VICTORIAN YEAR-BOOK, 1904.

INTRODUCTORY REMARKS.

History of early discoverers and settlers.

Records of early discoveries show a lamentable ignorance of the geography of the Southern and Indian Oceans, since the venturesome sailors who first attempted to explore these seas were not skilled in cartography, and their maps, or the maps plotted from their verbal narratives, were of necessity crude and inaccurate. A map published with the account of Frobisher's voyages in 1578 encircles the whole Southern Pole, with a vast stretch of land, separated from South America by the Strait of Magellan, and stretching further north in those regions which we now know as Australia, indicating a belief and an assurance in the existence of our continent. It is an interesting fact that in Burton's *Anatomy of Melancholy*, published in 1621, references are made to this land as *Terra Australis Incognita*.

Frobisher.

Frobisher reports that the Portuguese and Spaniards in their voyages to the East Indies saw and touched on the north edge of the southern continent. In 1526 the trading vessels of the former nation reached New Guinea, though their masters were unaware of the existence of the Strait which separates it from Australia. After the discovery of the sea route to India by Vasco da Gama in 1497, the Portuguese began to trade with the East Indies, and were followed by the Spaniards and Dutch, the latter largely replacing the Portuguese traders in the East.

De Houtman and Jansen.

In 1606 the Dutch Governor of the Moluccas, De Houtman, despatched an exploring party, who surveyed the east coast of the Gulf of Carpentaria, but the report of Captain Jansen, the leader of the expedition, was unfavorable, and it was many years before the Dutch again visited this territory, which at the time they believed formed part of New Guinea.

De Quiros.

De Quiros, a Portuguese in the service of Spain, made strenuous efforts to reach the Great South Land, as he was convinced that the rumours concerning its existence were true. In December, 1605, he set sail to discover it, with Torres as captain of the second vessel of his small fleet, but his efforts proved unsuccessful. De Quiros may be regarded as the last of the Southern European explorers, whose work was now taken up by the Dutch.

Dutch exploration.

In 1595 the Dutch East India Company was formed, with headquarters at Batavia, whence ten years later Jansen was sent on a voyage of discovery, when he surveyed the south coast of New Guinea, and the east coast of Cape York Peninsula, without, however, discovering the passage between the two.

Carstens and Poole.

In 1623 Carstens coasted part of the northern shores, and again, in 1636, Poole followed the coast line of the whole of the Gulf of Carpentaria.

Van Diemen and Tasman.

In 1642 Anthony Van Diemen, Governor of the Dutch East India Colonies, selected Abel Jansen Tasman to make explorations in the South Seas. On 24th November, 1642, the west coast of Tasmania was discovered. Rounding this and the south coast, Tasman entered Storm Bay and Frederick Henry Bay, where he hoisted the Dutch flag. Naming the locality Van Diemen's Land, he sailed eastwards, and discovered New Zealand, returning afterwards to Batavia. In the following year Tasman surveyed portions of the north and west coasts of Australia, from the Gulf of Carpentaria to Sharks Bay.

Dampier.

In January, 1688, New Holland (so named by the Dutch) was visited near Roebuck Bay by Dampier, the first Englishman who sighted our shores. The description of his voyages includes his opinions respecting Australia and the people he found there, as well as of its flora and fauna. He was selected in 1699 to make further exploration of the place, to ascertain whether the land was a continent or a group of islands. He visited Sharks Bay, coasting northwards 9,000 miles, and then returned to England. His unfavorable report concerning the country suspended British exploration for many years.

Cook.

That our continent ever became a portion of the British Empire is due to the enterprise, skill, and courage of Captain James Cook. In 1768 the British Government sent a scientific expedition, under his command, to Tahiti, with permission to undertake exploration in the South Seas. Cook first visited New Zealand, and, sailing westward, land was sighted on 19th April, 1770, by Lieutenant Hicks, at a point which has since borne his name, on the Victorian coast. Cook sailed northwards, and, after seven or eight days on the water,

landed at Botany Bay, and further north at other places on the east coast, passed through Torres Strait, and, having thus demonstrated the fact that Australia was an island (although believed to be joined to Van Diemen's Land), returned home.

Phillip. Cook's description of Botany Bay was so favorable that in 1787 the British Government despatched Captain Arthur Phillip, in charge of a squadron of eleven vessels, to found a penal colony in Australia. Finding Botany Bay, which he entered on the 20th January following, unsuitable for settlement, he sailed northward to Port Jackson, where he formally took possession of the country on 26th January, 1788, in the name of His Majesty King George III.

Clarke. The first landing effected in Victoria was in 1797, from a vessel wrecked on Furneux Island, in Bass' Strait. Mr. Clarke, the supercargo, and two sailors, out of a total of seventeen, reached Sydney overland, and these were probably the first white men who landed on Victorian shores.

Flinders, Bass, Grant, Murray. Notable discoveries by sea were afterwards made by Flinders, Bass, Grant, Murray, and others, the former of whom sailed through the strait separating Australia from Van Diemen's Land, and circumnavigated the latter island, thus demonstrating it to be an island. In 1802 Port Phillip Bay was discovered by Lieutenant Murray, sent from Sydney in the *Lady Nelson*, to survey the south coast.

Collins. The first attempt to colonize Victoria, then known as the territory of Port Phillip, was made in 1803 by a penal expedition under Captain Collins, who arrived on 7th October, and landed near the present site of Sorrento. Here he remained some months, and, deeming the place unsuitable, transferred his company to Van Diemen's Land.

Hume and Hovell. In 1824 the explorers, Hume and Hovell, travelled overland from Sydney to Port Phillip, and on the journey discovered, on 16th November, the Murray River, called by them the Hume. On 3rd December they crossed the Goulburn River, which they called the Hovell, and on 16th December they reached that part of Port Phillip Bay called Corio Bay.

Westernport Settlement. In 1826 an attempt was made to establish a convict settlement at Westernport, near the site of the present township of Corinella. This was afterwards abandoned.

Mitchell, Dutton, Henty, Batman, Fawkner. In 1836 another overland expedition from Sydney was undertaken by Sir Thomas Mitchell, who, after crossing the Murray, pursued his journey through the Loddon district to the River Glenelg, and finally to Portland Bay, where the first permanent settlement in Victoria had

already been established in 1832 by William Dutton, and a year afterwards by Edward Henty. Port Phillip was also settled from Tasmania in June, 1835, the leader of the expedition being John Batman. Another party was also organized in Tasmania by John Pascoe Fawkner, which landed in Melbourne in August, 1835.

Melbourne.

On the site selected by Batman afterwards arose the present capital of the State, which, under the name of Greater Melbourne, now comprises the cities of Melbourne, South Melbourne, St. Kilda, Footscray, Fitzroy, Collingwood, Hawthorn, Richmond, and Prahran; the towns of Malvern, Brighton, Port Melbourne, Williamstown, North Melbourne, Essendon, Brunswick, Northcote, Caulfield; the boroughs of Kew, Flemington, Kensington, and Oakleigh; the shires of Coburg, Preston, Camberwell, and Boroondara; and parts of the shires of Moorabbin, Mulgrave, Nunawading, Doncaster, Templestowe, Heidelberg, Whittlesea, Epping, Broadmeadows, Keilor, Braybrook, Wyndham, and Eltham. The total area of Greater Melbourne is 163,480 acres, of which 5,322 acres are reserved as parks and gardens. At the census of 1901 there were 97,653 dwellings, containing 538,569 rooms, and housing 494,167 persons.

Port Phillip district.

Rapid progress was made by the new settlement, which up to 1851 formed a part of New South Wales, under the name of Port Phillip. On the 1st July of this year the Port Phillip district was erected into a separate Colony, and called Victoria, after Her late Most Gracious Majesty.

GOLD PRODUCTION.

Gold.

An important element in the development and prosperity of the new Colony was the discovery of gold, which took place in 1851. The precious metal was first discovered at Clunes, then at Anderson's Creek, and soon after at Buninyong and Ballarat, afterwards at Mount Alexander, and eventually at Bendigo. Large and important fields were subsequently opened up in the districts around Ararat, Stawell, Beechworth, and Maryborough, and in Gippsland. The discovery brought about a large immigration from many parts of the world. All persons were allowed to dig for gold on payment of a licence-fee of £1 10s. per month, afterwards reduced to that amount per quarter. In the early days the diggers found no difficulty in paying this fee, as they were not very numerous, and were generally successful. As time went on, however, the gold-fields population increased largely, many men were unsuccessful, and the payment of the fee became burdensome. The mode of collecting it was objectionable. The outcome of the whole matter was dissatisfaction and discontent, which culminated in a riot at Ballarat towards the close of 1854, when the diggers erected a stockade at Eureka, and set the authorities at defiance. Troops were despatched to Ballarat, and the disturbance was speedily quelled. A Royal Commission was subsequently appointed, who made recommendations for the removal of the licence-fee, and for other concessions, the carrying out of which ultimately restored peace and harmony.

Since its discovery, the quantity of gold recorded for Victoria up to the end of 1904 is 67,557,353 ounces, valued at £269,970,746, this being slightly more than half the quantity recorded for the whole of Australia.

WOOL PRODUCTION.

Wool.

Important as was the discovery of gold in aiding the early development of the Colony, wool production has been hardly less notable. It is to the Tasmanian flocks of sheep that the best Victorian stock owes its origin. The original Henty flock was formed at Sussex, England, towards the close of the eighteenth century, and brought by members of the family to Tasmania, whence it was transferred to Portland, at the time Edward Henty settled there. Good Merinoes were also overlanded from the Camden flock, established in New South Wales by Captain Macarthur in 1797, with Merinoes imported from England. This strain has been preserved pure in Victoria. The first official return of sheep in this State was in 1836, when the number was 41,332. At the end of 1842 the number recorded for the Port Phillip district was 1,404,333. The herds increased year by year, until at the census of 1891 the number was 12,692,843, which, owing to dry and disastrous seasons between that year and 1901, decreased to 10,841,790.

