

VICTORIAN YEAR-BOOK, 1909-10.

INTRODUCTORY REMARKS.

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*.

History of
early
discoverers
and
settlers.

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.

Frobisher.

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 Houtman
and Jansen.

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, sailed northward to the archipelago now bearing his name, 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 landed in New Zealand at Poverty Bay, on 8th October, 1769. After coasting round the North Island, and the South and Stewart Islands—mistaking the latter for part of the South Island—he took his departure from Cape Farewell on the 31st March, 1770, for Australia, and on the 19th April, 1770, land was sighted by Lieutenant Hicks, at a point believed to be the present Cape Everard, on the Victorian coast. Cook sailed northwards, and, after seven or eight days on the water, landed first at

Botany Bay, then further north at other places on the east coast. He then 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.

Cook's description of Botany Bay was so favorable that in 1787 ^{Phillip.} 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.

The first landing effected in Victoria was in 1797, from a vessel ^{Clarke.} wrecked on Furneaux 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.

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

In 1803 an attempt was made to colonize Victoria, then known as ^{Collins.} the territory of Port Phillip, by making it a convict colony, which, luckily, proved abortive. A penal expedition, under Captain Collins, arrived in Port Phillip Bay on 7th October. It consisted of nearly 400 persons, of whom over 300 were convicts. A sandy site, chosen at Sorrento, proved to be unsuitable for the colony, chiefly because of the scarcity of fresh water, and Collins sent out an exploring party in search of a better place. The hostility of the blacks, preventing any satisfactory land exploration, and stormy weather in the bay, precluding efficient observation, combined to produce a gloomy report; and Collins applied to his chief at Sydney for permission to remove to Van Diemen's Land. Governor King readily assented, and after three months of wretchedness in Port Phillip, the colony crossed Bass Strait, and founded the settlement at the Derwent. Among the few children who had accompanied their parents in this expedition was John Pascoe Fawkner, who, 32 years later, led a party to the Yarra, and assisted in the foundation of Melbourne.

In 1824, a young Australian-born explorer, Hamilton Hume, of ^{Hume and} Lake George, in company with Captain Hovell, and six convicts as ^{Hovell.} servants, set out overland with the intention of reaching Western-port. After accidents by flood and field, swimming rivers, climbing mountains, and hewing their way with difficulty through rough forest country, they reached the river which now separates Victoria from New South Wales, and which they called the Hume. After

much toil and many disappointments, they reached Corio Bay, near the site of the present town of Geelong. The members of the expedition, believing that they had reached their destination, then returned to Sydney. Two years later another expedition, under Captain Wright, with Hovell as guide, settled at Westernport, the latter being under the impression that it was an inlet of the bay which Hume and he had previously reached. After a year's struggle for existence the place was abandoned, and the settlement withdrawn, lack of energy and general discontent being the apparent causes of failure.

Westernport
Settlement.

Sturt and
Macleay, on
the Murray.

In 1829, Sturt and Macleay, with eight convicts, rowed down the Murrumbidgee, and reached the river which Hume and Hovell had crossed some years previously, and which Sturt, in ignorance of the fact that it was the same as that to which the name Hume was given, called the Murray. The party then continued their journey past the mouth of the Darling, the upper waters of which Sturt had himself previously discovered, until they reached the broad waters of Lake Alexandrina. Unable to cross the bar which blocked the passage to the open, they turned back, and, after a laborious and perilous journey, reached headquarters, having explored a thousand miles of new country, and navigated the greatest of Australian rivers.

Mitchell.

In 1836, Major Mitchell, Surveyor-General of New South Wales, with 25 convicts, followed the Lachlan and Lower Murrumbidgee, and having crossed the Murray, beheld, from the summit of Mount Hope, a wide extent of good pasture land. Holding his course southward, with a declination slightly to the west, he crossed the verdant plains past the mountain-range, which he called the Grampians, and reached the southern coast of Discovery Bay. At Portland the party met the Henty family, who had, two years previously, established a sheep and cattle station there for the convenience of whalers, who made Portland Bay a place of resort. The expedition followed a north-eastern course home. The name applied by Mitchell to that part of our State which he traversed was *Australia Felix*.

Portland
Settlement.

Dutton.

Henty.

Whilst these toilsome and dangerous overland expeditions were being conducted, anxious eyes were eagerly watching for a favorable opportunity to move across the straits. Whale and seal hunting prevailed in the waters off the Victorian coast, or on the rocky islets that studded these waters. As early as 1828 sealers had erected temporary dwellings upon suitable spots on the southern coast of Victoria. The principal traders were William Dutton, John Griffiths, and John and Charles Mills. The first-named of these, William Dutton, established a whaling station at Portland in 1832, and was followed a year later by Edward Henty, who crossed in the *Thistle*, and with the servants, horses, cattle, and sheep, which he brought with him, became the first of that class of people who are now, to such a large extent, the backbone of our State, the agriculturists.

But it was the Bay of Port Phillip, after all, that was destined to become the principal channel of the new district's commerce. Thither John Batman came in 1835, entering the Heads on 29th May in the *Rebecca*. After landing near Geelong, and with characteristic acumen, ingratiating himself with the natives, he proceeded up the bay, and anchored off what is now Williamstown. He proceeded, with fourteen well-armed men, along the banks of the Lower Yarra and Saltwater as far as the site of Sunbury, and the natives, friendly because of Batman's favour in the eyes of the Geelong natives, were ready to treat with him. The famous barter, afterwards declared informal, by which the natives conveyed to him about 600,000 acres of rich grassy land for a quantity of knives, scissors, looking-glasses, blankets, and similar articles of native ambition, was drawn up by Batman near the site of Melbourne. Proceeding southwards, he came upon the main stream of the Yarra, and again boarded his vessel. Next day he ascended the river in a boat, and on reaching the Yarra Falls, entered in his diary the famous legend, "This will be the place for a village." Leaving a small party at Indented Head, Batman and his associates returned to Tasmania to prepare for the transportation of their households and worldly possessions, which speedily followed.

Port Phillip Settlement

Batman.
Geelong.

The Yarra.

Melbourne

But Batman was not to have things all his own way. John Pascoe Fawkner, who was one of the children whose brightness had illumed for a time the gloomy Sorrento settlement of 1803, formed a small party, and sailed in the *Enterprise* from Launceston a few weeks after Batman's departure. After visiting Westernport, whose aspect was particularly discouraging to the settlers, the *Enterprise* entered Port Phillip on 15th August, 1835. Batman's party at Indented Head, speedily and in due form intimated that their master was the owner of all the western side of the bay and the noble river at its head. Fawkner appears to have been prepared for such a claim, presumptuous as he declared it to be, for the *Enterprise* proceeded up the South Channel, and moved slowly northwards along the coast, in order that an exploring party might land from time to time to view the country. In this way Dromana, Frankston, Mordialloc, Brighton, and St. Kilda were tried and found wanting, and eventually the vessel anchored in Hobson's Bay, near the river mouth. The Yarra was entered in a boat, and the site of the present Custom-house selected for the settlement. Next day, the *Enterprise* was towed up, and the landing of the colonists, with their horses, provisions, ploughs, grain, fruit trees, building material, and other necessities of a new settlement, accomplished the foundation of Melbourne. The settlement at Indented Head was removed to "the place for a village," and encamped quietly on the site of St. James's Cathedral, close behind the Fawkner settlement.

Fawkner.

The Capital.

Thus 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, Prahran, Brunswick, and Essendon; the towns

of Malvern, Brighton, Port Melbourne, Williamstown, Northcote, Caulfield, Camberwell; the boroughs of Kew, Oakleigh, and Coburg; the shire of Preston; 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 5,441 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, which had increased to 121,000 dwellings, with a population of 562,300 at the end of 1909.

Port Phillip
district.

Rapid progress was made by the new settlement. In little more than a year Sir Richard Bourke, the Governor of New South Wales, sent Captain Lonsdale from Sydney as Magistrate. He himself visited the place in 1837, and planned out the towns of Melbourne, Williamstown, and Geelong, to the last of which places Captain Fyans was appointed police magistrate in September of the year named. Up to 1851, the district formed a part of New South Wales, under the name of Port Phillip. On the 1st July of that year it became a separate Colony, and was called Victoria in honour of the late Queen.

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, which made recommendations for the removal of the licence-fee, and for other concessions, the carrying out of which ultimately restored peace and harmony.

From the date of its discovery, the quantity of gold recorded for Victoria up to the end of 1909 was 71,379,888 ounces, valued at £285,100,386, this being about one-half the quantity recorded for the whole of Australia.

WOOL PRODUCTION.

Important as was the discovery of gold in aiding the early develop-^{Wool.}ment 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, but, owing to dry and unfavorable seasons between that year and 1901, it was then reduced to 10,841,790. The number had increased in 1907-8 to 14,146,734, but a partial drought experienced in that year was mainly responsible for a reduction to 12,937,983 in 1909-10.

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. In 1909-10, the wool production was 95,332,829 lbs., nearly all of which was exported. 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. 8½ ozs. 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, except the last:—

STATISTICS OF VICTORIAN PROGRESS, 1842 TO 1909.

