park until a new site was opened in 1916 at Taronga Park, on the northern side of the Harbour. In the preparation of the new gardens the natural formation has been retained as far as practicable, with the object of displaying the animals in natural surroundings.

The suburban municipalities are also well served, as they contain, including the Centennial Park, about 4,060 acres of public parks and reserves, or about 4.4 per cent. of their aggregate area, dedicated to, and in some cases purchased for, the people by the Government.

In addition to these parks and reserves, the National Park, situated about 16 miles south of Sydney, and accessible by railway, was dedicated to the people in December, 1879. This park, with the additions subsequently made in 1880 and 1883, contains a total area of 33,747 acres, surrounding the picturesque bay of Port Hacking, and extending in a southerly direction towards the mountainous district of Illawarra. It is covered with magnificent virgin forests; the scenery is charming, and its beauties attract thousands of visitors.

Another large tract of land, designated Kuring-gai Chase, was dedicated in December, 1894, for public use. The area of the Chase is 35,322 acres, and contains portions of the parishes of Broken Bay, Cowan, Gordon, and South Colah. This park lies about 15 miles north of Sydney, and is accessible by railway at various points, or by water *via* the Hawkesbury River, several of whose creeks, notably Cowan Creek, intersect it.

In 1905 an area of 248 acres was proclaimed as a recreation ground at Kurnell, on the southern headland of Botany Bay, a spot famous as the landing-place of Captain Cook; and the Parramatta Park (252 acres) although outside the Metropolis, may be mentioned on account of its historic interest.

A State Nursery is maintained at Campbelltown, from which plants, trees, and shrubs are distributed to the various parks and reserves.

Under the Public Parks Act the Governor may appoint trustees of any lands proclaimed for the purposes of public recreation, convenience, health, or enjoyment. The trustees are empowered to frame by-laws for the protection of shrubs, trees, etc., upon the land vested in them, and to regulate the use and enjoyment of such land by the public.

Surrounding many country towns there exist considerable areas of land reserved as commons, on which such stock as is possessed by the townsfolk may be depastured. The use of these lands is regulated by local authorities; nominal fees are usually charged to defray the cost of supervision and maintenance. Many of these commons have been made permanent, but a large number are only temporary.

Particulars as to the areas reserved for parks and recreation reserves and for temporary commons in each of the past five years as compared with 1910 are shown below.

As at 30th June.	Temporary Commons.	Parks and Recreation Reserves.
	acres.	acres.
1910	579,033	207,908
1916	527,359	230,479
1917	509,941	231,594
1918	498,991	231,019
1919	481,960	230,765
1920	461,529	230,857

Particulars of permanent commons are not at present available.

HORSE-RACING.

Horse-racing has always been a popular form of sport in New South Wales, and with it is associated a large amount of betting. The pastime includes pony-racing and trotting races. A considerable number of race-courses exist in and around the Metropolis and Newcastle; most country towns of importance possess a race-course, and in many country centres there have been formed Picnic Race Clubs which hold race meetings on a more or less improvised track. A number of racing clubs are conducted for profit, but many have only social objects and devote large sums to charity.

The conduct of race meetings is regulated largely by district associations, with which most clubs are affiliated. A certain amount of Government control is also exercised through the Gaming and Betting Act, 1912. This Act requires race-courses to be licensed annually, fixes the minimum circumference of running grounds at six furlongs, determines the frequency with which, and the days on which, races may be held, and limits the number of licensed race-courses in the Metropolitan and Newcastle districts to the number existing in 1906. Betting or wagering is prohibited on any ground except a licensed race-course or coursing ground on which horse-races, pony-races, trotting races, or coursing are being held.