Wool was first exported in 1837, the quantity being 175,081 lbs., valued at £11,639; in the following year 320,383 lbs., valued at £21,631, were exported; in 1839, 615,603 lbs., valued at £45,226; in 1840, 941,815 lbs., valued at £67,902; and in 1841, 1,714,711 lbs., valued at £85,735.

Soon after this time the figures of the export trade of wool from Victoria include small returns from New South Wales; but it was not until 1864 that wool to any considerable extent was exported from that Colony through Victoria. In 1862 and in 1863 the export from Victoria was about 25,000,000 lbs.; in 1864 it was nearly 40,000,000 lbs.; the increase being mainly derived from the Riverina district, which was placed in communication with Melbourne by means of the Echuca railway. Prior to 1890 no returns were prepared to show the average weight of fleeces. Since that year, however, records have been kept, and the average (sheep and lambs) for the whole period may be put down at 5 lbs. 7½ oz., and this may be taken as an indication of the suitability of Victoria in soil, climate, and natural pasturage for sheep-breeding.

GENERAL PROGRESS.

The following table has been prepared to illustrate the advance made by the Colony since 1842, the year of the introduction of representative government into New South Wales, which then included the Port Phillip district. The years 1850 and 1855 have been chosen —the former as being the year immediately preceding the separation of the Colony from New South Wales, and the latter the date of

the introduction of responsible government for Victoria. The subsequent years are census years :—

Statistical Summary of Victoria.

——	1842.	1850.	1855.	1861.	1871.	1881.	1891.	1901.
Population, 31st December	23,799	76,162	364,324	541,800	747,412	879,886	1,157,678	1,210,882
Revenue .. .. .. £	87,296	259,433	2,728,656	2,592,101	3,734,422	5,186,011	8,343,588	7,712,099
Expenditure from Revenue .. £	124,631	196,440	2,612,807	3,092,021	3,659,534	5,108,642	9,128,699	7,672,780
Public Debt .. .. .. £	..	..	480,000	6,345,060	11,994,800	22,426,502	43,638,897	49,546,275
Land in cultivation .. .. acres	8,124	52,341	115,135	439,895	937,220	1,821,719	2,687,575	3,810,413
Live Stock—Horses .. .. No.	4,065	21,219	33,430	84,057	181,643	278,195	440,696	392,237
„ Cattle .. .. „	100,792	378,806	534,113	628,092	799,509	1,286,677	1,812,104	1,602,384
„ Sheep .. .. „	1,404,333	6,032,783	4,577,872	6,239,258	10,002,381	10,267,265	12,928,148	10,841,790
„ Pigs .. .. „	..	9,260	20,686	43,480	177,447	239,926	286,780	350,370
Imports—Value .. .. .. £	277,427	744,925	12,007,939	13,532,452	12,341,995	16,718,521	21,711,608	18,927,340
Exports—Value .. .. .. £	198,783	1,041,796	13,493,338	13,828,606	14,557,820	16,252,103	16,006,743	18,646,097
Railways open .. .. .. miles	..	..	..	214	276	1,247	2,764	3,229
Telegraph wire .. .. .. „	..	..	..	2,586	3,472	6,626	13,989	15,356
Postal business—Letters .. .. No.	97,490	381,651	2,990,992	6,109,929	11,716,166	26,308,347	62,526,448	83,973,499
„ Newspapers .. „	147,160	381,158	2,349,656	4,277,179	5,172,970	11,440,732	22,729,005	27,125,251
Savings Bank Deposits .. .. £	..	52,697	173,090	582,796	1,117,761	2,569,438	5,715,687	9,662,006

NOTE.—In a few instances in the earlier years, where it is not possible to give figures for the exact date or period shown, those for the nearest dates or periods are given.

The population of the State at the end of 1842 was 23,799; and at the end of 1901 it had increased to 1,210,882. Prior to 1851, the net immigration was 64,545; during the decennial period, ended 1861, it was 400,045; in that ended 1871 it was 41,789; in that ended 1881 there was a loss of 15,322 by emigration; between 1881 and 1891 there was an increase of 116,950; but during the period 1891-1901 there was a loss of 111,531, making a total gain by immigration up to the census of 1901 of 496,476.

During the period 1842-1901, the revenue steadily increased from £87,296 to nearly 7¾ million pounds. There was no public debt until after separation. In 1855, the State indebtedness was £480,000, which steadily increased until, in 1901, it reached £49,546,275. The land in cultivation in 1842 was slightly over 8,000 acres; it now amounts to close upon four million acres; in the number of horses, cattle, and pigs there have been large increases. The value of imports in 1842 was £277,427; in 1901 it was nearly nineteen million pounds. Exports amounted to £198,783 in 1842; and in 1901 to nearly 18¾ million pounds. No railways or telegraphs were in existence up to the end of 1855; in 1861 there were 214 miles of railways open, and 3,229 miles in 1901. 2,586 miles of telegraph wires had been erected up to 1861, 15,356 miles up to 1901. Postal business in letters and newspapers shows a large increase; and the deposits in savings banks rose from £52,697 in 1850 to £9,662,006 in 1901.

GEOGRAPHICAL POSITION, AREA, AND CLIMATE.

Area of Victoria.

Victoria is situated at the south-east extremity of the Australian continent, of which it occupies about a thirty-fourth part, and contains about 87,884 square miles, or 56,245,760 acres. It is bounded on the north and north-east by New South Wales, from which it is separated by the River Murray, and by a right line running in a south-easterly direction from a place near the head-waters of that stream, called The Springs, on Forest Hill, to Cape Howe. On the west it is bounded by South Australia, the dividing line being about 242 geographical miles in length, approximating to the position of the 141st meridian of east longitude, and extending from the River Murray to the sea. On the south and south-east its shores are washed by the Southern Ocean, Bass's Straits, and the Pacific Ocean. It lies between the 34th and 39th parallels of south latitude, and the 141st and 150th meridians of east longitude. Its extreme length from east to west is about 420, its greatest breadth about 250, and its extent of coast-line nearly 600 geographical miles. Great Britain, exclusive of the islands in the British Seas, contains 88,309 square miles, and is therefore slightly larger than Victoria.

The southernmost point in Victoria, and in the whole of Australia, is Wilson's Promontory, which lies in latitude 39 deg. 8 min. S., longitude 145 deg. 26 min. E.; the northernmost point is the place where the western boundary of the State meets the Murray,

latitude 34 deg. 2 min. S., longitude 140 deg. 58 min. E., the point furthest east is Cape Howe, situated in latitude 37 deg. 31 min. S., longitude 149 deg. 59 min. E.; the most westerly point is the line of the whole western frontier, which, according to the latest correction, lies upon the meridian 140 deg. 58 min. E., and extends from latitude 34 deg. 2 min. S. to latitude 38 deg. 4 min. S., or 242 geographical miles.

Climate.

From its geographical position, Victoria enjoys a climate more suitable to the European constitution than any other State upon the Continent of Australia. In the forty-seven years ended with 1904, the maximum temperature in the shade recorded at the Melbourne Observatory was 111·2 deg. Fahr., viz., on the 14th January, 1862; the minimum was 27 deg., viz., on the 21st July, 1869; and the mean was 57·4 deg. Upon the average, on four days during the year, the thermometer rises above 100 deg. in the shade; and, generally, on about three nights during the year, it falls below freezing point. The maximum temperature in the sun ever recorded (*i.e.*, since 1857) was 178·5 deg., viz., on the 4th January, 1862. The mean atmospheric pressure, noted at an Observatory 91 feet above the sea-level, was, in the forty-seven years ended with 1904, 29·94 inches; the average number of days on which rain fell was 132, and the average yearly rainfall was 25·61 inches.

PHYSICAL GEOGRAPHY, GEOLOGY, AND FAUNA OF VICTORIA.

By T. S. Hall, Esq., M.A. (University of Melbourne).

Physical Geography.

In shape, Victoria is roughly triangular, its breadth from north to south along its western border being about one-half its length from east to west. The highlands also form a triangle, but in this case the greatest north and south measurement is in the east, while the base stretches nearly to the western boundary. This area of high land attains its greatest elevation in the east, and gradually sinks towards the west. The elevated region consists of palæozoic, and perhaps older rocks, of various ages, with, in a few cases, as at Dargo High Plains, and at Bogong High Plains, patches of older-tertiary basalts.

There are thus constituted two main drainage areas. A series of rivers flows northwards from the highlands, forming the Murray and its southern tributaries, while another series flows southwards to the sea. At the western end the Glenelg taps streams which arise both on the northern and the southern slopes. The water-parting between the north and the south flowing streams is spoken of as the Main Dividing Range, and along its course are some of the highest mountains of the State, as Mount Cobberas 6,025 feet, Mount Hotham 6,100 feet, and several others nearly as high. The average elevation of the Divide is about 3,000 feet. The highest mountains in Victoria lie to the north of the water-parting,

namely, Mount Bogong, 6,508 feet, and Mount Feathertop, 6,303 feet. On the higher mountains snow occasionally lies in sheltered localities throughout the year, but we have no permanently snow-clad mountains in Australia. The Divide, which is of considerable geological age, forms a well-marked boundary between two distinct zoological areas. The animals to the north are allied to those of Central Australia, while those to the south are almost identical with the Tasmanian.

The strike of the palæozoic rocks is, roughly, north and south, so that the direction of the Dividing Range is not due to the primary rock-folding. The Divide, owing to stream capture and general denudation, has doubtless shifted its position from time to time, but the existence of the highlands is probably, in part, due to an east and west series of folds, of which the "pitch" in the anticlines of our older rocks affords evidence.