	1842.	1850.	1855.	1861.	1871.	1881.	1891.	1901.	1908-9.
Population, 31st December ..	23,799	76,162	364,324	541,800	747,412	879,886	1,157,678	1,210,882	1,297,557
Revenue .. £	87,296	259,433	2,728,656	2,592,101	3,734,422	5,186,011	8,343,588	7,712,099	8,247,684
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	8,210,177
Public Funded Debt .. £	..	..	480,000	6,345,060	11,994,800	22,426,502	43,638,897	49,546,275	54,567,197
Gold produced .. oz.	..	..	2,793,065	1,967,453	1,355,477	858,850	576,400	789,562	702,220
Wool produced .. lbs.	2,752,330	16,345,468	22,470,443	22,640,745	37,177,646	45,970,560	76,503,635	73,235,138	87,536,451
Butter produced ..	..	..	..	..	..	..	16,703,786	46,857,572	48,461,298
Agriculture—									
Land in cultivation .. acres	8,124	52,341	115,060	427,241	793,918	1,582,998	2,512,593	3,647,459	4,496,183
Wheat .. bushels	55,360	556,167	1,148,011	3,607,727	4,500,795	8,714,377	13,679,268	12,127,382	28,345,649
Oats ..	66,100	99,535	614,614	2,136,430	3,299,889	3,612,111	4,455,551	6,724,900	11,124,940
Wine .. gallons	..	4,621	9,372	47,568	713,589	539,191	1,554,130	1,981,475	1,437,106
Live Stock—Horses .. No.	4,065	21,219	33,430	84,057	181,643	278,195	440,696	392,237	424,903
“ Cattle ..	100,792	378,806	534,113	628,092	799,500	1,286,677	1,812,104	1,602,384	1,574,162
“ 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	12,545,742
“ Pigs ..	..	9,260	20,686	43,480	177,447	239,926	286,780	350,370	179,358
Imports—Value .. £	277,427	744,925	12,007,939	13,532,452	12,341,995	16,718,521	21,711,608	18,927,340	28,243,235
Exports—Value .. £	193,783	1,041,796	13,493,338	13,828,606	14,557,820	16,252,103	16,006,743	18,646,097	29,605,695
Shipping .. tonnage	78,025	195,117	1,133,233	1,090,002	1,355,025	2,411,902	4,715,109	6,716,491	9,008,419
Railways open .. miles	..	..	..	214	276	1,247	2,764	3,238	3,401
Telegraph wire ..	..	..	..	2,586	3,472	6,626	13,989	15,356	15,516
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	128,985,872
“ Newspapers ..	147,160	381,158	2,349,656	4,277,179	5,172,970	11,440,732	22,729,005	27,104,344	33,187,382
Savings Bank Deposits .. £	..	52,697	173,090	582,796	1,117,761	2,569,438	5,715,687	9,662,006	14,471,566
Factories—									
Number of ..	..	..	278	531	1,740	2,488	3,141	3,249	4,608
Hands employed ..	..	..	..	..	19,468	43,209	52,225	66,529	93,808
Value of machinery, plant, land and buildings .. £	..	..	..	..	..	3,026,340	8,068,101	16,472,859	15,546,633
Value of articles produced .. £	..	..	..	..	..	13,370,836	22,390,251	19,473,780	30,787,760
State Primary Education—									
Number of schools ..	..	61	370	671	988	1,757	2,233	1,967	2,029
Expenditure on .. £	..	..	115,099	162,547	274,384	546,285	726,711	701,934	963,615
Total value of rateable property in municipalities .. £	..	..	..	29,638,091	50,166,078	87,642,459	203,351,360	185,101,993	242,688,771
Friendly Societies—									
Number of Members ..	..	..	1,698	7,166	35,706	47,908	89,269	101,045	126,746
Total funds .. £	..	..	..	..	213,004	475,954	961,933	1,370,692	1,887,891

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. Gold was discovered in 1851, in which year the return was 145,137 oz. Butter figures were not collected prior to 1891.

The population of the State at the end of 1842 was 23,799; and at the end of 1909 it had increased to 1,297,557. During the period 1842-1909, the revenue steadily increased from £87,296 to over £8,200,000. There was no public debt until after separation. In 1855 the State indebtedness was £480,000, in 1909 the funded debt had reached £54,567,000, which has been spent on revenue-yielding and other works of a permanent character, and during the last financial year the net return from the reproductive works was more than sufficient to meet the total interest due for the year upon the public debt. The land in cultivation in 1842 was slightly over 8,000 acres; it now amounts to 4,496,000 acres; in the number of horses, cattle, and pigs increases are generally shown. The value of imports in 1842 was £277,427; in 1909 it was over £28,000,000. Exports amounted to £198,783 in 1842; and in 1909 to nearly £30,000,000. No railways or telegraphs were in existence up to the end of 1855; in 1861 there were 214 miles of railway open, in 1909 there were 3,401 miles; 2,586 miles of telegraph wires had been erected up to 1861, and 15,516 miles up to the end of 1908. Postal business in letters and newspapers shows a large increase, and the deposits in savings banks rose from £52,697 in 1850 to £14,471,566 in 1909.

The expenditure on State primary education amounted to £115,000 in 1855, and had increased to £963,615 in 1908-9—the amount spent since the introduction of the present Act in 1873 being £25,635,210. Members of friendly societies numbered 1,698 in 1856, and 126,746 in 1908—the funds amounting to £213,000 in 1871 and £1,888,000 in 1908. Hands employed in factories rose from 19,468 in 1871 to 93,808 in 1908. The total value of rateable property in municipalities, which was £29,600,000 in 1861, aggregated £242,688,771 in 1908-9.

GEOGRAPHICAL POSITION, AREA, AND CLIMATE.

Victoria is situated at the south-eastern extremity of the Australian continent, of which it occupies about a thirty-fourth part, and it 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 straight 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 Strait, 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

Area of
Victoria.

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 146 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 fifty-three years ended with 1909 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, during the fifty-three years ended with 1909, 29.93 inches; the average number of days on which rain fell was 132, and the average yearly rainfall was 25.45 inches.

PHYSICAL GEOGRAPHY, GEOLOGY, AND FAUNA OF VICTORIA.

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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, 6,030 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, 6,306 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. Owing to stream capture and general denudation, the Divide has doubtless shifted its position from time to time, but the existence of the highlands is possibly, in part, due to an east and west series of folds, of which the "pitch" in the anticlines of our older rocks affords evidence; and in part to faulting, the latter being the more probable.

Highlands occur to the north of Cape Otway, where they rise 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 2,500 feet. This mass is a "tied island," the neck of the peninsula being formed by sand dunes. The chain of lofty granitic islands extending from the Promontory to Tasmania is the remains of an ancient connecting mountain range.

The north-west of Victoria is occupied by a large plain which borders the highlands on their northern side, and sweeps west, and still further 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.

As already indicated, the main river system consists of the Murray and its tributaries, the Murray itself being the 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.

Rivers and
lakes.

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, to the low barriers formed by the irregular flows of lava, and to 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, several of which are very deep, occupy the sites 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. When dunes are present they usually disturb the drainage, and extensive swamps and marshes are the result. These are extensively developed between Nelson and Cape Bridgewater. 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 approach 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. The lower Glenelg River, for 40 miles inland, Lady Bay, Warrnambool Bay, and Port Campbell 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. The harbor originally opened widely to the sea, and the old coastline may be traced from Dromana to Cape Schanck on the eastern side, while on the west it runs from St. Leonards to Ocean Grove. The Sorrento peninsula and the sandy triangular area with Queenscliff at

its apex are dunes piled on sand banks which nearly closed the port, the gap at the Heads being kept open by the tidal scour. Western Port 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, where hard bands occur at sea-level, in the marine tertiaries, the coast 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 Victoria published a few years ago by the Department of Mines.

Scattered irregularly over the State are numerous outcrops of quartz-mica-diorites and granitoid rocks of various types. They are mostly 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.

Older
Plutonic
rocks.

At Mounts Macedon and Dandenong occurs a series of dacites and various other associated rocks of uncertain age. Long regarded as palæozoic, they have of late years, on very slender evidence, been spoken of as early tertiary. The results of more recent work on them have not yet been published.

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

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.

Metamorphic.

At Heathcote a few imperfect 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.

Cambrian.

Slates and sandstones of ordovician 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

Ordovician.

centre of the State. From Ballarat westward is a large mass of rocks having similar characters, and 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 in several places on the Mornington Peninsula.

As regards fossils, the absence of calcareous beds greatly limits their variety. A few sponges and lower types of crustacea occur. No trilobites have been found, 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 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 silurian 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. Graptolites, 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-porphyrines, 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, and are regarded as upper devonian. The Grampian sandstones, which form a bold range with an abrupt south-easterly facing 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.

Certain sandstones on the Avon with *Lepidodendron* are, it is considered, of carboniferous 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. 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* and a few other forms, and this affords a means of correlating them with permo-carboniferous beds elsewhere. Permo-Carboniferous.

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, a dinosaur claw, and fresh-water molluscs have been found; but the chief fossils are plants, of which a large number are now known, as *Baiera*, *Sphenopteris*, *Taeniopteris*, &c. Coal is worked in the beds of Gippsland, as at Jumbunna, Outtrim, and Powlett. Jurassic.

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 fluvialite 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 fluvialite or the aeolian deposits, overlie auriferous bedrock, the buried river channels usually contain gold. In other places lignite beds or brown coals, 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. Tertiary.

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 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. 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. 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. Under certain climatic conditions these volcanic rocks have decomposed to form a valuable agricultural soil.

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, and very distinct from the Barwonian.

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 has formed many of our harbors.

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 (*Tachyglossus*) and the platypus (*Ornithorhynchus*), is confined to the continent and neighbouring islands, while the marsupials exist, nowadays, only in the Australian region and in 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 (*Macropodidae*) 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 kangaroo-rats, 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 (*Phalangeridae*) 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 ecaudatus*) 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. It will be noticed that the name "flying fox" is applied both to a bat and a marsupial. 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 lorries 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 *Chlamydochloa 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 species (*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, 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*), common in the south, is said to range into the Murray waters, 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 most of our 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 Commonwealth experimental trawler will, undoubtedly, add to our knowledge of the marine fishes, and lead to important economic developments.

The treatment of our invertebrate fauna must be brief, and confined to land and fresh water forms, though of some of the 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,” (*Voconia*) 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 mærens*) 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 may mention the fresh-water crayfishes, of which we have several kinds. The Murray crayfish (*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. The so-called land-crab (*Engaeus*) is really a crayfish, and is found in the damper parts of the State. It also occurs in Tasmania. One of the *Anaspidæ* (*Koonunga cursor*) has been found near Melbourne and Ballarat, and has thrown some light on the classification of the Crustacea.

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. The result is often very confusing, but not nearly as much so as when scientific names, such as *iguana*, are wrongly applied to animals of a very different character from the rightful owners of the names.

MOUNTAINS AND HILLS.

The highest mountain in Victoria is the Bogong Range,* situated in the county of the same name, 6,508 feet above the sea-level; the next highest peaks are—Mount Feathertop, 6,306 feet; Mount Fainter, 6,160 feet; Mount Hotham, 6,100 feet; and Mount Cope, 6,027 feet; all situated in the same country; also the Cobberas, 6,030 feet, situated in the county of Tambo. These, so far as is

Mountains and hills.