Some idea of the extent of racing and betting may be obtained from licensing and taxation returns. During the year 1920 taxes were paid by 463 racing clubs, most of which were affiliated with one of the ten racing associations. The number of separate race-courses licensed was 358, though 448 licenses were issued for the various classes of racing on these grounds. The total number of licenses issued shows an increase of 86 over that issued in 1919, the increase being due mainly to the operations of clubs not affiliated with any association. It was estimated that approximately 1,500 bookmakers were operating during the year ended June, 1921; and 15,171,580 betting tickets were issued. During the six months, January to June, 1921, there were 446,559 credit bets recorded. These figures do not include totalisator tickets. For the year 1921 race meetings were arranged for 181 separate days in the Metropolitan and Newcastle districts.

Horse-racing and betting have been subjected to a considerable amount of taxation in recent years. Racing clubs and associations are taxed on the amount of license and registration fees received from bookmakers; bookmakers are required to pay an annual tax, and in addition every bet made by a bookmaker is taxed; and in 1920 a tax was imposed on admission to race-courses.

In 1916 the Totalizator Act provided for the installation of betting machines by race clubs and empowered the deduction of a percentage of the takings as a contribution to Consolidated Revenue.

Particulars as to the amounts of revenue received from betting taxes are shown in Part Public Finance, of this Year Book.

THEATRES AND PUBLIC HALLS.

All buildings in New South Wales, in which public meetings (excluding meetings for religious worship) or public entertainments are held, must be licensed under the Theatres and Public Halls Act, 1908. A license may be refused if proper provision is not made for public safety, health, and convenience, and if the site or building is unsuitable for the purpose of public meeting or entertainment. Licenses are granted for a period of one year, and premises are subjected to inspection before renewal of the license; plans of buildings intended to be used for theatres and public halls must be

approved before erection is begun. A license or renewal of a license may be withheld until such alterations or improvements as may be deemed necessary are carried out.

As at 31st December, 1920, there were 1,850 buildings to which the provisions of the Act applied, and these buildings provided seating accommodation for approximately 850,000 persons. The total amount of fees received for licenses was £3,098.

REGULATION OF LIQUOR TRADE.

The sale of intoxicating liquor in New South Wales engaged the attention of successive Governors and became one of the first subjects of legislation when civil government was established. The first Liquor Act—that of 1825—aimed, through the introduction of a system of licenses, at ensuring that hotelkeepers should be of good character, and at securing a certain amount of revenue.

Since that date the liquor laws of the State have been amended frequently, and development has favoured more restriction and closer regulation of the trade. The hours of liquor trading have been curtailed considerably. In 1862 they were limited to those between 4 a.m. and midnight, in 1881 to those between 6 a.m. and 11 p.m., and after a referendum in 1916 the hour of closing was fixed at 6 p.m., during the period of the war and for six months thereafter. Six o'clock closing is still in operation, as it was extended under the Liquor Amendment Act of 1919 pending a referendum.

After many years of agitation an instalment of the principle of local option was embodied in the Liquor Act of 1881, and in 1907 the system was extended to its present scope, as explained below.

The liquor laws of the State were consolidated into the Liquor Act, 1912, which, with five amendments, at present regulate the trade. All places in which intoxicating liquor is sold, and all persons who sell it must be licensed, and supervision is exercised over the conduct of licensed premises by the police, who also watch cases in the Licensing Courts. A Licensing Court is constituted in the Metropolitan district by three Stipendiary Magistrates, in country districts by the local Police Magistrate (or a special Licensing Magistrate) and two Justices of the Peace, specially appointed.

The Liquor Amendment Act, 1919, provides that no new publicans' or wine licenses may be issued after 1st January, 1920, except on the grounds of increase of population, and then only on the application of a majority of the adult residents living within a radius of 1 mile of the premises for which a license is sought.

The following table gives particulars respecting the number of hotels in the State, and the average population to each:—

Year.	Licenses issued.	Average Population to each Hotel.	Year.	Licenses issued.	Average Population to each Hotel.
1890	3,428	321	1915	2,640	708
1895	3,238	386	1917	2,589	724
1900	3,163	428	1918	2,578	741
1905	3,063	475	1919	2,557	767
1910	2,865	564	1920	2,517	805

The annual fee for a Publican's license is regulated by the annual assessed value of the hotel. During the year 1920 an amount of £89,199 was collected on account of such licenses.