Highlands also occur to the north of Cape Otway, rising to a height of over 2,000 feet, and also in South Gippsland. These districts are densely clothed with forests, and rich in fern gullies, the rocks consisting of fresh-water jurassic strata. Geographically isolated from the rest of the State is the rugged granitic area of Wilson's Promontory, which rises in places to about 3,000 feet.

The north-west of Victoria is occupied by a large plain which borders the highlands on the north, and sweeps west, and especially north far beyond the boundaries of the State. It represents in the main the flood-plain of the Murray and its tributaries. This area is for the most part covered by a dense growth of several dwarf species of Eucalyptus, known collectively as Mallee.

The south-west is occupied by another plain, consisting chiefly of recent basalts and tuffs. It is typically treeless, owing to the small depth of soil, and to poor subsoil drainage, but it is richly grassed, and contains some of the best and most easily worked agricultural land in the State.

Rivers and lakes.

As already indicated, the main river system consists of the Murray and its tributaries, the Murray itself being our only stream that is navigable for any distance, and forming an important highway. Owing to the building up of its flood plain by the river its western tributaries can no longer reach it, but spread out in times of flood into broad, shallow lakes which disappear in dry seasons.

As regards the streams to the south of the Dividing Range, the south-westerly drift bars the mouths of all which debouch into the open sea, and long continued action has built up a ridge off the Gippsland coast behind which the rivers spread out to form large shallow lakes. The volcanic plains of the west are dotted with lakes and swamps owing to the imperfect drainage of the almost level expanse, and the low barriers formed by the irregular flows of lava, and the distribution of the sheets of volcanic ash. Some of these lakes have been ascribed to sinking of the surface as a subsequent result of the volcanic outburst, while others, many of which are very deep, occupy the site of volcanic vents. Many of the western lakes have no outlet, and are salt, while those with a permanent or occasional overflow are fresh.

Coastline.

From the Glenelg on the west as far eastward as the Gellibrand river, the western plains abut on the sea. Sometimes it is the volcanic rocks which reach the coast, but in most places the underlying marine tertiaries border the shore, with or without an intervening belt of sand dunes. Where the plain, as at its eastern end, reaches the height of 200 or 300 feet it is deeply eroded, and, as is the case in the area occupied by the Heytesbury forest, its essential character is not at first apparent, and the coast itself is bordered by vertical cliffs. East of the Gellibrand, and sweeping past Cape Otway to near Split Point, the highlands of the Otway Ranges with their forests, streams, and waterfalls afford a coast of great beauty. From Split Point, as far as Wilson's Promontory, the land shows no great elevation, rarely rising more than 200 feet. Sand dunes and cliffs of marine tertiaries, or of basalt, border it nearly all the way. At Cape Woolamai we have an isolated mass of granite, and about Cape Patterson the jurassic coal series forms the shore line. Near Cape Liptrap is a small, rugged outcrop of palæozoic rocks. Beyond Wilson's Promontory, with its beautiful scenery of small bays backed by lofty tree-clad ranges, and with its clusters of precipitous islets, comes the long, dune-fringed Ninety-mile-beach. Behind these dunes at their eastern end lie the Gippsland Lakes. Beyond Lakes' Entrance high ranges of palæozoic rocks and granite front the sea, and extend to Cape Howe, the most easterly point in the State.

The only good natural harbor is the land-locked basin of Port Phillip. Portland Bay, on the west, is formed under the lee of a projecting tongue of volcanic rocks. Lady Bay, Warrnambool Bay, Port Campbell, and it is said Apollo Bay and Loutit Bay, owe their main outlines to the fact that they are drowned valleys. Port Phillip has itself a similar origin, its eastern side being defined by a north and south fault. Western Port, Corner Inlet, and Mallacoota Inlet are also due to subsidence. The estuaries of the Curdie, Gellibrand, Aire, Barwon, and other smaller streams were formerly inlets of a similar nature, but are now more or less filled with river-borne material.

As regards islands, we are poorly off. Lady Julia Percy Island, near Portland, is volcanic. East of this the coast, where the marine tertiaries border it, and where hard bands occur at sea-level, is fringed by stacks and precipitous islets carved out by the waves. These are absent along the Otway coast, where the jurassic rocks reach the shore. Phillip and French Islands, like those off Wilson's Promontory, are due to subsidence, the old hill tops standing above the sea, which now fills the intervening valleys.

Geology.

The triangular shape of the area occupied by the palæozoic rocks has already been pointed out. The stratified rocks of this age have a general north and south strike, and the older ones are acutely folded. The mesozoic and tertiary strata show no great crumpling, though considerable faulting has occurred in places. Their strike is in the main parallel to the coast, or east and west.

For details as to the distribution of the rocks reference may be made to the beautiful geological map of the State published a couple of years ago by the Department of Mines.

Older Plutonic rocks.

Scattered irregularly over the State are numerous outcrops of quartz-mica-diorites and granitoid rocks of various types. They are all post-silurian, and intrude the older rocks. They range from Cape Howe to beyond the Glenelg, and from Wilson's Promontory in the south to near Swan Hill in the north.

Another series of rocks, probably older and of basic composition, is found to the north of Heathcote, and in a few other localities.

Metamorphic.

In the extreme north-east in Benambra, and in the south-west in Dundas, are two large areas of crystalline schists. Their age is in dispute. By some they are regarded as archæan, and by others as altered ordovician. A few small patches occur elsewhere.

Cambrian.

At Heathcote fossils have been found, which have been referred to middle cambrian age, but this reference has been disputed in favour of ordovician. At Dookie and at Waratah Bay certain other beds have been thought to be cambrian, but fossils are wanting.

Ordovician.

Slates and sandstones of this age, all acutely folded, and more or less cleaved, occur. Limestones are practically absent. One large area is situated in the east, and the same rocks re-appear in the centre of the State. From Ballarat westward is a large mass of rocks having similar characters, but as no fossils have been found we cannot be certain of the age of the old rocks of even Ballarat itself, though they are generally regarded as ordovician. Recently many places which were thought to be occupied by silurian rocks have yielded ordovician fossils, as will be seen on comparing the last two editions of the geological map. Since then ordovician, in the place of silurian, has been proved on the Mornington Peninsula.

As regards fossils, the absence of calcareous beds greatly limits their variety. A few sponges and lower types of crustacea have been found. No trilobites occur, unless the Heathcote rocks be ordovician, and not cambrian. The dominant forms are graptolites, of which a large number are known. The series is divided into upper and lower. Of the former there is but little accurate information available. The rocks of the eastern area, a prolongation of similar beds in New South Wales, are of this age, as also are certain rocks near Matlock, Sunbury, and some other places north of Melbourne. The lower ordovician has been divided into four. These, in descending order, are typically developed at Darriwell, north of Geelong, and at Castlemaine, Bendigo, and Lancefield. Most of our auriferous quartz veins occur in the ordovician, but some are in younger, and perhaps some in older, rocks. The best studied gold-field is that of Bendigo, where the veins fill lenticular spaces arching over the anticlines. They have considerable extension along the strike, and several usually occur on the same anticline, one below the other. These veins are known as "saddle-reefs." "Pitch" of the strata, or undulation of the axis of the anticlines in a vertical direction, is a marked feature, and of considerable importance from its effect on mine working.

Silurian. The older rocks round Melbourne, and for some distance to the north and east, are of this age. Sandstones, mudstones, and, at a few places, as at Lilydale, near Mansfield, and on the Thomson River, limestones occur. The rocks have not been subjected to the same amount of disturbance as the ordovician, and fossils are fairly common, though, except in the limestones, rarely well preserved. A large number have been recorded. Monograptus, corals, polyzoa, brachiopoda, mollusca, trilobites, and crustacea have been found. An apparent approach to a devonian facies is shown at some localities. In the neighbourhood of Melbourne the strata are much disturbed. There is an upper and a lower series, formerly known by names borrowed from British geology, though the local names, Melbournian for the lower or graptolite bearing series, and Yeringian for the upper, are now more suitably employed. The rocks are frequently auriferous.

Devonian. A long and narrow belt of quartz-porphyries, and allied rocks, running parallel to the Snowy River, and partly intersected by it, marks a volcanic axis. In places tuffs rest on the edges of the ordovician, and are in turn overlain by limestones rich in devonian fossils. The volcanic rocks have been referred to lower devonian, and the limestones to middle devonian. Several patches of these limestones occur widely scattered over the eastern parts of the State, the largest being at Buchan and at Bindi. Corals, brachiopods, and molluscs abound in them. A series of much-folded shales and quartzites of apparently the same age, judging by the fossils, is to be seen at Tabberabbera and Cobannah. In places overlying these highly-inclined, middle devonian beds are found nearly horizontal strata. These, as at Iguana Creek, yield plant remains. The Grampian sandstones, which form a bold range with an abrupt south-easterly fault-scarp over 2,000 feet in height, have yielded no fossils, but are provisionally regarded as upper palæozoic. The Cathedral Range, near Marysville, belongs probably to the same series.

Carboniferous. Certain sandstones on the Avon with Lepidodendron are, it is considered, of this age. From here northward, across the Divide, a belt of similar rocks extends, forming very rugged mountains. A series of fossil fish from near Mansfield, at the northern extremity, has lately been critically examined, and declared to be of carboniferous age, and not devonian, as was formerly held.

Permo-Carboniferous. At several localities occur beds of glacial origin, sometimes of considerable thickness. At Bacchus Marsh the boulder beds are associated with sandstones containing the fossil fern-like plant Gangamopteris, which affords a means of correlating them with beds elsewhere.

Jurassic. About Coleraine and in the Otway district, and in South Gippsland, there are large areas of fresh-water shales and sandstones, in places conglomeratic. A few fish and fresh-water molluscs have been found; but the chief fossils are plants, of which a large number are now known, as Baiera, Taeniopteris, &c. Coal is worked in the beds in Gippsland, as at Jumbunna and Outtrim.