* The highest mountain on the Australian Continent is Mount Kosciusko in New South Wales; one peak of which is 7,328 feet high.

known, are the only peaks which exceed 6,000 feet in height; but, according to the following list, which has recently been corrected for this work by the Surveyor-General, Mr. J. M. Reed, I.S.O., there are 32 peaks between 5,000 and 6,000 feet high, and 35 peaks between 4,000 and 5,000 feet high; it is known, moreover, that there are many peaks rising to upwards of 4,000 feet above the level of the sea whose actual heights have not yet been determined:--

MOUNTAINS AND HILLS IN VICTORIA.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Abrupt ..	Dundas, Ripon and Villiers	2,721	Baranhet ..	Delatite ..	—
Aceland (Donnabuang)	Evelyn ..	4,080	Baringhup ..	Talbot ..	785
Aceland ..	Polwarth ..	—	Barker ..	Talbot and Bendigo	—
Aitken ..	Bourke ..	1,683	Bass Range ..	Mornington	—
Aitken's Hill	Bourke ..	1,608	Bankin's Hill	Ripon and Talbot	1,504
Alexander ..	Talbot ..	2,435	Battery ..	Delatite ..	—
Alexander's Head	Bourke ..	350	Baw Baw ..	Evelyn ..	5,062
Alexander's Crown (See Camel's Hump)			Bealiba ..	Gladstone ..	—
Alexina ..	Anglesey ..	1,526	Bear's Hill ..	Bendigo ..	—
Almond Peak	Ripon ..	—	Beckworth ..	Talbot ..	2,087
Ana'ie ..	Grant ..	1,350	Bellarine ..	Grant ..	463
Anderson's Peak	Delatite ..	5,010	Bell's Hill ..	Grenville ..	1,611
Angus ..	Tanjil ..	—	Bemm ..	Croajingolong	1,754
Anne ..	Delatite ..	1,417	Benambra ..	Benambra ..	4,843
Arapiles ..	Lowan ..	1,176	Ben Cruachan	Tanjil ..	2,765
Ararat ..	Ripon and Borung	2,020	Bernard ..	Delatite ..	1,610
Ararat ..	Mornington	—	Bindi ..	Tambo ..	—
Arnold ..	Anglesey, Evelyn and Wonnangatta	—	Bendock ..	Croajingolong	—
Arthur's Seat	Mornington	1,031	Ben Nevis ..	Kara Kara	2,875
Atkinson ..	Bourke ..	461	Big Hill ..	Borong ..	895
Avoca ..	Kara Kara	2,461	Big Hill ..	Bourke ..	—
Bakery Hill ..	Grant ..	1,420	Big Hill ..	Evelyn ..	—
Bald Cone ..	Anglesey ..	1,300	Birch's Bald Hill	Talbot ..	—
Bald Head ..	Dargo ..	4,502	Black Mount	Rodney ..	—
Bald ..	Dargo and Bogong	5,541	Black Hill ..	Grant ..	2,310
Bald Hill ..	Delatite ..	5,020	Black Hill ..	Grenville ..	1,685
Bald Hill ..	Mornington	680	Black Range	Anglesey ..	—
Bald Hill ..	Ripon ..	1,117	Black Range	Borong ..	1,903
Bald Hill ..	Talbot ..	1,956	Black Range	Polwarth ..	—
Balmattum Range	Delatite ..	—	Black Range	Lowan ..	—
Bainbridge ..	Dundas ..	—	Blackwood, or Myrning	Bourke ..	2,432
Barambogie Ranges	Bogong ..	1,220	Bland ..	Bourke ..	—
			Blowhard ..	Ripon ..	1,861
			Blue Mountain	Bourke ..	—
			Blue Range ..	Delatite ..	—
			Bogong ..	Bogong ..	6,508
			Boiler Plain	Dargo ..	5,150
			Bolangum ..	Kara Kara ..	1,220
			Bolga ..	Benambra ..	2,960
			Bolton East..	Talbot ..	1,921

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Bolton West	Talbot ..	2,055	Cathedral ..	Anglesey ..	2,120
Boon or Bowen	Croajingolong	4,500	Cavendish ..	Dundas ..	—
Boswell ..	Ripon ..	1,748	Cavern ..	Talbot and Ripon	1,588
Boulder ..	Buln Buln ..	1,725	Chalamber ..	Ripon ..	1,549
Boulder Range	Buln Buln ..	1,010	Chalicum ..	Ripon ..	1,594
Boundary Hill	Anglesey ..	—	Charlton Hill	Dargo ..	2,090
Breach Peak	Anglesey ..	1,634	Chaucer ..	Normanby ..	—
Brenanah ..	Gladstone ..	—	Christmas Hills	Evelyn ..	—
Brigg's Bluff	Borong ..	—	Clare or Dunn Peak	Delatite ..	4,986
Brock's Hill	Bourke ..	—	Clarke's Hill	Grenville and Talbot	2,380
Broom Hill ..	Gladstone ..	1,220	Clay ..	Normanby ..	622
Brown's Hill	Heytesbury	—	Cobbler ..	Delatite ..	5,349
Brown's Hill	Ripon and Talbot	1,594	Cobberas ..	Tambo ..	6,030
Bryarty's Hill	Evelyn ..	—	Coghill's Hill	Talbot and Ripon	1,639
Buangor ..	Kara Kara and Ripon	3,247	Cole ..	Ripon ..	—
Buckle ..	Croajingolong	1,461	Colite ..	Grant ..	—
Buckrabanyule	Gladstone ..	—	Commissioners Hill	Kara Kara	1,408
Budd ..	Delatite ..	1,970	Concongella Hill	Borong ..	1,376
Budgee Budgee	Tanjil and Wonnangatta	—	Concord ..	Anglesey ..	1,500
Buffalo (The Horn)	Delatite ..	5,645	Conical Hill ..	Evelyn ..	—
Buffalo (The Hump)	Delatite ..	5,221	Consultation ..	Talbot ..	—
Bulla Bulla ..	Croajingolong	—	Coopragambra	Croajingolong	—
Bullanerook	Bourke ..	2,306	Cooyatong ..	Benambra ..	3,270
Bullarook ..	Talbot ..	2,400	Cope ..	Bogong ..	6,027
Buller ..	Wonnangatta	5,934	Corn Hill ..	Wonnangatta	4,395
Bullich ..	Benambra ..	2,360	Corranwarrabul or Mt. Dandenong	Mornington	2,077
Buminyong ..	Grant ..	2,443	Cotterill ..	Bourke ..	679
Burramboot	Rodney ..	—	Crinoline (Ligar)	Wonnangatta	4,509
Burrowa ..	Benambra ..	4,181	Cunningham ..	Anglesey ..	1,920
Burrumbeet Hill	Ripon ..	—	Dandenong ..	Evelyn and Mornington	2,077
Burts Hill ..	Evelyn ..	640	Dargo Hill ..	Dargo ..	—
Byron ..	Lowan ..	—	Darriwil ..	Grant ..	—
Callender ..	Ripon ..	—	Davidson's Rocks	Borong ..	891
Camel ..	Rodney ..	—	Dawson ..	Tambo ..	—
Camel's Hump or (Alexander's Crown)	Bourke and Dalhousie	3,295	Deddiak ..	Croajingolong	—
Cameron ..	Talbot ..	—	Delegete Hill	Croajingolong	4,307
Camp Hill ..	Ripon ..	1,389	Delusion ..	Benambra & Dargo	4,507
Cann ..	Croajingolong	1,754	Despair ..	Anglesey ..	—
Cannibal Hill	Mornington	—	Diamond Hill	Bendigo ..	1,104
Carlyle ..	Croajingolong	1,189	Difficult ..	Borong ..	2,657
Cardinal, The	Ripon ..	—			
Castle Hill ..	Borong ..	—			
Castle Hill ..	Wonnangatta	4,860			
Cathcart Hill	Ripon ..	1,021			

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Dingle Range	Bogong ..	—	Gibbo ..	Benambra ..	5,764
Diogenes ..	Dalhousie ..	—	Glasgow ..	Talbot ..	—
Direction ..	Kara Kara ..	—	Glenrowen ..	Moira ..	1,680
Disappointment	Bourke and Anglesey	2,631	Good Morning Bill	Ripon ..	1,716
Djoandah ..	Wonnangatta	2,000	Gowar ..	Gladstone ..	—
Doboobetic ..	Kara Kara ..	—	Graham ..	Evelyn ..	—
Donkey Hill	Kara Kara ..	1,280	Granyah ..	Benambra ..	3,620
Drummond ..	Borong ..	—	Green Hill ..	Dalhousie ..	—
Dryden ..	Borong ..	—	Green Hill ..	Delatite ..	1,330
Dundas ..	Dundas ..	1,535	Green Hill ..	Grenville ..	2,050
Duneed ..	Grant ..	710	Greenock ..	Talbot ..	—
Easton ..	Tanjil ..	3,250	Gregory ..	Evelyn, Wonnangatta, and Tanjil	4,000
Eccles ..	Normanby ..	590	Hamilton ..	Hampden ..	1,047
Eckersley ..	Normanby ..	529	Happy Hill ..	Tanjil ..	1,900
Egbert ..	Gladstone ..	—	Hardie's Hill	Grenville ..	—
Egerton ..	Grant ..	—	Hat Hill ..	Delatite ..	2,544
Elephant ..	Hampden ..	1,294	Haunted Hill	Buln Buln ..	600
Eliza ..	Mornington	530	Heath Point..	Normanby ..	627
Ellery ..	Croajingolong	4,251	Helen ..	Anglesey ..	1,445
Ellery E. Bump	Croajingolong	3,908	Hermit ..	Bogong ..	—
Emu ..	Ripon ..	1,681	Hesse ..	Grenville ..	—
Emu Hill ..	Hampden ..	893	Higinbotham Heights	Bogong and Dargo	5,800
Enterprise ..	Grenville ..	1,010	Hoad ..	Dargo ..	2,160
Erica ..	Wonnangatta	—	Hodde Range	Buln Buln ..	—
Erip or Bute..	Tanjil ..	4,800	Holden ..	Bourke ..	1,452
Erip or Bute..	Grenville ..	1,539	Hollowback ..	Talbot and Ripon	1,842
Everard ..	Croajingolong	1,200	Hollowback ..	Kara Kara ..	1,687
Everett ..	Delatite ..	5,100	Hooghly ..	Gladstone ..	1,190
Ewing Hill ..	Anglesey ..	893	Hope ..	Gunbower ..	613
Fainter ..	Bogong ..	6,160	Hope ..	Benambra ..	4,505
Fainting Range	Tambo ..	—	Hore's Hill ..	Benambra ..	—
Fatigue ..	Buln Buln ..	2,110	Hotspur ..	Villiers ..	—
Feathertop ..	Bogong ..	6,306	Hotham ..	Bogong ..	6,100
Ferguson's Hill	Polwarth ..	708	Howe Hill ..	Croajingolong	1,288
Flint Hill ..	Ripon ..	1,059	Howitt ..	Delatite ..	5,718
Forest Hill ..	Tambo on the N.S.W. frontier	5,000	Hume Range	Bourke, Anglesey, and Evelyn	—
Forest Hill ..	Talbot ..	—	Hunter ..	Buln Buln ..	1,136
Franklin ..	Talbot ..	2,080	Ida ..	Rodney ..	1,537
Franklin Range	Bogong ..	—	Indigo Hill ..	Bogong ..	970
Friday ..	Dargo ..	2,700	Jeffcott ..	Kara Kara ..	—
Fullerton's Spring Hill	Wonnangatta	5,400	Jenkins ..	Weeah ..	339
Fyans ..	Hampden ..	957	Jess ..	Weeah ..	300
Gap ..	Talbot ..	—	Juliet ..	Evelyn ..	3,631
Gaspard ..	Talbot ..	—	Kangaroo Range	Normanby ..	—
Gellibrand ..	Grenville ..	871			
Genoa Peak	Croajingolong	1,607			
George ..	Polwarth ..	—			