The Liquor Act which regulates the issue of hotel licenses provides also for the issue of "Additional Bar" licenses where liquor is sold in more than one room in the licensed premises, and of booth or stand licenses for places of public amusement for a period not exceeding seven days.

Licenses are allowed for the sale of liquor in approved club premises, and packet licenses to masters of steamers engaged in the coastal trade of the State.

Colonial Wine, Cider, and Perry licenses are held chiefly by grocers and keepers of restaurants, oyster saloons, and wine and fruit shops; the liquor sold must be the produce of fruit grown in Australasia, and the quantity sold at one time must not exceed 2 gallons.

Holders of Spirit Merchants' licenses are not permitted to sell a quantity less than 2 gallons of liquor of the same kind at one time. Railway Refreshment Room licenses are issued under Executive authority and not by Magistrates.

The following statement shows the number of licenses for the sale of intoxicating liquor issued during 1920:—

License.	Annual Fee.	Number of Licenses.	Fees Collected.
	£		£
Publicans'	Regulated by assessed value.	2,517	89,199
Additional Bar	20	125	2,480
Club	£5 and upwards.	76	1,098
Packet	3-15	13	130
Booth or Stand	2*	1,959	3,918
Colonial Wine, Cider, and Perry ...	3	443	1,329
Brewers'	20-30	17	} 5,540
Spirit Merchants'	20-30	217	
Railway Refreshment Room ...	30	29	870

* For period of issue not exceeding seven days.

Local Option.

The principle of local option is that questions of increasing, reducing, or abolishing licenses for the sale of intoxicating liquors in any district should be determined by vote of the residents in that district. Between 1882 and 1907 such questions were submitted, as regards municipalities only, to the vote of ratepayers, and the extension of the right to vote to women was hotly debated. In 1902 women were enfranchised; and the Liquor Amendment Act of 1905 provided that a local option vote, as regards electorates, should be taken at parliamentary elections, all qualified electors having the right to vote. Particulars as to the nature of the proposals submitted to the electors and the result of the voting are shown in previous issues of this Year Book.

When the first local option vote was taken in September, 1907, there were 3,023 hotels in existence; of this number it was ordered that 293 be closed at dates varying from 10th September, 1908, to 31st December, 1913. At

the second local option vote on 14th October, 1910, there were 2,869 hotels, and as a result of the vote the closing of 28 was ordered. On the day of the election, 6th December, 1913, there were in existence 2,719 hotels, of which 23 were ordered to close at a fixed date. The licenses in force during 1920 numbered 2,517.

The number of Wine licenses in operation at the time of the vote of 1907 was 633, of which 46 were abolished. In 1910, of the 565 licenses in existence, closing orders were made in 5 cases; in 1913, in respect of the 514 existing, 7 closing orders were made.

Spirit Merchants' and Brewers' licenses are not affected by the operation of the local option vote.

The Liquor Act of 1912 provides that a local option vote must be taken at each general election of the State Parliament, unless the election be held within eighteen months of the previous polling day. This provision was suspended by the Liquor Amendment Acts of 1916 and 1919, and the local option vote was not taken at the general elections held in 1917 and 1920.

Reduction of Licenses.

The number of hotels licensed in New South Wales has been decreasing steadily for more than thirty years, and the further reduction of licenses was provided by the Liquor (Amendment) Act, 1919, when a License Reduction Board was appointed which might operate to reduce licenses to a statutory number fixed as follows:—

- (a) In the case of an electorate for which five members are returned to the Legislative Assembly, one for each 250 of the first thousand electors on the electoral roll, and a further three for each subsequent two thousand, and
- (b) In an electorate for which three members are returned, one for each 250 of the first thousand electors, and a further one for each subsequent 500:

Provided that the licenses in any electorate may not be reduced by more than one-fourth of the existing number.

The Board is also empowered to fix compensation fees payable by licensees of premises whose licenses are not withdrawn, and to assess the amount of compensation payable in cases where licenses are withdrawn.