Tertiary.

The rocks hitherto spoken of are confined in the main to the highlands previously described. The lowlands are for the most part occupied by tertiary rocks of volcanic and marine origin, with, over large tracts, a cover of fluviatile, or wind-formed source. They form a belt between the Dividing Range and the sea, or the jurassic rocks, where these occur, from near the mouth of the Snowy River to beyond the western boundary of the State. They sweep round the western end of the Divide, and underlie the greater part of the Mallee district in the north-west. Where they, or the fluviatile or the aeolian deposits, overlie auriferous bedrock, the buried river channels usually contain gold. In other places lignite beds, sometimes of considerable extent and thickness, are formed, as at Deans Marsh, Altona Bay, Lal Lal, and several localities in South Gippsland. Both these types of deposit, the gold and lignite bearing, are of various ages, from oldest tertiary upwards.

The marine beds are extremely rich in fossils, and have been divided into three main groups. Owing to the difficulty, or perhaps the impossibility, of correlating them with the subdivisions of the northern hemisphere, local names are now generally applied.

Barwonian (? Eocene).—Sands, clays, and limestones composing beds of this age are widely spread, occurring about the Gippsland Lakes, and along the southern coast from Flinders to the Glenelg. Inland they underlie the western plains from Geelong to beyond Hamilton, and have been proved in bores from Stawell to beyond the Murray northwards. East of this line they appear to be bounded by a ridge of palæozoic rocks, extending northwards from the Divide, and only thinly mantled by non-marine beds. Associated with the marine beds is a series of basalts and tuffs, which are found more especially in the central and eastern parts of the State. It is claimed by some that acidic volcanic rocks were formed, as at Macedon and Mount Dandenong, at the close of the cretaceous period, and heralded an age of volcanic activity, which lasted down to quite recent times. The fauna of the marine beds is extremely rich and varied, all types being represented, and in number of species and excellence of preservation is scarcely anywhere surpassed.

Kalimnan (? Miocene).—These rocks are widely spread, though not so extensively as the Barwonian. They are well represented near Bairnsdale, Shelford, Hamilton, and, though the age is in dispute, at Beaumaris. As a rule they are more arenaceous than the lower beds, and ferruginous sands are typical. The fauna is fairly rich.

Werrikooian (? Pliocene).—Marine beds of this age are not common, but are found in the lower Glenelg district, overlying Barwonian. The fossils are almost all existing species.

After the deposit of these beds there occurred an extensive outpouring of basaltic lavas in the southern and south-western parts of the State, and large lava plains were formed, through which deep gorges have been cut by the creeks and rivers. Fine examples of volcanic cones in all stages of denudation are plentiful. In deposits, both immediately before and after this last volcanic outburst, there

are found the bones of numerous extinct marsupials, such as Diprotodon, Nototherium, and gigantic kangaroos. Raised beaches point to an elevation of some twenty feet since the previous subsidence, which formed many of our harbors.

In conclusion, it may be stated that many of the writer's sins of omission are due to the small space allotted to him, and even that small space has been exceeded.

Fauna.

The peculiarity of the Australian mammalian fauna has often been remarked upon. Nowhere else in the world do we find representatives of the three great groups into which the class is divided, namely, the eutheria, the marsupials, and the monotremes. The last group, containing the spiny anteater (*Echidna*) and the platypus (*Ornithorhynchus*), are confined to the continent and neighbouring islands, while the marsupials exist, nowadays, only in the Australian region and America.

Of the eutheria, which comprises all mammals above the marsupials, we have but a few terrestrial forms—the dingo, a few bats, and rats and mice. The seas afford a few more, such as whales and porpoises, seals, and in certain places the dugong (*Halicore*).

In Victoria itself we find the Australian fauna typically developed. The echidna ranges over the whole continent, while its ally, the platypus, is confined to the eastern side of Australia, from Tasmania to the tropics. Both are still common in certain parts of the State.

Among the marsupials the kangaroo family (*Macropodidæ*) is well represented, though the larger forms are rapidly disappearing. These comprise the red, grey, and the black-faced kangaroos. The smaller forms, such as wallabies and rat-kangaroos, are still plentiful in many of the more densely forested regions. The southern wallaby (*Macropus billardieri*) is identical with the Tasmanian one, and the other common one (*M. ualabatus*) ranges far to the north of our boundaries. A few other northern forms come down south as far as the Dividing Range. The small kangaroo-rats (*Bettongia*), dwelling in thick scrub, are hard to catch sight of, and still harder to shoot.

The Australian opossum family (*Phalangeridæ*) comprises our so-called opossums, flying squirrels, and the native bear—unfortunate names, but the only local ones in common use. The silver opossum and the Tasmanian brown are the same species (*Trichosurus vulpecula*), the island form being a little larger and of a darker hue. This species ranges over practically the whole of Australia. They form their nests in hollow trees, or, where these are absent, as on some of the islands in Bass Straits and in Central Australia, on the ground. The ring-tailed opossum (*Pseudocheirus peregrinus*) builds a hollow, ball-like nest of grass and bark in the dense scrub. The flying opossums, or, as they are sometimes called, flying foxes (*Petaurus*) and the flying squirrels (*Acrobates*) are represented by several species, ranging from the size of a cat to that of a mouse, and are very beautiful forms. They have not the power of true

flight, but can glide for a considerable distance from a greater to a less height. The native bear (*Phascolarctos cinereus*) has a very restricted range. It does not occur in South Australia nor Tasmania, but passes north up the eastern coastal region. Despite its name, it is a harmless vegetable feeder, and its valuable skin dooms it to early extermination.

Of the wombat family we have but one representative (*Phascolomys mitchelli*), which is still common in the eastern parts of the State.

In the native cat family we have three of the spotted species, the large tiger cat (*Dasyurus maculatus*) and the common native cat (*Dasyurus viverrinus*), which occur south of the Dividing Range, and dwell also in Tasmania. The third species (*Dasyurus geoffroyi*) occurs only to the north of the Divide. The weasels (*Phascologale*) and the pouched mice (*Sminthopsis*) are numerous in species and fairly common. Some are arboreal, others terrestrial. The pouched mice are fierce little cannibals, and a few years ago about fifty were sent down alive in a case to the University. Two days after there were two living, while a few rags of fur represented the other four dozen. The survivors engaged in mortal combat in the glass jar in which they were put to be chloroformed. Examples of these small forms and of their skeletons are desiderata in the National Museum. The jumping pouched mouse (*Antechinomys laniger*), which hops like a diminutive kangaroo, comes south only into North-western Victoria, and is not well known with us.

The bandicoot family is a small one, though three species of bandicoot (*Perameles*) are found in the State. They live in grass land. The rabbit-bandicoot, or bilbie (*Peragale*) and the pig-footed bandicoot (*Choeropus castanotis*) occur in the north-west, the latter being a rare animal.

In eutheria, the higher mammals, we are, as already stated, poorly off. The dingo, apparently, got here before man arrived, and its remains are found fossil. Bass Straits was a barrier to it, and it did not reach Tasmania.

Among bats the large flying-fox (*Pteropus poliocephalus*) often does harm to the fruit in the northern parts of the State and in Gippsland. It is widely spread up the eastern sea-board of the continent. We have also several other small bats, but must pass them over.

Among rats, the golden water rat (*Hydromys chrysogaster*) is a large, handsome animal ranging all over Australia, and occurring also in Tasmania and New Guinea. There appears to be only the one species. The bush rats of the State (*Mus gouldi* and *Mus greyi*) are common, and probably others occur. They have not been satisfactorily worked out here, and specimens are needed in the Museum.

Only one species of seal, the Australian sea-bear (*Euotaria cinerea*) is now found in Bass Straits, and is protected. There are colonies on a few outlying islands and rocks. Other species occasionally stray up from the far south. The yellow-sided dolphin (*Delphinus novae-zelandiae*) is common in our waters, and whales of several species are occasional visitors.

As regards birds, we have only some two or three species practically confined to the State, the Victorian lyre-bird (*Menura superba*) being the best known. The emu is still common in the north-west. Wild fowl are plentiful, and occasionally great incursions are made from the north. Our most striking birds are the lories and honey-eaters, which gather "the harvest of the honey-gums." Quail are common at times, and pigeons of various kinds occur. The mound-building lowan, or mallee-hen (*Leipoa ocellata*), and the bower birds (*Ptilonorhynchus violaceus* and *Chlamydodera maculata*) are remarkable for their habits, so often described, while the mutton bird (*Puffinus brevicaudus*) is of great economic value for its eggs, which are gathered, together with its young, in countless numbers. Field naturalists have investigated our birds more thoroughly than any other group of our fauna, and are now busy collecting data for the study of their migrations, an almost untouched subject here.

Turning to the reptiles, we have two tortoises, the short-necked (*Emydura macquariae*), found north of the Divide, and the long-necked (*Chelodina longicollis*) occurring both there and in South Gippsland.

As regards lizards, the most remarkable are the so-called legless forms of the family Pygopidae. They have no front legs, while the hind ones are represented by two scaly flaps usually fitting into grooves on the side of the body, and so escaping casual examination. They are the main source of the stories of snakes with legs which occasionally fill our newspapers. The large "goanna" (*Varanus varius*) derives its name from Iguana, a genus not found in Australia. It is common north of the Divide, and reaches a length of five or six feet. A smaller cousin (*Varanus gouldi*) ranges as far south as Gippsland, and as it frequents streams is dignified by the name of the Gippsland crocodile. Our other lizards are small and harmless, though some have such terrifying names as "bloodsucker" (*Amphibolurus*), and so on. Altogether we have some fifty species of lizards in the State.