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Kay ..	Croajingolong	3,284	Maramingo Hill	Croajingolong	1,271
Keilawarra ..	Moira ..	—	Martha ..	Mornington	544
Kent ..	Wonnangatta	5,129	Martin ..	Bogong ..	—
Kerang ..	Gladstone ..	—	Matlock ..	Wonnangatta	4,544
Kerang ..	Gumbower ..	—	Maxwell ..	Anglesey ..	740
Kerange Moorah	Polwarth ..	—	Melbourne Hill	Bourke ..	—
Kernot ..	Tanjil ..	4,675	Meningerot ..	Hampden ..	766
Kersop Peak	Buln Buln ..	740	Mercer ..	Grenville ..	—
Kincaid ..	Normanby ..	655	Meuron ..	Polwarth ..	713
Kinross ..	Hampden ..	908	Misery ..	Ripon ..	—
Kirk's Hill ..	Ripon ..	—	Misery ..	Mornington	766
Koala ..	Dalhousie ..	—	Mitchell ..	Talbot ..	—
Koang ..	Hampden ..	891	Moliagul ..	Gladstone ..	1,251
Koorooyugh or Smeaton Hill	Talbot ..	—	Moamot ..	Ripon ..	—
Kooyoora ..	Gladstone ..	—	Monda ..	Evelyn and Anglesey	2,974
Korong ..	Gladstone ..	1,400	Monk, The ..	Talbot ..	1,511
Kororoit ..	Bourke ..	—	Monument Hill	Delatite ..	1,750
Kurtweeton ..	Hampden ..	—	Moolort ..	Talbot ..	—
Lady Franklin	Bogong ..	1,789	Moorokyle ..	Talbot ..	—
Lady Mount ..	Ripon ..	—	Moornambool	Ripon ..	—
Langdale Pike	Polwarth ..	—	Moorul ..	Talbot ..	—
Landsborough Hill	Kara Kara	1,901	Moriae ..	Grant ..	839
Langi Ghiran	Ripon ..	3,123	Mormbool ..	Dalhousie ..	—
La Trobe ..	Buln Buln ..	2,366	Morton's Hill	Ripon ..	1,515
La Trobe's Range	Polwarth ..	—	Mueller ..	Tanjil ..	4,900
Lawaluk ..	Grenville ..	—	Murindal ..	Tambo ..	—
Leading Hill	Mornington	—	Murramurrang-bong	Bogong ..	—
Leinster ..	Dargo and Benambra	—	Mvrtoon ..	Hampden ..	713
Leonard ..	Buln Buln ..	1,860	McLean's Hill	Ripon ..	1,529
Letra ..	Hampden ..	1,027	McLeod ..	Tambo ..	5,057
Lianiduk ..	Karkaroc ..	—	Naninia ..	Ripon ..	—
Livingstone ..	Bogong ..	4,007	Napier ..	Normanby ..	1,453
Liptrap ..	Buln Buln ..	551	Navarre Hill	Kara Kara	1,355
Loch ..	Bogong ..	5,900	Nibo ..	Anglesey ..	—
Loinman ..	Karkaroc ..	—	Noorat ..	Hampden ..	1,026
Longwood Hill	Delatite ..	1,255	Northwood Hill	Dalhousie ..	654
Lookout ..	Tanjil ..	3,500	Norgate ..	Buln Buln ..	1,390
Lookout ..	Tanjil ..	1,400	Notch Hill ..	Dargo ..	4,507
Ivall ..	Mornington	—	Nowa Nowa	Tambo ..	—
Macedon ..	Bourke and Dalhousie	3,324	Oberon ..	Buln Buln ..	1,968
Mackenzie ..	Anglesey ..	2,654	Ochtertyre ..	Bogong ..	—
Mackersey ..	Dundas ..	—	One-Mile Hill	Talbot ..	1,596
Magdala ..	Wonnangatta	—	One-tree Hill	Evelyn ..	—
Mandample ..	Delatite ..	—	One-tree Hill	Kara Kara	1,590
Major ..	Moira ..	1,251	One-tree Hill	Mornington	1,523
Mannibadar ..	Grenville ..	—	One-tree Hill	Normanby ..	—
			One-tree Hill	Ripon ..	1,680
			Paradox ..	Anglesey ..	—

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Patrick Point	Kara Kara	2,323	Seymour Hill	Dalhousie ..	751
Peter's Hill ..	Polwarth ..	1,280	Shadwell ..	Hampden ..	962
Phipps ..	Bogong and Dargo	4,600	Sherwin's Range	Evelyn ..	—
Pierrepoint ..	Normanby ..	936	Shillinglaw ..	Wonnangatta	—
Pigeon Hill ..	Talbot ..	1,300	Serra Range	Dundas and Ripon	—
Pilot Range ..	Bogong ..	—	Singapore ..	Buln Buln ..	451
Pine Mount ..	Benambra ..	—	Singleton ..	Wonnangatta	—
Piminbar ..	Benambra ..	4,100	Sister Rises, The	Hampden ..	—
Piper ..	Dalhousie ..	—	Sisters ..	Anglesey ..	—
Pisgar (or Petit)	Ripon and Talbot	1,771	Skene ..	Wonnangatta	—
Pleasant ..	Rodney ..	—	Smeaton Hill	Talbot ..	—
Pollock ..	Grant ..	—	Smith's Hill	Ripon ..	1,572
Porepunkah	Bogong ..	1,368	Snake's Ridge	Buln Buln ..	—
Porndon ..	Heytesbury	947	Snodgrass ..	Anglesey ..	—
Powlet's Hill	Talbot ..	1,288	Spring Hill ..	Gladstone ..	—
Pretty Boy ..	Tanjil and Wonnangatta	1,587	Spring Hill ..	Ripon ..	—
Prospect ..	Anglesey ..	1,025	Spring Hill ..	Talbot ..	2,270
Puckapanyal	Dalhousie ..	1,368	Square Mount	Dargo ..	5,210
Puzzle Range	Anglesey ..	—	Stanley ..	Bogong ..	3,444
Pyramid Hill	Gunbower ..	—	Station Peak	Grant ..	1,154
Quoin Hill ..	Talbot and Ripon	—	Stavely ..	Villiers ..	1,071
Raven's Hill	Kara Kara	—	Steel's Hill ..	Evelyn ..	—
Ravenscroft Hill	Ripon and Talbot	—	Steiglitz ..	Bourke ..	—
Raymond ..	Croajingolong	980	Stewart ..	Anglesey ..	1,559
Red Hill ..	Buln Buln ..	—	Strickland ..	Anglesey ..	4,000
Red Hill (Mount Weejort)	Ripon ..	1,211	St. Bernard ..	Bogong ..	5,060
Red Hill ..	Grant ..	1,390	St. George ..	Polwarth ..	—
Red Hill ..	Mornington	740	St. Gwinear ..	Tanjil ..	4,950
Richmond ..	Normanby ..	727	St. Leonard's	Evelyn and Anglesey	3,304
Riddell ..	Evelyn ..	—	St. Mary's ..	Ripon ..	—
Rock Hill ..	Kara Kara	1,687	St. Phillack ..	Tanjil ..	5,140
Rocky Peak	Polwarth ..	2,380	Stirling ..	Delatite and Wonnangatta	5,700
Ross ..	Ripon ..	—	Strathbogie Ranges	Delatite ..	—
Rouse ..	Villiers ..	1,213	Sturgeon ..	Dundas ..	1,926
Sabine ..	Polwarth ..	1,912	Sugarloaf (Bear's)	Evelyn ..	—
Saddleback Hill	Ripon ..	1,548	Suggan Buggan	Tambo ..	—
Samaria ..	Delatite ..	3,138	Survey Peak	Anglesey ..	—
Sargent ..	Talbot ..	—	Table Top ..	Delatite ..	4,900
Scallan's Hill	Borong ..	885	Talbot ..	Lowan ..	1,072
Scobie ..	Rodney ..	—	Talbot Peak	Tanjil ..	—
Selwyn ..	Wonnangatta and Delatite	—	Tallarook ..	Anglesey ..	2,652
Separation ..	Delatite ..	—	Talgarna ..	Benambra ..	2,101
			Tambo ..	Benambra ..	4,707
			Tamboritha ..	Wonnangatta	5,381

MOUNTAINS AND HILLS—continued.