Compensation is made from the Compensation Fund into which compensation fees collected from licensees are paid. The fee payable by each licensee in any year is an amount equal to 3 per cent. of the sum expended by him in the purchase of liquor during the preceding year.

By determinations of the Board up to January, 1921, licenses were withdrawn from sixteen hotels in the Metropolitan district, and from twenty-three in the Newcastle district, the respective amounts of compensation being £35,380 and £29,470. The amount of fees paid by licensees into the Compensation Fund during the year ended 30th June, 1920, amounted to £67,403, and the balance in the fund on 31st May, 1921, was £185,017.

Prohibition.

The Liquor Amendment Act of 1919 provided for a referendum to be taken before 23rd June, 1921, on two questions, viz., prohibition with compensation, and the closing hour of licensed premises and registered clubs; but the referendum was not taken, mainly on account of the expense which a vote in favour of prohibition would entail.

A Compensation Assessment Board was appointed to determine the amount of compensation payable in the event of prohibition being carried. The amount involved, as determined at the beginning of 1921, was £12,110,479, exclusive of any payments to employees under provisions of the Act.

LICENSES FOR OCCUPATIONS.

Partly as a means of raising revenue and partly as a means of ensuring a certain amount of supervision over persons who follow callings which bring them into contact with the general public or which are carried on under special conditions, licenses must be obtained by auctioneers, pawnbrokers, hawkers, pedlars, collectors, second-hand dealers, and persons who conduct billiard and bagatelle tables or engage in Sunday trading.

The fee for billiard and bagatelle licenses is £10 per annum, and during 1920 there were 815 in force, the total fees collected being £7,970.

Auctioneers' licenses are divided into two classes, viz., General and District. The annual fee for a general license is £15, and for a district £2, and provision is made for a *pro rata* payment for licenses issued after the commencement of the year. There were 391 of the former and 2,200 of the latter current in 1920, the fees received being £9,390. General licenses are available for all parts of the State; district licenses only cover the Police district for which they are issued, but they are not issued for the Metropolitan district. Sales by auction are illegal after sunset or before sunrise, except in the Municipality of Albury, where, under the Auctioneers' Licensing (Amendment) Act, 1915, wool may be put up to sale or sold after sunset.

In 1920 there were 95 Pawnbrokers' licenses current in New South Wales, for each of which an annual fee of £10 is payable. The hours for receiving pledges by pawnbrokers are limited, with certain exceptions, to between 8 a.m. and 6 p.m., but no restriction is placed on the rate of interest charged.

The annual license fee for a hawker trading on foot is £1, and if with pack animals or vehicles the charge is £2; the total amount of fees received during 1920 was £1,717.

The fee for a Collectors' license is 1s., Second-hand Dealer £1, and Sunday Trading 5s.

The following table shows the principal licenses issued in the last six years:—

License.	1915.	1916.	1917.	1918.	1919.	1920.
Publicans'	2,640	2,617	2,589	2,578	2,557	2,517
Additional Bar	141	132	136	134	143	125
Club	73	76	73	77	78	76
Railway Refreshment	27	27	27	28	29	29
Booth or Stand	1,955	1,816	1,574	1,273	1,542	1,959
Packet	19	21	17	18	15	13
Colonial Wine, Cider, and Perry	497	487	403	458	467	443
Spirit Merchants'	192	193	179	194	199	217
Brewers'	26	24	23	19	16	17
Auctioneers'—General	289	303	287	344	344	391
District	1,540	1,683	1,745	1,909	1,995	2,200
Billiard and Bagatelle	831	838	733	785	763	815
Tobacco	13,014	13,179	13,089	13,308	14,141	14,391
Pawnbrokers'	96	99	102	100	102	95
Hawkers' and Pedlars'	1,354	1,178	1,149	1,224	1,479	1,440
Collectors'	1,731	1,852	2,092	2,354	2,207	2,126
Second-hand Dealers'	798	946	993	1,216	1,247	1,421
Stage Carriage	224	222	193	153	212	139
Sunday Trading	4,604	4,826	5,825	6,014	6,381

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