Among snakes, we find the non-venomous blind-snakes (*Typhlops*), with bodies as smooth as glass, the green tree snakes (*Dendrophis*) and the carpet snake (*Python spilotes*). All these forms are commoner in the north of the State. We have about a dozen venomous species, though some from their small size are not dangerous to man. The tiger snake (*Notechis scutatus*), a handsomely marked species, is the most active and dangerous. Most of the others are timid, though quite as deadly when large. The deaf-adder of the drier parts of the State lies quite still till nearly or quite stepped on, and then strikes without warning. It is a short thick-set reptile, and to be dreaded on account of its habits.

We have about eighteen amphibians in Victoria, all of them being frogs and toads. The largest is the handsome green and gold "bull-frog" (*Hyla aurea*), very common in Southern Victoria. The sand frogs (*Limnodynastes*) are widely distributed, even far from water. All the frogs are great insect-eaters, and in their turn are a favorite food of the snakes.

In fresh-water fish we are not rich, owing mainly to our poor river development. There is a marked distinction between the forms found to the north of the Divide, and those to the south. In the Murray basin we have the Murray cod (*Oligorus macquariensis*), which occasionally reaches the weight of 100 lbs. This fish, together with the cat-fish (*Copidoglanis tandanus*), the bony bream (*Chaetoessus richardsoni*), and a few others are absent from the southern waters. The southern forms are nearly all found also in Tasmania as well, and include the blackfish (*Gadopsis marmoratus*), and the eel (*Anguilla Australis*). The voracious little mountain trout (*Galaxias truttaceus*), which rarely reaches a quarter of a pound in weight, has a similar southern distribution, while the minnow (*Galaxias attenuatus*) is said to range into the Murray waters as well, though we need specimens in the Museum to settle the point. Most of our other southern river-fish occur in the sea as well, and only pass up into the rivers for a longer or a shorter distance. Lampreys are found in our southern streams, but are not often caught.

Want of space prevents any discussion of the marine fish, which are of considerable economic value, though fish-preserving is a very small industry with us.

The treatment of our invertebrate fauna must be brief, and confined to land and fresh water forms, though of some of our marine groups, as for instance the mollusca, we now know a good deal. In shell-fish we are poorly off. There is black-shelled snail (*Paryphanta atramentaria*), about $\frac{3}{4}$ inch in diameter in our southern fern-gullies, and another snail (*Panda atomata*) about the same size in Eastern Gippsland. Most of the other species are small, and attract the eye of the naturalist only. One water-dwelling form (*Bulinus tenuistriata*), which has its shell coiled in the opposite way to the ordinary—a left-handed screw—is the temporary host of the liver-fluke of the sheep, and this is the reason why wet ground is "fluky country."

Scorpions are very common in the warmer parts, but none are very large. Amongst the spiders, we have only one harmful species, the katipo (*Latrodectes scelio*), which is identical with the New Zealand form. It is black with a scarlet, or deep orange spot on the hinder end of its back. The so-called "tarantula," though hideous and terrifying to most people, is quite harmless, and could not bite a human being, if it wanted to. A spider with a much larger body is found in the northern districts, and spins a very strong web from bush to bush.

Among insects, the beetles, butterflies, and moths alone have been examined with anything like thoroughness. Many of our striking beetles, while in the larval stage, are injurious to vegetation, such as the buprestids, longicorns, cetonids, and cockchafers. The lady-birds (*Coccinellidae*), are carnivorous in the larval stage, and great foes of the scale insects. We have no large butterflies such as occur in Queensland, but possess some very fine moths, some of which, in their larval stage, are plant-eaters, and work considerable damage. We have a few fine stick-insects which mimic dead twigs, and are

therefore not often detected, though when seen they always attract notice. Locusts and grasshoppers at times do considerable harm. Dragon-flies, white ants, and ant lions are common enough in certain districts. Our native bee is stingless, but is being starved out by the imported bee, which is now widely spread. The shrill deafening song of the cicada (*Cicada mœrens*) in its countless thousands must be heard on a hot day to be appreciated. Hosts of other forms must be passed unnoticed, though it may be said that our bull-dog ant is the largest ant known.

Of crustacea, we can mention only the fresh-water crayfish, of which we have several kinds. The Murray cray-fish (*Astacopsis serratus*) is a spiny form growing to the length of a foot, and occasionally seen in the Melbourne market. The yabbie, or pond crayfish (*Astacopsis bicarinatus*) is found in all suitable situations, and ranges widely over Australia. It is a small species, but is eaten.

Centipedes are common, especially in the warmer parts, but do not seem to do much harm to human beings.

We are rich in earthworms, though our native species are disappearing before the imported European ones, which are now found everywhere in the State. In the Gippsland giant earthworm we have by far the largest species known. A living specimen recently measured at the University was seven feet two inches long. Gorgeously coloured planarian worms, a few inches in length, abound in the moister parts of the State, being generally found under logs.

The same localities are the home of two or three species of land-leech, which are blood-thirsty, though small. A fresh-water leech (*Limnobdella quinquestriata*), used surgically, is common enough in ponds.

Pond life generally is actively studied by our field naturalists, but an attempt to deal with it would require a volume in itself, and appeal to professed naturalists alone. Suffice it to say that it is rich and varied, and presents us with many interesting problems.

As to the origin of our fauna, much has been said and written. Briefly, the marsupials, and, perhaps, some birds, the tortoises, certain frogs, fresh-water fish, many insects, earthworms, and other animals point definitely to a former land connexion with South America, where they find their nearest living relatives. The eutheria are of Malaysian origin, as also are most of our birds, some of our land mollusca, and the fresh-water crayfishes. This incursion is of later date than the Antarctic one. It may almost be said that the fauna and flora of the Queensland and New South Wales scrubs represent an invasion in force from the north.

In conclusion, one point may be noticed, and that is the popular names given to our animals and plants. The early settlers found themselves in a new world where nearly every thing alive differed from what they had been accustomed to. In their difficulties about names they adopted a few—far too few—from the aborigines, but in the main applied the names they knew to the fresh forms they found. Some of the names came from Britain, others from America, and a small number from other countries. So we have

oaks and gum trees, box trees, and so on among plants. Among animals, we have bears, badgers, cats, bandicoots, opossums, squirrels, weasels, magpies, larks, wagtails, robins, turkeys, trout, cod, and a host of others, which are in no way related to their namesakes elsewhere. It must be confessed that many of the scientific names, when translated, are just as peculiar in their origin, and the scientist cannot afford to cast stones at the man in the street, or in the bush, who usually safeguards himself by prefixing the word "native" to his names.

THE FLORA OF VICTORIA.

By Gustav Weindorfer, Esq. (Chancellor Austro-Hungarian Consulate, Melbourne).

The flora of the State of Victoria is composed of three main divisions, the largest of which forms part of the South-Eastern Australian forest flora, and is considered to be an intermediate link between the Antarctic flora and that of the tropical East and North of the continent. The second division is formed by a part of the Central Australian desert flora, which penetrates the north-west corner of the State, constituting the "Mallee." The third and smallest division is the Alpine flora, which is restricted to the highest points of the Alpine mountains, in the north-east corner of our State. All these main divisions of course have their subdivisions, local floras, &c., but want of space will not permit enlargement on this point.

The number of species (*Phanerogamae* and *Acotyledoneae vasculares*) according to the *Key to the System of Victorian Plants*, by Baron Ferd. von Mueller, published 1887-88, is 1900, but others since recorded have not yet been compiled and embodied into a supplementary key. A work on the subject should certainly be undertaken at an early date.

In regard to the endemismus (the confinement of a species, or a natural group within the limits of a particular botanical region), Victoria stands with 7·6 per cent. behind the floras of all the other Australian States, which fact may find its explanation in the prevailing climatic conditions, the south-east of Australia being favoured by a comparatively heavy yearly rainfall. The continuance of this condition since older geological periods made the duration of certain types possible, from which we may infer that the development of new forms, and with such development the endemismus, has been greatly weakened. The Victorian flora shows in comparison to those of the other Australian States the greatest relationship to the floras of New Zealand and South America, and especially to that of Tasmania. Between it and the latter there is a general resemblance, particularly in those species occurring in the north-east of our State, in the high altitudes of our alpine regions, this being often looked upon as a proof of the former land connection of Tasmania with the continent.

Among the most noteworthy of our many highly interesting plant forms, the following may be mentioned:—

In the large order Dilleniaceæ, Victoria has only the genus Hibbertia represented, which however is almost entirely Australian, only a few species of this genus being represented in other parts of the Southern Hemisphere.

The five Victorian genera of the order Pittosporaceæ are all, with the exception of Pittosporum itself, limited to Australia.

The order Tremandraceæ, represented in Victoria by the genus Tetratheca, is strictly confined to our continent.

The order Rutaceæ, ranging over the hotter and temperate regions of the whole world, is fairly represented in Australia, and comprises in Victoria the genera: Zieria, Boronia, Eriostemon, Correa, Geijeria, and Acronychia, all of which, with the exception of the last-mentioned, are entirely endemic to Australia. Among them are many beautiful plants, which might be cultivated with advantage in our gardens.

In the Leguminosæ, the largest order of phanerogamous plants, next to the Compositæ, twenty-eight genera occur in Victoria, seventeen of which are limited to Australia. This order, distinguished elsewhere by a considerable number of its species being of high economic value, has here, in this regard, with the exception of the genus Acacia, no commercial value whatever. Many genera of this order, such as Pultenæa, Oxylobium, Dillwynia, Bossiæa, Kennedya, and Acacia are admirably adapted for garden plants, but, like so many others of our native plants, have been hitherto greatly neglected.