Name of Mountain.	County.	Approximate Height above Level of Sea.	Name of Mountain.	County.	Approximate Height above Level of Sea.
		feet.			feet.
Tanjil Hill ..	Tanjil ..	1,300	Victoria Range	Dundas ..	—
Tara ..	Tambo ..	2,009	View Hill ..	Bendigo ..	1,182
Tarrenbower	Talbot ..	1,861	Vite Vite ..	Hampden ..	—
Taylor ..	Dargo ..	1,571	Wagra ..	Benambra ..	2,638
Telegraph Hill	Ripon ..	1,854	Wallace ..	Grant ..	1,583
Templar ..	Tatchera ..	—	Walterson ..	Tambo ..	—
Tennyson ..	Croajingolong	3,422	Warrambat ..	Wonnangatta	—
Terrick Terrick	Gunbower ..	—	Warrenheip ..	Grant ..	2,463
Thackeray ..	Dundas ..	—	Warrion Hill,	Grenville ..	921
The Bluff ..	Wonnangatta	4,850	Gt.		
The Brothers	Benambra ..	4,667	Warrnambool	Hampden ..	712
The Monolith	Delatite ..	4,686	Watershed Hill	Ripon ..	—
(Buffalo Mts.)			Waverly ..	Wonnangatta	3,346
The Sisters ..	Benambra and	4,038	Weatherboard	Ripon ..	1,826
	Dargo		Hill		
Thorn ..	Delatite and	5,000	Weejort, Ripon	(See Red Hill)	1,211
	Wonnangatta		Wellington ..	Mornington	314
Timbertop, or	Wonnangatta	—	Wellington	Wonnangatta	5,355
Warrambat			(Trig)	and Tanjil	
Tingaringy ..	Croajingolong	4,771	Wellington	Tanjil ..	5,269
Tikatory Hill	Delatite ..	2,002	(Nap-Nap-		
Tom's Cap ..	Buln Buln ..	1,258	Marra)		
Tongio ..	Tambo ..	—	Wermatong Hill	Benambra ..	—
Tooborac Hills	Dalhousie ..	—	Western Hill	Tanjil ..	1,825
Torbreck ..	Anglesey and	5,001	Wheeler's Hill	Delatite ..	1,857
	Wonnangatta		Wheeler's Hill	Talbot ..	2,380
Towanga ..	Bogong ..	4,151	Whitelaw ..	Tanjil ..	4,875
Tower Hill ..	Villiers ..	322	Whittaker's ..	Croajingolong	—
Traawool ..	Anglesey ..	—	White Hill ..	Delatite ..	5,026
Trig Hill ..	Delatite ..	5,040	Widderin ..	Hampden ..	1,132
Tucker's Hill	Borong ..	1,200	William ..	Ripon and	3,829
Twins, The ..	Delatite and	5,582		Borong	
	Wonnangatta		William ..	Bourke and	2,689
Tyers ..	Tanjil ..	4,660		Dalhousie	
Ulrich Peak ..	Delatite ..	5,050	Wills ..	Bogong ..	5,758
Upton Hill ..	Delatite ..	1,750	Wilson ..	Buln Buln ..	2,350
Useful ..	Wonnangatta	4,720	Wilson ..	Bourke ..	—
	and Tanjil		Wiridgil ..	Hampden ..	—
Valentia ..	Wonnangatta	—	Wombat ..	Delatite ..	2,659
Vandyke ..	Normanby ..	—	Wombat Hill	Talbot ..	2,250
Vaughan's Hill	Talbot ..	1,760	Yandoit Hill	Talbot ..	—
Vereker ..	Buln Buln ..	2,092	Zero, Mount	Borong ..	—

Rivers.

With the exception of the Yarra, on the banks of which the metropolis is situated; the Goulburn, which empties itself into the Murray about eight miles to the eastward of Echuca; the La Trobe and the Mitchell, with, perhaps, a few other of the Gippsland streams; and the Murray itself, the rivers of Victoria are not navigable except by boats. They, however, drain the watershed of large areas of country, and many of the streams are used as feeders to permanent reservoirs for irrigation and water supply purposes for factories. The Murray, which forms the northern boundary of the State, is the largest river in Australia. Its total length is 1,520 miles, for 1,200 of which it flows along the Victorian border.* Several of the rivers in the north-western portion of the State have no outlet, but are gradually lost in the absorbent tertiary flat country through which they pass. The names and lengths of the principal Victorian rivers, with their positions and approximate lengths, corrected by the Surveyor-General, Mr. J. M. Reed, I.S.O., according to the latest information, are as follows:—

RIVERS IN VICTORIA.

Name of River.	Position.	Approximate Length.
Aberfeldy	Tanjil. Falls into Thomson	Miles. 35
Acheron	Anglesey. Falls into Goulburn	35
Agnes	Buln Buln. Falls into Corner Inlet	23
Aire	Polwarth. Falls into sea, 6 miles W. of Cape Otway	25
Albert	Buln Buln. Falls into Port Albert	25
Avoca	Tatchera, and western boundary of Gladstone	170
Avon, or Dunlop	Tanjil. Flows into Lake Wellington	84
Avon	Kara Kara. Source about a mile N. of Navarre. Flows into Lake Buloke	75
Axe Creek	Bendigo. Tributary of Campaspe	39
Baek Creek	Moirra. Falls into Broken Creek	45
Baek Creek	Villiers. Falls into Moyne	20
Baillie's Creek	Ripon. Falls into Mount Emu Creek	20
Barkly	Wonnangatta. Falls into Macallister	24
Barr Creek	Gunbower. Falls into Murrabit	20
Barwon	Grant and Polwarth. Runs into Lake Connewarre	95
Bass	Mornington. Falls into Western Port near East Head	35
Bemm	Croajingolong. Falls into sea at Sydenham Inlet	60
Benambra Creek	Benambra. Near Lake Omeo	45
Bet Bet Creek	Between Talbot and Gladstone. Falls into Loddon	53
Big	Wonnangatta. Joins Goulburn, 16 miles S.W. of Mansfield	32
Birregurra Creek	Polwarth and Grenville. Falls into Barwon	20
Black	Wonnangatta. Falls into Goulburn	24
Boggy Creek	Tambo. Falls into Lake Tyers	27
Bradford Creek	Talbot and Bendigo. Joins Loddon	24
Brankeet Creek	Delatite. Falls into Delatite	30
Bream Creek	Grant. Falls into the sea W. of Barwon Heads	30

* From the source of its longest tributary, the Darling, to the Murray mouth, the total length of this river is 2,345 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Brodribb	Croajingolong. Falls into Snowy River near its mouth	70
Broken	Delatite and Moira. Joins Goulburn, near Shepparton	110
Broken Creek	Moira, effluent of Broken River. Falls into Murray	120
Broken Creek	Ripon. Falls into Mount Emu Creek	20
Bruthen Creek	Buln Buln. Falls into Shoal Inlet	25
Buchan	Tambo. Tributary of Snowy River from westward	75
Buckland	Delatite. Falls into Ovens	30
Buffalo	Delatite. Falls into Ovens	50
Bullabul Creek	Gladstone. Falls into Loddon	24
Bullarook Creek	Talbot. Falls into Tullaroop Creek	35
Bundarra	Bogong. Tributary of Mitta Mitta	25
Bunee	Part of eastern boundary of Mornington	20
Burnt Creek	Borong. Falls into Wimmera	25
Burrumbeet Creek	Part of southern boundary of Ripon. Falls into Lake Burrumbeet	23
Cabbage Tree Creek	Croajingolong. Falls into Brodribb	27
Campaspe	Dalhousie, Rodney, Bendigo and Gunbower. Flows into Murray at Echuca	155
Cann	Croajingolong. Falls into Tamboon Inlet, 7 miles west Cape Everard	50
Castle Creek	Delatite and Moira. Falls into Goulburn	40
Chetwynd	Dundas. Falls into Glenelg	25
Cherry-tree Creek	Kara Kara. Falls into Avoca	20
Cobungra Creek	Bogong. Falls into Victoria	26
Cochrane's Creek	Gladstone. Falls into Avoca	20
Coliban	Boundary between counties of Talbot and Dalhousie. Flows into Campaspe	60
Concongella Creek	Borong. Falls into Wimmera	25
Cornella Creek	Rodney. Falls into Lake Cooper	40
Corryong Creek	Benambra. Falls into Murray, 3 miles N. of Towong	55
Crawford	Normanby. Joins Glenelg at Dartmoor	50
Creighton's Creek	Delatite and Moira. Falls into Pranjip	25
Cudgee Creek	Heytesbury. Falls into Hopkins	20
Cudgewa Creek	Benambra. Falls into Murray, 8 miles N. of Towong	40
Curdie's River	Heytesbury. Flows from Lake Purrumbete. Falls into sea, 28 miles S.E. from Warrnambool	50
Dabyminga Creek	Anglesey, western boundary. Falls into Goulburn	25
Dandenong Creek	Mornington, part of western boundary. Falls into Port Phillip Bay	30
Dargo	Dargo. Joins Mitchell River	63
Darlot's Creek	Normanby. Falls into Fitzroy	20
Dart	Benambra. Falls into Mitta Mitta	20
Delatite, or Devil's River	Boundary between Delatite and Wonnangatta. Joins the Goulburn, 6 miles below Darlingford	55
Deegay Ponds, or Major's Creek	Dalhousie. Falls into Goulburn	30

RIVERS—continued.