The capsular genera of the order Myrtaceæ are chiefly Australian, but the fleshy-fruited genera which are universally distributed, appear only in one genus (*Eugenia*) in Victoria. By far the most important genus of this order, inasmuch as it comprises the largest portion of our forests, determines the characteristic aspect of our landscapes, and forms an important part of our national wealth, is the gum tree (*Eucalyptus*). Those species which have proved of highest economic value for timber purposes are chiefly the river redgum (*E. rostrata*), red ironbark (*E. leucoyxlon*), grey box (*E. hemiphloia*), blue gum (*E. globulus*), spotted gum (*E. goniocalyx*), messmate (*E. obliqua*), yellow box (*E. melliodora*), and blackbutt (*E. amygdalina*), while the extraction of the essential oil contained in the glands of the foliage of this genus has created an industry of some importance. The genus Eucalyptus is almost exclusively Australian, only a few species being recorded from outside the continent.

The species of many other genera of this order, always aromatic, abundant in bloom, and frequently brilliant in colour, add largely to the beauty of our landscapes, though of no economic value.

In the order Proteaceæ, fairly dispersed throughout the Southern Hemisphere, the Victorian genera Isopogon, Adenanthos, Conosperum, Orites, Hakea, Telopea, and Banksia are entirely endemic to Australia. The remaining genera, Persoonia, Grevillea, and Lomatia, are, outside the continent, represented by only a few species. The

Proteaceæ contain some of the most curious flowers in our flora, which, with their lovely and various tints, impart a special physiognomic character to certain portions of the country.

The order Compositæ, here in Victoria, as in all parts of the globe, boasts the greatest number of species, among which those of the genera Helipterum, Helichrysum, Aster, Brachycome, and Senecio, with their variously-coloured flowers, are numerous and highly ornamental.

The Goodeniaceæ are almost entirely restricted to this continent. Of its twelve genera Victoria alone possesses six. The genus Goodenia, the richest in species, is entirely endemic to Australia.

The Candolleaceæ comprise in all four genera, which, with one exception, are also endemic to Australia. Only two, viz., Candollea and Leewenhœkia, are represented in Victoria.

The Myoporaceæ are more strongly represented in Australia than anywhere else. The order consists of only four genera, three of them Australian, two of these being represented in Victoria in Myoporum and Eremophila.

Although the order Ericaceæ is represented by only two species, Gaultheria hispida and Wittsteinia vacciniacea, both belonging to the Alpine flora, the Epacridaceæ take here the place of the heaths of the Northern Hemisphere. Among its six Victorian genera, five are entirely endemic to Australia.

Except in the long-settled districts, where foreign species have been introduced, the native members of the order Gramineæ form practically the entire bulk of our pastures, and their economic value is evidenced by the results of our dairying industry and the fine quality of our wool.

The beautiful order Filices, or ferns, abundant in all moist climates, hot or cold, and which contain a considerable number of genera and species, is represented in Victoria by twenty-two genera. The most noticeable are our tree ferns, Cyathea, Alsophila, and Dicksonia, the most attractive ornaments of our mountain gullies.

South-Eastern Australian forest flora.

As the sea forms a natural border to phanerogamous plant life, let us consider first of all a type of our coastal flora which occurs on the sandy coast of Port Phillip, whose plants are composed of species which are admirably adapted to weather the inclemency of wind and wave, and, so to speak, form the outposts of the inland flora.

Perhaps the most characteristic examples of this coastal flora are the white flowering "tea-tree" (*Leptospermum leavigatum*), which usually forms a belt of dense scrub, having for companions Acacia longifolia, Casuarina quadrivalvis, Myoporum insulare and viscosum, Banksia integrifolia, and certain Eucalypts, while in its shade various salsolaceous plants and many orchids, more especially Caladenia, Pterostylis, Diuris, &c., find the necessary conditions for their existence. Within this belt of tea-tree the vegetation is composed of entirely different species, which naturally do not accept the shelter which the tea-tree offers them close by. The prevailing species are more or less stunted in habit, having the surface area of their leaves greatly reduced, as may be observed in genera such as Hakea, Acacia, Ricinocarpus, Isopogon, Epacris, Casuarina and others. Here we

also meet with Banksia marginata, different bright yellow flowering species of Hibbertia, Dillwynia, and Goodenia, the purple Patersonia glauca and white flowering Pimeleas. Where the soil is free from bushes or shrubs, Hypoxis, Brachycome, Microceris, and Craspedia, &c., all contribute their share to the general colour harmony.

In following the numerous water-courses which run from the mountains towards the ocean, we cross in the eastern part of our State through more or less hilly country, covered chiefly with forests of Eucalyptus globulus, E. goniocalyx, E. virgata, and E. Muelleriana. Here Casuarinas develop their beautiful and interesting forms, there the gracefully symmetrical Exocarpus stretches its slender branches. Between the high and slender stems of the forests, the soil is covered with various kinds of bushes, among which the members of the genus Acacia prevail. The declivities burst forth in splendour under the crimson-flowered Tetratheca ciliata and the pink-flowering Bauera rubioides. Everywhere charming thickets of Melaleuca, Leptospermum, Hakea, Grevillea, Cryptandra, and Pultenæa are festooned with the white-flowered Clematis aristata and the purple Kennedya monophylla. All of interest, either from their pleasant forms, the lovely green of their leaves, or the peculiar formation of their flowers.

The water frontages of our rivers, which bear a number of trees of commercial value, are also the homes of Prostanthera lasiantha, Bursaria spinosa, Hymenanthera Banksii, Acacia dealbata, Cryptandra, Pomaderris, Coprosma, and many others. All these, by means of the network of their roots, fulfil a most useful function in maintaining the banks of the rivers. By the wanton destruction of these trees, and the denuding the banks of their undergrowth, their constant erosion takes place, and with this many species of our native flora are likely to entirely disappear. It would be therefore highly advisable that all water frontages be reserved throughout the State, and the destruction of shrub life on or near the edges of the rivers strictly forbidden.

In the lower slopes of the Australian Alps the timber increases much in height and girth, and magnificent forests are met with. The banks of the innumerable gullies and creeks exhibit such a luxuriant growth of fern trees that their broad, light green fronds often completely canopy the mountain streams. Here we also find the Australian beech (*Fagus Cunninghami*), a tree of considerable economic value. Scattered throughout the forest are blackwood (*Acacia melanoxylon*), Sassafrass (*Atherosperma moschatum*), and dogwood (*Pomaderris apetala*). On moist, shadowy places, which are specially favoured by ferns of various kinds, are to be found Lomatia Fraseri, Senecio Bedfordi, Aster argophyllus, Hedycaria Cunninghami, and Pittosporum bicolor.

Vast forests extend along the sources of the mountain rivers, which flow towards the south and south-east. In many of them the axe of the wood-cutter has not begun the work of devastation, and it is to be hoped that these remnants of our once extensive forests may be reserved before their destruction.

The northern plains of Victoria, extending westwards from the Alps towards the Grampians, are thinly covered with open forest, with belts of Eucalyptus rostrata, the river redgum, following the course of the Murray River and its tributaries, grey box and Murray pines also being scattered at intervals along their banks.

The Grampians, frequently alluded to as "the garden of Victoria," possess a most interesting flora, especially conspicuous by the great variety and brilliant colouring of its flowers. The principal trees, which are dispersed over this mountain country, are Eucalyptus obliqua, E. viminalis, E. rostrata, E. leucoxylon, E. goniocalyx, and E. Gunnii, Acacia pycnantha, A. melanoxylon, and A. decurrens. In ascending the different gorges and gullies of the mountains a dense and luxuriant growth of fern trees, Aspidiums, Lomarias, &c., is to be met with. Along the creeks occur Leptospermums, Melaleucas, Cryptandras, Grevilleas, and Hakeas. The declivities are covered with Correas, Dillwynias, Daviesias, the dense white-flowering Conospermum Mitchellii, Thryptomene Mitchelliana, the Epacris impressa, with flowers ranging from dark red to the purest white, the greenish yellow Styphelia adscendens, and in contrast to this the bright red flowering Styphelia Sonderi, with the lovely Marianthus bignoniaceous. Besides these, nature has favoured this charming locality with Acacias, Baueras, Boronias, Bossiaeas, and many myrtaceous plants. On the highest points are Boronia pilosa, Leptospermum lanigerum var., grandiflorum, and our only pink flowering Puttenæa, P. rosea.

Mallee flora.

The second main division of our flora, which extends over the arid north-west corner of the State, covers an area of about 18,000 square miles, and has, owing to the want of sufficient natural irrigation, developed a flora which differs in appearance entirely from the well-watered forest flora of the south and south-east, trees of large dimensions being entirely absent. They are replaced by shrubs, chiefly of Eucalyptus gracilis and Eucalyptus dumosa, mixed with other myrtaceous shrubs, about forty different species of Acacia, Cassias, and the Murray pine (*Callitris verrucosa*).

The general effect of monotony that characterizes the mallee scrub as a whole is individually seen in the foliage of its constituents; yet the scrub is very far indeed from being destitute of charms. At the fall of the first rain the barren, dusty plains become, as by magic, covered with a green carpet, gaily decorated with a wealth of flowers.

Where a permanence of water exists Juncus, Luzula, Xerotes, and Neurachne are frequently found. Under the scattered, upward striving gum trees, many shrubs, such as Eremophila Brownii, with its reddish brown flowers, the small pink-flowering Bækea crassifolia, Thryptomene ciliata, Halgania cyanea, and lavandulacea, with deep blue blossoms, and the scarlet-flowering Prostanthera coccinea, find a congenial home.

On the sandy ridges, which are natural flower gardens, Goodenias, Pimeleas, Swainsonias grow luxuriously; typical mallee genera, such as Asters, Helichrysums, and Helypterums, with their flowers of

varied colours cover the soil over immense areas. Right and left the plains are covered with grasses, such as Panicum, Agrostis, Stipa, Poa, Festuca, and Anthistiria.

Among the thick, dull scrub are frequent areas, varying in size, sparsely covered with Santalum, under which the valuable salt-bushes, such as Atriplex, Kochia, Chenopodium, and Salsola, cover the ground. It is these low shrubs whose bluish green leaves form a valuable and often the only fodder for cattle and sheep in time of need. Even after years of drought, when all other signs of vegetation have disappeared, the leaves and branches of these extraordinary shrubs remain fresh and green.

Alpine flora.

The tree line in the Victorian portion of the Australian Alps is at about 5,300 feet above sea level. On the western side of the mountains it is somewhat lower, the growth of the trees there being more limited by the prevailing cold westerly winds during the winter months. Above this tree line extends our true alpine flora, principally composed of genera which also occur in Tasmania. The only striking difference between the two floras is the want of endemic conifers in our Alps.

The transition from the forest to the alpine region is by no means an abrupt one. In every case a considerable overlapping of the alpine and lowland flora may be noticed. In the shade of the forest of this transition area grow numerous bushes, such as the white flowering Helichysum rosmarinifolium, the beautiful Proteace, Grevillea Victoriæ, and Orites lancifolia, with its cream-coloured flowers, which represent a strong contrast to the dark-blue coloured flowers of Dianella Tasmanica. The water-courses are lined with the white flowering Epacris heteronema and E. mucronulata, Nageia alpina, one of our few Victorian Conifers, among which sway the cream-coloured headlets of the pompous Pimelea ligustrina. Where the forest is interrupted by grassy hills and plains its edges are bound by numerous bushes of the bright yellow flowering Bossiæa foliosa; the delicate Goodenia hederacea flourishes amidst stones and rocks.

The highest parts of our Alps are covered with meadows, which in their general appearance may be compared with those of the European Alps, although they are composed of entirely different genera. On Mount Bogong, the monarch of the Victorian Alps, on Feathertop, Mount Hotham, and many other mountains above 5,000 feet, a rich variety of colours in flowering plants is to be found. The small Herpolirion Novae Zelandiae associated with Scaevola Hookeri, the white flowering Helipterum incanum, Veronica nivea, with its sky-blue flowers, the crimson red Candollea serrulata, the pink and white flowers of Boronia algida, and the yellow bushes of Oxylobium alpestre, form a picture which must be seen to be appreciated. Fairly common in these alpine regions are Aster celmisia, the white and pink flowering Helichrysum leucopsidium, Westringia senifolia, Richea Gunnii, and Prostanthera cuneata. Large white patches are formed by the almost stalkless flowers of Claytonia australasica. Occasionally, in places where the springs are percolating the soil, Pimelea axiflora var. alpina, Grevillea australis, and parviflora, Aciphylla

glacialis and simplicicaulis and the fern Lomaria alpina are met with. At the summit of the mountains, between patches of grasses, grows a small shrub, the branches of which attain a length of three to five feet, but do not rise higher than a few inches above the soil. This is the yellow flowering and pleasantly odorous Kunzea Muelleri, one of our myrtaceous plants, which has there in its company the Australian "Edelweiss" (*Leontopodium catipes*).

Victoria, with its great variety of plant life, offers to the botanical student an exceedingly interesting and beautiful flora. Even to the visitor, by way of recreation, the innumerable floral specimens which abound in this country cannot fail to prove a source of interest, and this will be found specially so in the high Alps, for when summer is reigning in the lower parts of the country, in these lofty elevations the vegetation is still luxuriating in the fullness of spring, and one is thus able to compare the different stages in the growth of such plants as occur in both these regions.

PRINCIPAL EVENTS.

Principal events.

The following are the dates of some of the principal events connected with the history of Victoria since the establishment of the Commonwealth on 1st January, 1901. For principal events prior to that year the reader is referred to previous issues of this work:—

1901. January 1st—Proclamation and inauguration of the Commonwealth at Sydney, and swearing in of the Rt. Hon E. Barton, first Prime Minister, and other members of the Ministry. Representatives from different parts of British Empire present, including representatives of Imperial and Indian regiments. State departments of Customs and Excise transferred, whilst those of the Post and Telegraph and Defence followed on 1st March.

,, January 22nd—Death of Queen Victoria. Accession of King Edward VII. His Majesty's Coronation took place on 9th August, 1902.

,, February 15th—Despatch of Fifth (Imperial) Contingent—1,014 officers and men—for South Africa.

,, March 31st—Eleventh census of Victoria, and third simultaneous census of Australia and New Zealand. Population enumerated:—In Victoria, 1,201,341, viz., 603,883 males, and 597,458 females; in all the Australian States, 3,782,943, viz., 1,983,352 males, and 1,799,591 females; and in New Zealand, 772,719, viz., 405,992 males, and 366,727 females (exclusive of 43,101 Maoris).

,, May 9th—Opening of the first Parliament of the Commonwealth of Australia, in Melbourne, by His Royal Highness the Duke of Cornwall and York, Heir-Apparent to the Throne, under commission from His Majesty King Edward VII.

,, October 8th—Inter-State free-trade established by the introduction of a provisional tariff by resolution of the Commonwealth House of Representatives.

1902. January 20th—Conference of Statisticians of all the Australian States and New Zealand, convened for the purpose of securing uniformity in the preparation of statistical returns, met in Hobart. Conference closed 12th February. This was the first Conference of the kind since 1875.

,, September 16th—The Commonwealth Tariff finally passed.

1903. January 2nd—Death of Lieut.-Col. Sir Fredk. Sargood, Senator, formerly M.L.C., one of the largest merchants of the Commonwealth, whilst on a trip through New Zealand. Accorded a public funeral.

,, January 19th—Strike of coal miners of the Gippsland collieries. The immediate cause of the strike was a reduction of 1s. per day in their wages.

,, February 7th—Re-organization of the Cabinet; reduction of the number of Ministers from 9 to 7; and amalgamation of the two Law Departments.

,, March 4th—Appointment of Mr. Thomas Tait, of Montreal, Canada, as Chief Commissioner of the Victorian Railways, announced by the Premier in the Legislative Assembly. Mr. W. Fitzpatrick, Acting Commissioner, and Mr. C. Hudson, General Manager of the Tasmanian Railways, appointed as subordinate Commissioners.

,, March 16th—Preferential trade. Notice of motion by Mr. Chas. McArthur, M.P., for Liverpool in the House of Commons :—"That the recent developments in the fiscal and commercial policy of foreign countries which are ousting British trade, demand the serious consideration of the Government in concert with the Colonial Governments where necessary, with a view to safeguarding the trade of the Empire."

,, March 17th—Manning of the British Navy. The Naval Reserve Commission, Sir E. Gray, M.P., Chairman, recommends that the Colonies should give assistance in war time, similar to that given to the army; and that a portion of the complement of every British man-of-war at a foreign station should consist of colonial reserve men.

,, April 15th to 22nd—Conference of Premiers, held at Sydney. Temporary settlement, pending appointment of the Inter-State Commission, of the rival claims to the waters of the River Murray. The question of taking over of States' debts by the Commonwealth and several other matters were also considered.

,, May 9th—Railway Strike. The engine-drivers and firemen left their engines at midnight on 8th May. Traffic was for several days almost entirely suspended, a few suburban trains only being run. After two or three days a modified service was provided. The immediate ostensible cause of the strike was an order by the Government that the executives of the different societies of railway employés should withdraw from affiliation with the Trades Hall, which order most of the officers concerned refused to obey.

,, May 15th—Termination of the railway strike, the men surrendering unconditionally. The majority were allowed to resume their former duties.

,, ,, ,, Preferential trade. Speech by Rt. Hon. Jos. Chamberlain, Secretary of State for the Colonies, urging the necessity of British reciprocity with respect to preferential Customs duties.

1903. July 24th—Resignation of Right Hon. C. C. Kingston, Minister of Trade and Customs, from the Commonwealth Ministry. The principal point of difference between Mr. Kingston and his colleagues, which led up to his resignation, was the non-applicability of the proposed Conciliation and Arbitration Bill to vessels trading in Australian waters.

,, August 10th—Appointment of Lord Northcote as Governor-General of the Commonwealth officially announced.

,, August 22nd—Announcement of future policy by the Premier, the Hon. W. H. Irvine, at Nhill. To assist the development of Victoria closer settlement would receive special attention, to aid which compulsory land resumption would, if necessary, be resorted to; and improved mining tenures were promised. The Factories Act would be extended in a modified form.

,, September 12th—Death of the Hon. Duncan Gillies, Speaker of the State Legislative Assembly, and Premier of the colony from 18th February, 1886, to 5th November, 1890.

,, September 18th—Preferential trade. Resignation of Rt. Hon. Jos. Chamberlain from the Imperial Ministry. Mr. Chamberlain's colleagues were not prepared to go the whole length advocated by him in regard to fiscal reform. Mr. Chamberlain resigned to avoid embarrassing the Prime Minister, and in order to educate the people in regard to the preferential trade scheme, and the tax on food involved, which he could do more effectually in an unofficial capacity.

,, October 6th—Inauguration of the Federal High Court, and the swearing-in of Sir Samuel Griffith, late Chief Justice of Queensland, as Chief Justice, and of the Right Hon. Sir Edmund Barton, K.C., late Prime Minister of the Commonwealth, and the Hon. R. E. O'Connor, K.C., as judges.

,, October 29th—Factories Bill. Conference between the two State Houses, to arrange a compromise. The Bill was agreed to in an amended form.

,, October 29th—Speech at Ballarat by Hon. Alfred Deakin, new Prime Minister (formerly Attorney-General) of the Commonwealth, Opening of the election campaign and declaration of Ministerial policy. Preferential trade was fully dealt with, and the principle affirmed.