Name of River.	Position.	Approximate Length.
Delegete	Croajingolong. Joins Snowy River in New South Wales	Miles. 22*
Diamond Creek ..	Evelyn. Falls into Yarra Yarra	24
Doma Mungi	Bogong. Falls into Murray	40
Drysdale Creek ..	Villiers. Falls into Merri	20
Dunmunkle Creek ..	Borong. Effluent of Wimmera	57
Dwyer's Main Creek	Dundas. Falls into Wannon	25
Emu Creek	Bourke. Falls into Saltwater	33
Eumerella	Normanby and Villiers. Falls into Lake Yambuk	80
Eurrimundra	Croajingolong. Falls into Bemm	20
Ferrer's Creek ..	Grenville. Falls into Woody Yaloak	23
Fiery Creek	Ripon. Falls into Lake Bolac	73
Fifteen-Mile Creek ..	Delatite and Moira. Joins Three-Mile Creek and falls into Ovens	47
Fitzroy	Normanby. Falls into Portland Bay	26
Flynn's Creek	Buln Buln. Falls into La Trobe River	20
Ford's Creek	Delatite. Falls into Delatite	20
Franklin	Buln Buln. Falls into Corner Inlet, W. of Welshpool	25
Fyan's Creek	Borong. Falls into Mount William Creek, near Lake Lonsdale	20
Gellibrand	Polwarth and Heytesbury. Falls into sea, 23 miles W. of Cape Otway	68
Genoa	Croajingolong. Falls into Mallacoota Inlet, 12 miles S.W. of Cape Howe	32†
Gibbo	Benambra. Falls into Mitta Mitta	25
Glenelg	Dundas, Follett, and Normanby. Falls into Discovery Bay; a bend at the mouth enters South Australia	290
Glenmaggie (or Cow war) Creek	Tanjil. Falls into Macallister	25
Gnarkeet Ponds ..	Hampden, on eastern boundary. Falls into Lake Corangamite	24
Goulburn	Wonnangatta, Anglesey, Dalhousie, Moira, and Rodney. Joins Murray, 6 miles E. of Echuca	345
Grange Burn	Dundas and Normanby. Falls into Wannon ..	26
Gunbower Creek ..	Gunbower. Falls into Murray	80
Happy Valley Creek	Bogong. Falls into Ovens	20
Henty's Creek	Normanby. Falls into Wannon	23
Hodgson's Creek ..	Bogong. Falls into Ovens	20
Hollands	Delatite. Source at Wombat Hill and Tabletop. Joins Broken River at Benalla	40
Hopkins	Ripon, Hampden, Villiers, and Heytesbury. Falls into sea at Warrnambool	170
Howqua	Wonnangatta. Rises at Mount Howitt. Falls into Goulburn	47
Hughes' Creek ..	Anglesey, part of northern boundary of county. Falls into Goulburn	45
Indigo Creek	Bogong. Falls into Murray	23
Jackson's Creek ..	Bourke. Falls into Saltwater	55
Jamieson	Wonnangatta. Falls into Goulburn	42
Jim Crow Creek ..	Talbot. Falls into Loddon	29
Jingallala or Deddick	Croajingolong. Joins Snowy from eastward ..	37
Joyce's Creek	Talbot. Falls into Loddon	32

* Length in Victoria only.

† Length in Victoria only; total length, 60 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Kiewa	Bogong. Falls into Murray, 8 miles below confluence of Mitta Mitta with Murray	85
King	Delatite. Joins Ovens at Wangaratta	80
King Parrot Creek ..	Anglesey. Falls into Narrangeanong	30
Koetong Creek	Benambra. Falls into Murray	23
Koroite Creek	Dundas. Falls into Wannon	25
Kororoit Creek	Bourke. Falls into Port Phillip Bay	40
Lang Lang	Mornington. Falls into Western Port Bay	30
La Trobe	Buln Buln. Falls into Lake Wellington. Boundary between Tanjil and Buln Buln	145
Leigh (<i>see</i> Yarrowee).		
Lerderberg	Bourke. Falls into Werribee at Bacchus Marsh	32
Lindsay	Millewa. Falls into Murray	30
Little	Grant. Falls into Port Phillip Bay	40
Little Woody Yaloak	Grenville. Falls into the Woody Yaloak	20
Livingstone Creek ..	Benambra and Bogong. Falls into Mitta Mitta	32
Loddon	Talbot, and western boundary of Bendigo and Gunbower. Falls into Murray	210
Macallister	Tanjil and Wonnangatta. Falls into Thomson	100
Marraboor	Tatchera. Falls into Murray	35
Mather's Creek	Dundas. Falls into Glenelg	20
Merri	Villiers. Falls into sea at Warrnambool	44
Merri Merri Creek ..	Bourke. Falls into Yarra Yarra	45
Merriman's Creek ..	Buln Buln. Falls into sea at Ninety-mile Beach	60
Middle Creek	Talbot. Falls into Joyce's Creek	28
Mitchell	Boundary between Dargo and Tanjil. Falls into Lake King	80
Mitta Mitta	Benambra and Bogong. Joins Murray	167
McKenzie'	Borong. Falls into Wimmera, 4 miles W. of Horsham	36
Moorarbool	Grant. Joins Barwon at Fyansford, near Geelong	90
Moroka	Wonnangatta. Joins Wonnangatta, 12 miles N. of Mount Wellington	25
Morwell	Buln Buln. Tributary of La Trobe	30
Mountain Creek	Croajingolong. Falls into Snowy	25
Moynes	Villiers. Falls into sea at Belfast	40
Mount Cole Creek ..	Borong and Kara Kara. Falls into Wimmera	18
Mount Emu Creek ..	Ripon, Hampden, and Heytesbury. Falls into Hopkins	165
Mount Greenock Creek	Talbot. Falls into Tullaroop Creek	30
Mount Hope Creek ..	Bendigo and Gunbower. Falls into Kow Swamp	120
Mount Pleasant Creek	Rodney. Falls into Campaspe	23
Mount William Creek	Borong. Falls into Lake Lonsdale, thence into Wimmera, 12 miles E. of Horsham	63
Muckleford Creek ..	Talbot. Falls into Loddon	20
Muddy or Pranjip Creek	Delatite and Moira. Falls into Goulburn	35
Murray	Northern boundary of State of Victoria	1,200*
Murrabit	Gunbower. Falls into Loddon	35
Murraboor	Tatchera. Falls into Loddon	35
Murrindal	Tambo. Falls into Buchan	35

* Length in Victoria only; total length, 1,520 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Muston's Creek ..	Villiers. Falls into Hopkins	50
Myer's Creek ..	Bendigo	32
Myrtle Creek ..	Talbot, part of north boundary. Falls into Coliban ..	20
Naringhil Creek ..	Grenville. Falls into Woody Yaloak	29
Native Hut Creek ..	Grant. Falls into Barwon	25
Nicholson ..	Dargo. Falls into Lake King	50
Norton Creek ..	Lowan, part of eastern boundary. Falls into Wimmera	29
Outlet Creek ..	Weeah. Flows from Lake Hindmarsh into Lake Albacutya; thence north to Pine Plains	80
Ovens	Boundary between Bogong, Delatite, and Moira. Joins Murray below Wangaratta	132
Perry	Tanjil. Falls into Avon near Lake Wellington	35
Plenty	Bourke. East boundary of county. Falls into Yarra Yarra	32
Powlett	Mornington. Falls into sea	21
Pyramid Creek ..	Talbot, Bendigo and Gunbower. Falls into Loddon at Kerang	140
Reedy Creek ..	Bogong. Falls into Ovens	43
Richardson ..	Kara Kara. Joins Avon at Banyena	35
Rose	Delatite. Falls into Buffalo	30
Ryan's Creek ..	Delatite. Falls into Holland's Creek	30
Salt Creek ..	Hampden, outlet of Lake Bolac. Falls into Hopkins	35
Saltwater	Bourke. Joins the Yarra at Footscray	115
Serpentine Creek ..	Bendigo and Gunbower. Effluent of Loddon	35
Seven Creeks ..	Delatite and Moira. Falls into Goulburn	60
Shaw	Villiers. Falls into Lake Yambuk	32
Snowy	Tambo and Croajingolong. Rises in New South Wales. Falls into sea near Point Ricardo	103*
Snowy Creek ..	Bogong. Falls into Mitta Mitta	26
Spring Creek ..	Villiers. Falls into Merri	30
Stokes, or Emu Creek ..	Normanby. Joins the Glenelg, 5 miles N. of Dartmoor	30
Sugarloaf Creek ..	Dalhousie. Falls into Sunday Creek	30
Sunday Creek ..	Dalhousie. Falls into Goulburn	32
Surrey	Normanby. Falls into Portland Bay	23
Sutherland Creek ..	Grant. Falls into Moorarbool	20
Tallangatta Creek ..	Benambra. Falls into Mitta Mitta	34
Tambo	Boundary between Tambo and Dargo. Falls into Lake King	120
Tanjil	Buln Buln and Tanjil. Falls into La Trobe	45
Tarago	Buln Buln. Falls into Bunyip	22
Tarra	Buln Buln. Falls into Shoal Inlet, near Tarraville	27
Tarwin	Buln Buln. Falls into sea at Anderson's Inlet	55
Thomson	Tanjil. Falls into La Trobe	110
Thowgla Creek ..	Benambra. Falls into Corryong Creek	24
Thurra	Croajingolong. Falls into sea at Cape Everard	55
Timbarra	Tambo. Falls into Tambo	36
Toonginbooka ..	Tambo. Joins Snowy River	28
Tom's Creek ..	Tanjil. Falls into Lake Victoria	20

* Length in Victoria only; total length, 300 miles.

RIVERS—continued.

Name of River.	Position.	Approximate Length.
		Miles.
Trawalla Creek ..	Ripon. Falls into Mount Emu Creek ..	20
Tsheea Creek ..	Moira. Falls into Murray ..	25
Tullaroop Creek ..	Talbot. Falls into Loddon near Eddington, with Creswick's and Adekate Creeks ..	65
Tyers ..	Tanjil. Tributary of La Trobe ..	30
Tyrrell Creek ..	Kara Kara and Tatchera. Effluent of Avoca. Falls into Lake Tyrrell ..	95
Victoria ..	Bogong. Falls into Mitta Mitta, 8 miles W. of Lake Omeo ..	30
Violet Ponds or Honey-suckle Creek ..	Delatite and Moira. Falls into Seven Creeks ..	35
Wabba Creek ..	Benambra. Falls into Cudgewa Creek ..	25
Wallpolla Creek ..	Millewa. Falls into Murray ..	30
Wando ..	Dundas. Falls into Glenelg ..	25
Wannon ..	Dundas, Ripon, Villiers, and Normanby. Falls into Glenelg ..	145
Watts ..	Evelyn. Falls into Yarra Yarra ..	23
Warramine Creek ..	Grenville. Falls into Barwon ..	36
Wellington ..	Wonnangatta. Falls into Macallister ..	21
Wentworth ..	Dargo. Falls into Mitchell ..	40
Western Moorarbool ..	Grant. Falls into Moorarbool ..	33
Werribee ..	Bourke. West boundary of county. Falls into Port Phillip Bay ..	70
Wimmera ..	Kara Kara, Borung, and Lowan. Falls into Lake Hindmarsh ..	190
Wingan ..	Croajingolong. Falls into sea near Ram Head ..	26
Woody Yaloak ..	Grenville. Flows from north into Lake Corangamite ..	60
Wongungarra ..	Dargo and Wonnangatta. Falls into Wonnangatta ..	40
Wonnangatta ..	Wonnangatta. Joins Mitchell ..	80
Woori Yallock ..	Evelyn. Joins Yarra Yarra ..	23
Yackandandah Creek ..	Bogong. Falls into Kiewa ..	25
Yarra Yarra ..	Bourke and Evelyn. Falls into Hobson's Bay ..	150
Yarriambiack Creek ..	Borung and Karkaroc. Effluent of Wimmera. Falls into Lake Coorong ..	80
Yarrowee, or Leigh ..	Grant and Grenville. Joins Barwon at Inverleigh ..	80
Yea ..	Anglesey. Falls into Goulburn ..	40

LAKES.