,, November 24th—Departure of the State Governor, Sir Geo. Sydenham Clarke, he having been appointed as one of a committee of three to advise the Imperial authorities as to the re-organization of the War Office.

,, December 16th—Commonwealth elections. Female franchise exercised for the first time in Victoria.

,, December 24th—Prorogation of the State Parliament. This is memorable as being the last meeting of the unreformed Parliament. The new Parliament is to consist of a smaller number of members, and the constitution of the Upper House is altered, and its franchise broadened. Several other reforms have also been provided for.

1904. January 21st—Lord Tennyson left Adelaide for England. Lord Northcote sworn in as Governor-General of the Commonwealth.

1904. January 25th—Death of the Hon. Sir Graham Berry. The deceased statesman was born in 1822, and came to Victoria in 1852. He entered Parliament in 1860, and took office as Treasurer in the Macpherson Government in 1870. He became Premier in 1875, in 1880, and again in 1883. In 1887 he was appointed Agent-General for the Colony, and held the position till 1891, when he returned to Melbourne, and again entered Parliament. In 1892 he held office in the Shiels Ministry, and in 1894 was elected Speaker of the Legislative Assembly. He retired altogether from public life in 1897. For his public services he was made K.C.M.G. by the British, and Commander of the Legion of Honour by the French Government.

,, February 1st—The British Government, acting on proposals made by the War Office (Reconstitution) Committee, consisting of Lord Esher, Admiral Sir John Fisher, and the Governor of Victoria, Sir George Sydenham Clarke, decided on important changes in the British Army, including the establishment of an Army Council, on the lines of the Board of Admiralty, consisting of four soldiers, two civilians, and the Secretary of State for War; the Commander-in-Chief to be superseded by an Inspector-General. A Secretariat, consisting of a secretary and twelve minor officials (representing the Army, Navy, India, the self-governing colonies, and the Foreign Office), as the permanent nucleus of a Defence Committee, to be instituted to consider questions of defence, and furnish advice generally.

,, February 5th-12th—Conference of States and Federal Treasurers, to consider the question of the taking over by the Commonwealth of the States' debts, and the assets upon which loan money had been spent; the provision of a sinking fund; the arranging of future borrowings; the indemnities by the States; and the conversion and consolidation of existing loans. The proceedings of the Conference showed that the representatives of the Commonwealth and the States agreed that all debts should be transferred; that a sinking fund should be established; that the Commonwealth should control all future borrowing; that the Commonwealth should forthwith compensate for transferred properties; and that the period of ten years from the foundation of the Commonwealth, during which the States receive three-quarters of the net Customs revenue, should be prolonged after 1911. The points in dispute were the methods of inaugurating, carrying on, and safeguarding these matters; but the items which the Conference had been called to discuss were in the main agreed upon, and the adjustment of minor disagreements postponed to a future date.

,, February 8th—War between Russia and Japan commenced.

,, February 9th—Mr. Irvine, State Premier, resigned. Mr. Shiels (Treasurer) also retired.

,, February 16th—Mr. Bent (Premier) and other Ministers sworn in.

,, February 18th—Mr. Taverner appointed representative for Victoria, in London.

,, March 2nd—Opening of first session of second Federal Parliament.

1904. March 17th—Death of H.R.H. the Duke of Cambridge. The deceased peer was a grandson of King George III., and first cousin of the late Queen Victoria. He was born in Hanover on 26th March, 1819, and succeeded his brother to the title in 1850; joined the British Army in 1837 as colonel; served in the Crimean war in 1854-6, being present at Alma, Inkerman, Balaclava, and Sebastopol; in 1866 succeeded Viscount Hardinge as Commander-in-Chief, from which position he retired in 1895. He was a strong advocate of the volunteer movement.

,, April 8th—Signing of Convention adjusting foreign and colonial questions at issue between Great Britain and France. France renounced her exclusive right to the French shore, but retained right to fish on the Newfoundland coast; frontier between Senegal (French Colony) and Gambia (British Colony) modified, France being given access to the navigable portion of the Gambia River, at Yarbatenda; the Los Islands (near Sierra Leone) ceded to France; France given access to Lake Tchad, by modification of frontier of Northern Nigeria; the political status of Egypt to remain unaltered, and Suez Canal to remain neutral; Britain recognises French predominance in Morocco; and the French protective tariff in Madagascar; open door for thirty years in Egypt and Morocco agreed upon; the integrity of Siam guaranteed; appointment of a Commissioner to settle land disputes in the New Hebrides agreed to. This landmark in policy is believed to be largely due to His Majesty King Edward and President Loubet, and met with unqualified approval from press and public of both nations.

,, April 21st—Federal Government defeated on Mr. Fisher's motion to amend clause 4 of the Conciliation and Arbitration Bill, providing for the inclusion in the Bill of all public servants of the Commonwealth and the States.

,, April 22nd—Deakin Ministry resigned.

,, April 25th—Sir Reginald Talbot landed in Victoria, and was sworn in as State Governor, at Parliament House.

,, April 27th—Commonwealth Government—Watson (Labour) Ministry took office.

,, April 27th—Opening of Royal Commission to inquire into the conduct of the butter export trade. The Commission decided that the proceedings should be open to the press. In June the Commission was enlarged to a Federal body.

,, May 17th—Dissolution of State Parliament.

,, May 29th—Dedication of memorial of 5th Victorian Contingent to South Africa, situated on St. Kilda-road.

,, June 1st—State general elections under the Reform Act. A Government majority returned. Scripture referendum also held at the parliamentary elections. The questions submitted were :—(1) Are you in favour of the Education Act remaining as at present, strictly secular? (2) Are you in favour of such legislation as shall cause the scheme of Scripture lessons recommended by the Royal Commission on Religious Instruction to be taught in State schools during school hours to children whose parents desire the teaching (such lessons would be given subject to a conscience clause exempting teachers who object)? (3) Are you in favour of the prayers and hymns selected by the Royal Commission being used?

1904. June 20th—Wreck of R.M.S. *Australia* at Point Nepean.

,, June 29th—Sir Henry Wrixon re-elected President of the Legislative Council, and Mr. Frank Madden elected Speaker of the Legislative Assembly.

,, June 30th—Opening of the State Parliament.

,, July 4th—The Marquis of Linlithgow, first Governor-General of the Australian Commonwealth, presented His Majesty the King with Mr. Tom Roberts' historical picture of the opening of the first Parliament of Australia, by H.R.H. the Duke of Cornwall and York.

,, July 10th—Wreck of s.s *Nemesis* off New South Wales coast, all hands lost.

,, July 13th—Death of Paul Kruger, ex-President of the Transvaal.

,, August 9th—House of Representatives chose Dalgety as site for Federal Capital.

,, August 10th—Senate agreed to Dalgety site.

,, August 12th—Defeat of the Federal (Watson) Government.

,, August 15th—Watson Government resigned.

,, August 16th—Mr. Bent (State Premier) appeared in the Legislative Council to explain the provisions of the Surplus Revenue Bill. Section 9 of the *Constitution Act* 1903 provides that "any responsible Minister may, with the consent of the House of which he is not a member, sit in such House for the purpose of explaining the provisions of any Bill relating to, or connected with, any department administered by him." This was the first occasion on which effect was given to this new provision of the Constitution Act.

,, August 18th—Reid Government (Federal) sworn in.

,, September 7th—Mr. Swinburne, in submitting the Water Acts Consolidation and Amendment Bill for the consideration of the Legislative Assembly, called attention to the great importance of the subject, in that the conservation of water was an absolute necessity for conserving the whole of the valuable waters of the State, distributing them to the best possible advantage, and obtaining the most beneficial use of them in production. As the expenditure would be very great, it was necessary that the money should be spent in the most economic manner. During the parliamentary session, the Bill received the assent of the Lower House, and was duly transmitted to the Legislative Council, whose members, however, whilst fully recognising the importance of the measure, considered it advisable to postpone its passage until the first session of 1905, to enable them to carefully examine its provisions.

,, September 29th—First case opened in the Industrial Appeal Court, under provisions of the *Shops and Factories Act* 1903.

,, October 4th—Victorian butter secured first prizes in Australian butter classes at Islington Dairy Show.

,, October 10th—Councillor Charles Pleasance unanimously elected Lord Mayor of Melbourne.

,, October 14th-21st—Exhibition of Australian manufactures and products, held in the Town Hall, Melbourne.

,, October 21st—British fishing fleet shelled by Russian Baltic fleet, on the Dogger Bank.

,, October 28th—High Court decided that the public officials of the Commonwealth are exempt from the operation of the Income Tax Act.

1904. November 2nd—Progress report of Butter Commission issued. Recommendations were made for the establishment of an open butter exchange; grading of butter; reduction of ocean freights on butter; and valuable suggestions are made to producers.

,, November 3rd—High Court refuses, under section 74 of the Constitution Act, to permit appeal to be made to His Majesty in Council, in the matter of the taxation of salaries of public officials of the Commonwealth.

,, November 6th—Cable message received notifying appointment of a Commission of inquiry into the Dogger Bank incident.

,, November 8th—Theodore Roosevelt elected President of the United States.

,, November 13th—Opening of the National Art Gallery and Museum on Sunday, by vote of the Legislative Assembly, confirmed by the Legislative Council. The Public Library was opened fourteen days later.

,, November 14th—Presentation of King's colours by His Excellency the Governor-General, by command of His Majesty, to representatives of the Australian Light Horse, the Royal Australian Artillery, and the Australian Army Medical Corps.

,, November 30th—State Parliament prorogued.

,, December 12th—Appointment of Tariff Commission, in Federal House of Representatives, to inquire into the effect of the operation of Customs Tariff of the Commonwealth of Australia upon Australian industries, and into the working of the Tariff generally.

,, December 15th—Federal Parliament prorogued.