Victoria contains numerous salt and fresh water lakes and lagoons; but many of these are nothing more than swamps during dry seasons. Some of them are craters of extinct volcanoes. Lake Corangamite, the largest inland lake in Victoria, covers 90 square miles, and is quite salt, notwithstanding it receives the flood waters of several fresh-water streams. It has no visible outlet. Lake Colac, only a few miles distant from Lake Corangamite, is a beautiful sheet of water, $10\frac{1}{2}$ square miles in extent, and quite fresh. Lake Burrumbeet is also a fine sheet of fresh water, embracing 8 square

miles. The Gippsland lakes—Victoria, King, and Reeve—are situated close to the coast, and are separated from the sea only by a narrow belt of sand. Lake Wellington, the largest of all the Gippsland lakes, lies to the westward of Lakes Victoria and King, and is united to the first-named by a narrow channel. South-east of Geelong is Lake Connewarre, connected with the sea at Point Flinders. The following is a list of the lakes in Victoria, with their localities and areas, supplied by the Surveyor-General, Mr. J. M. Reed, I.S.O. :—

LAKES IN VICTORIA.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Albacutya ..	Weeah, 10 miles N. of Lake Hindmarsh (<i>f</i>) ..	14,430
Albert Park ..	South Melbourne (<i>f</i>) ..	105
Bael Bael ..	Tatchera, 9 miles W. of Kerang (<i>f</i>) ..	1,075
Baker ..	Tatchera, 7 miles S.E. of Castle Donnington (<i>f</i>) ..	700
Barracootta ..	Croajingolong, 6 miles W. of Cape Howe (<i>f</i>) ..	600
Beaac ..	Grenville, 10 miles N. of Colac (<i>s</i>) ..	1,500
Birdebush ..	Hampden, 8 miles N.W. of Camperdown (<i>b</i>) ..	64
Bitterang ..	Karkaroc, 45 miles N.W. of Lake Tyrrell (<i>f</i>) ..	180
Boga ..	Tatchera, 8 miles S.E. of Castle Donnington (<i>f</i>) ..	2,120
Bolac ..	Ripon, 6 miles E. of Wickliffe (<i>f</i>) ..	3,500
Bookaar ..	Hampden, 6 miles N.W. of Camperdown (<i>b</i>) ..	1,075
Boorookpi ..	Lowan 14 miles E. of South Australian boundary line (<i>f</i>) ..	1,030
Boort ..	Gladstone, fed by overflow of Loddon (<i>f</i>) ..	1,127
Bringalbert ..	Lowan, 10 miles N.E. of Apsley (<i>f</i>) ..	250
Bullen Merri ..	Hampden, 1 mile S.W. of Camperdown (<i>b</i>) ..	1,330
Buloke ..	Borong, 4 miles N. of Donald (<i>occasionally dry for a series of years</i>) (<i>f</i>) ..	600
Bunga ..	Tambo, 3 miles S.W. of Lake Tyers (<i>f</i>) ..	300
Bungaa ..	Tanjil, 90-mile beach (<i>b</i>) ..	1,000
Buninjon ..	Ripon, 6 miles S.W. of Ararat (<i>f</i>) ..	430
Burn ..	Grenville, 10 miles N.E. of Colac (<i>s</i>) ..	130
Burrumbeet ..	Ripon, 10 miles W. of Ballarat (<i>f</i>) ..	5,200
Calvert ..	Grenville, 5 miles N. of Colac (<i>s</i>) ..	5,200
Cantala ..	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>) ..	250
Carchap ..	Lowan, 20 miles N. of Mostyn (<i>f</i>) ..	220
Catcarrong ..	Villiers, near township of Winslow (<i>f</i>) ..	80
Catherine ..	Polwarth, W. boundary of county, 13 miles from sea (<i>f</i>) ..	130
Centre ..	Lowan, 10 miles N.W. of Mostyn (<i>f</i>) ..	660
Charm ..	Tatchera, 10 miles N. of Kerang (<i>f</i>) ..	1,390
Clear ..	Lowan, 17 miles N. of Mostyn (<i>f</i>) ..	300
Colac ..	Polwarth, at Colac (<i>f</i>) ..	6,650
Colongulac ..	Hampden, 3 miles N. of Camperdown (<i>b</i>) ..	3,500
Connewarre ..	Grant, 5 miles S.E. of Geelong (<i>tidal</i>) ..	3,880
Cooper ..	Rodney, 9 miles E. of Runnymede (<i>f</i>) ..	2,400
Coorong ..	Karkaroc, fed by Yarriambiak Creek (<i>f</i>) ..	2,000
Cope Cope ..	Kara Kara, 16 miles N.W. of St. Arnaud (<i>f</i>) ..	400

LAKES—continued.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Coragulac	Grenville, 7 miles N.W. of Colac (<i>b</i>)	90
Corangamite	Grenville (<i>s</i>)	57,700
Corringle	Tambo, 2 miles from coast (<i>f</i>)	400
Craver	Polwarth, 5 miles N.W. of Cape Otway (<i>tidal</i>)	200
Cullens	Tatchera, 8 miles N.W. of Kerang (<i>f</i>)	1,660
Cundare	Grenville, 12 miles N. of Colac (<i>s</i>)	350
Curlip	Croajingolong, fed by overflow of Snowy River (<i>f</i>)	400
Denison	Buln Buln, 28 miles N.E. of Alberton (<i>f</i>)	350
Dock	Borong, 6 miles S.E. of Horsham (<i>f</i>)	370
Doling Doling	Dundas, 3 miles N.E. of Hamilton (<i>f</i>)	50
Drung Drung or Taylor's	Borong, 11 miles S.E. of Horsham (<i>f</i>)	750
Duck	Tatchera, 6 miles N.W. of Kerang (<i>f</i>)	870
Durdidwarrah	Grant, reserved for town of Geelong, 25 miles N.W. (<i>f</i>)	—
Elingamite	Heytesbury, 11 miles S.W. of Camperdown (<i>f</i>)	800
Elizabeth	Tatchera, 5 miles W. of Kerang (<i>f</i>)	200
Eyang	Hampden, 9 miles E. of Chatsworth (<i>f</i>)	180
Furnell	Croajingolong, 8 miles N.W. of Cape Everard (<i>f</i>)	800
Garnouk	Tatchera, 10 miles S.E. of Castle Donnington (<i>f</i>)	500
Garry	Moirra, 10 miles N.W. of Shepparton (<i>f</i>)	1,700
Ghentghen	Ripon, 5 miles E. of Wickliffe (<i>s</i>)	40
Gherang Gherang	Grant, 3 miles E. of Winchelsea (<i>f</i>)	250
Gnarpurt	Hampden, at Northern extremity of Lake Corangamite (<i>s</i>)	5,800
Gnotuk	Hampden, 2 miles W. of Camperdown (<i>s</i>)	600
Goldsmith	Ripon, 7 miles S. of Beaufort (<i>f</i>)	2,130
Goulburn Weir	Moirra and Rodney (<i>f</i>)	4,500
Green	Borong, 7 miles S.E. of Horsham (<i>f</i>)	250
Hattah	Karkaroc, 42 miles N.W. of Lake Tyrrell (<i>f</i>)	150
Hindmarsh	Lowan, fed by Wimmera River (<i>f</i>)	30,000
Jollicum	Hampden, 4 miles S.W. of Streatham (<i>f</i>)	130
Kakydra	Tanjii, 7 miles E. of Sale (<i>b</i>)	452
Kanagulk	Lowan, 6 miles N.E. of Mostyn	870
Kangaroo	Tatchera, 11 miles N.W. of Kerang (<i>f</i>)	2,250
Kariah	Hampden, 5 miles N.E. of Camperdown (<i>b</i>)	350
Karnak	Lowan, 18 miles N.E. of Edenhope (<i>b</i>)	300
Keilambete	Hampden, 15 miles W. of Camperdown (<i>b</i>)	770
Kemi Kemi	Lowan, 2 miles S. of Edenhope (<i>f</i>)	130
Kennedy	Villiers, 8 miles N.W. of Peshurst (<i>b</i>)	690
Kerferd	Bogong, Beechworth Water Supply (<i>f</i>)	100
King	Tanjil, near Bairnsdale, 23 miles N.E. of Seacombe (<i>tidal</i>)	22,500
Konardin	Karkaroc, 44 miles N.W. of north shore of Lake Tyrrell (<i>f</i>)	300
Koreetnung	Hampden, 6 miles N.E. of Camperdown (<i>s</i>)	560
Kow	Gunbower (<i>f</i>)	6,800
Laanecoorie Weir	Bendigo and Gladstone (<i>f</i>)	1,620
Lalbert	Tatchera, 31 miles W. of Kerang (<i>f</i>)	1,250
Leaghur	Tatchera, 18 miles S.W. of Kerang (<i>f</i>)	130
Learmonth	Ripon, 11 miles N.W. of Ballarat (<i>f</i>)	1,200

LAKES—continued.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Linlithgow	Villiers, 8 miles N.W. of Penshurst (<i>b</i>)	2,450
Little	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	80
Loekie	Karkaroc, 42 miles N.W. of Lake Tyrrell (<i>f</i>)	350
Long	Tatchera, 8 miles S.E. of Castle Donnington (<i>f</i>)	500
Lonsdale	Borong, 7 miles S.W. of Glenorchy (<i>f</i>)	6,000
Lookout	Tatchera, 14 miles W. of Kerang	130
Mallacoota	Croajingolong, 12 miles W. of Cape Howe (<i>tidal</i>)	1,700
Malmsbury	Dalhousie and Talbot, reservoir for northern gold-fields' population, borough of Malmsbury (<i>f</i>)	640
Mannaor	Tatchera, fed by overflow of Murray (<i>f</i>)	40
Marmal	Gladstone, 12 miles N.E. of Charlton (<i>f</i>)	250
Marsh, The	Tatchera, 10 miles N.W. of Kerang (<i>f</i>)	1,700
Meering	Tatchera, 11 miles S.W. of Kerang (<i>f</i>)	500
Melanydra	Tanjil, 6 miles E. of Sale (<i>b</i>)	153
Middle	Tatchera, 4 miles N. of Kerang (<i>f</i>)	560
Miga	Lowan, 20 miles N.W. of Mostyn (<i>f</i>)	230
Mitre	Lowan, 20 miles W. of Horsham (<i>s</i>)	1,280
Modewarre	Grant, 6 miles E. of Winchelsea (<i>s</i>)	1,025
Moodemere	Bogong, 3 miles W. of Rutherglen (<i>f</i>)	850
Morea	Lowan, 13 miles N. of Edenhope (<i>f</i>)	180
Mournpall	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>)	600
Mundi	Follett, 1 mile E. of South Australian boundary line (<i>f</i>)	1,280
Murdeduke	Grenville, 25 miles W. of Geelong (<i>s</i>)	2,800
Murphy's	Tatchera (<i>f</i>)	560
Natimuk	Lowan, 14 miles W. of Horsham (<i>f</i>)	922
Omeo	Benambra, 10 miles N.E. of Omeo (<i>f</i>)	1,966
Ondit	Grenville, 5 miles N. of Colac (<i>s</i>)	250
Oundell	Hampden, 5 miles S.W. of Streatham (<i>f</i>)	180
Paragalmir	Ripon, 6 miles E. of Wickliffe (<i>s</i>)	160
Pelican	Tatchera, 2 miles W. of Kerang (<i>f</i>)	94
Pertobe	Villiers, town of Warrnambool (<i>tidal</i>)	50
Pine	Borong, 8 miles S.E. of Horsham (<i>f</i>)	360
Pine Hut	Lowan, 22 miles N.W. of Mostyn	200
Powell	Karkaroc, 36 miles N. of Lake Tyrrell (<i>f</i>)	322
Punpundhal	Hampden, W. of Lake Corangamite (<i>s</i>)	60
Purgagoolah	Croajingolong, 18 miles W. of Cape Howe (<i>tidal</i>)	30
Purumbete	Heytesbury, 4 miles S.E. of Camperdown (<i>f</i>)	1,450
Racecourse	Tatchera, 10 miles N.W. of Kerang (<i>f</i>)	196
Reedy	Tatchera, 3 miles N. of Kerang (<i>f</i>)	550
Reeve	Buln Buln, 2 miles S.E. of Seacombe on coast (<i>tidal</i>)	9,000
Repose	Villiers, 7 miles S.E. of Dunkeld (<i>f</i>)	280
Rosine	Grenville, 3 miles W. of Cressy (<i>s</i>)	380
Round	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	35
Salt	Weeah, 46 miles N.W. of Lake Albacutya (<i>s</i>)	4,480
"	Grenville, 9 miles N.E. of Colac (<i>s</i>)	870
"	Ripon, 6 miles N.E. of Streatham (<i>s</i>)	500
"	Ripon, 9 miles S. of Beaufort (<i>s</i>)	180
"	Lowan, 12 miles N.W. of Mostyn (<i>s</i>)	500
"	Lowan, 5 miles N.W. of Natimuk (<i>s</i>)	600

LAKES—continued.

(Those lakes which contain fresh water are distinguished by the letter *f*, and those which consist of salt or brackish water are indicated by the letters *s* and *b* respectively.)

Name of Lake.	Position.	Approximate Area.
		Acres.
Salt	Tatchera, 13 miles N.W. of Kerang (<i>s</i>)	700
"	Tatchera, 8 miles W. of Kerang (<i>s</i>)	100
Sand Hill	Tatchera, 13 miles W. of Kerang (<i>s</i>)	160
Sea Lake	Karkaroc (<i>f</i>)	30
Spectacle (Great)	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	128
" (Little)	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	43
St. Mary's	Lowan, 4 miles W. of Mount Arapiles (<i>f</i>)	230
Swan	Mornington, in Phillip Island (<i>f</i>)	60
Sydenham	Croajingolong, 8 miles E. of Cape Conran (<i>tidal</i>)	2,300
Tamboon	Croajingolong, 8 miles W. of Cape Everard (<i>tidal</i>)	1,150
Tatutong	Hampden, W. of Lake Corangamite (<i>s</i>)	50
Tcham	Tatchera, near Birchip (<i>f</i>)	260
Terang	Hampden, 12 miles W. of Camperdown (<i>f</i>)	300
Terang Pom	Hampden, 11 miles N.E. of Camperdown (<i>s</i>)	500
Timboon	(See Colongulac.)	
Tobacco	Tatchera, 10 miles S.W. of Kerang (<i>f</i>)	25
Toolirook	Hampden, 4 miles S.E. of Lismore (<i>b</i>)	850
Tower Hill	Villiers, 7 miles N.E. of Belfast (<i>f</i>)	850
Turang-moroke	Ripon, 9 miles E. of Wickliffe (<i>s</i>)	250
Tyers	Tambo, 22 miles west of mouth of Snowy River (<i>tidal</i>)	3,950
Tyrrell	Karkaroc, fed by overflow of Avoca River (<i>s</i>)	42,600
Upper Coliban Reservoir	Talbot and Dalhousie (<i>f</i>)	574
Victoria	Tanjil, 21 miles E. of Sale (<i>tidal</i>)	28,500
Walwalla	Millewa, 13 miles S.E. of intersection of South Australian boundary line by Murray River (<i>f</i>)	600
Wallace	Lowan, at Edenhope (<i>f</i>)	450
Wangoom	Villiers, 6 miles N.E. of Warrnambool (<i>f</i>)	200
Waranga Basin	Rodney (<i>f</i>)	11,009
Wartook Reservoir	Borong (<i>f</i>)	2,556
Wau Wauka	Croajingolong, near Cape Howe (<i>f</i>)	600
Weerancanuck	Hampden, 7 miles N.E. of Camperdown (<i>s</i>)	1,280
Weering	Grenville, 17 miles N. of Colac (<i>s</i>)	921
Wellington	Tanjil, 8 miles E. of Sale (<i>f</i>)	34,500
Wendouree	Grenville, at Ballarat (<i>f</i>)	500
White	Lowan, 8 miles N.W. of Mostyn (<i>s</i>)	1,400
Wirraan	Hampden, 9 miles N. of Camperdown (<i>s</i>)	60
Wooronook	Kara Kara, 10 miles W. of Charlton (<i>f</i>)	250
Wurdee Boluc	Grant, 5 miles S.E. of Winchelsea (<i>f</i>)	440
Yallakar	Lowan, 7 miles N.E. of Edenhope (<i>f</i>)	870
Yambuk	Villiers, 10 miles W. of Belfast (<i>tidal</i>)	200
Yando	Tatchera, 22 miles S.W. of Kerang (<i>f</i>)	200
Yan Yean	Evelyn, reservoir for supply of metropolis, 22 miles N.E. of Melbourne (<i>an artificial lake</i>) (<i>f</i>)	1,360
Yeeangmaria	Ripon, 10 miles E. of Wickliffe (<i>s</i>)	75
Yellwell	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>)	200
Yerang	Karkaroc, 44 miles N.W. of Lake Tyrrell (<i>f</i>)	160

THE FLORA OF VICTORIA.

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The early general accounts of the flora of Victoria by Baron Mueller have been, to some extent, superseded by the short but excellent accounts given by Mr. G. Weindorfer in the *Victorian Year-Book* for 1904, and by Mr. C. A. Topp, M.A., LL.B., in the Melbourne Handbook of the Australasian Association for the Advancement of Science, 1890. In several respects, however, these general views need amplification, especially as the progress of settlement, drainage, irrigation, and cultivation continues to affect the character and distribution of the native flora. The following remarks will serve to complete the accounts already given, as well as to draw attention to certain features which come prominently out in a general view of the flora, but have not previously been discussed.

The factors which influence a flora and determine its characters are the result of the interaction of telluric, oceanic, and solar influences, and may be grouped under the following heads:—

1. The previous geological history of the country, and its relationship to other countries.
2. The present and past climate, in which the most important factors are—
 - (a) Average annual temperature, and extremes of heat and cold.
 - (b) Average annual rainfall, and its distribution throughout the year.
 - (c) Character and depth of the soil.
 - (d) Prevailing winds and their intensity and direction, including the influence of drift sand, &c.

The two latter factors influence more the local than the general distribution through large areas, although the influence of wind on the flora of the coastal districts around Melbourne, and on that of large areas of the north and south-western districts, is very pronounced.

The previous geological history of Victoria is by no means certain, although evidences of elevation and subsidence are shown in many parts, and volcanic eruptions and lava outbursts in past ages have been responsible for the sudden destruction of the local flora over wide areas. In the same way, the existing evidence of glacial action points to the occurrence of a cold glacial age in the history of Victoria, when arctic conditions prevailed, and all the requirements were produced for the subsequent development of a homogeneous alpine flora on the tops of the lofty mountains as the cold receded and more favorable conditions prevailed, leaving arctic species stranded, as it were, on the top of every lofty mountain throughout the State. The alpine flora of Victoria is, however, apparently more modern and hence less striking than that of Europe, although many features of similarity exist between the two. The more modern character of the

Victorian alpine flora is, for instance, evidenced by the facts that the plain and alpine floras largely overlap, and that the latter shows less type differentiation than usual. Species which pass from alpine or sub-alpine regions to the plains are *Arabis perfoliata*, *Billardiera scandens*, *Correa Lawrenciana*, *Hypericum japonicum*, *Sagina procumbens*, and *Stellaria pungens*, although species are not wanting, such as *Drosera Archeri*, &c., which are exclusively restricted to high alpine elevations. Little doubt exists as to a land connexion with Tasmania in past ages by way of King Island, and this is borne out by the large number of species common to the two States, Tasmania and Victoria. New Zealand, on the other hand, is widely distinct in its flora from that of Victoria, so that, if New Zealand and Australia were ever connected, the separation must have occurred in very remote ages.

Present Climate.—The average annual rainfall of 26 inches approximates to that of England, and this, coupled with its warmer climate and continental connexions, makes the flora of Victoria somewhat more numerous and varied than that of Great Britain, in spite of the smaller area of the State. The idea that Victoria is much drier than Great Britain is hardly correct. The chief difference is that in Great Britain a few places are exceptionally wet (Ben Nevis, 151 inches per annum; one station in Lake district, 177 inches per annum), whereas in Victoria a few regions are exceptionally dry (the north-west portion of the Mallee). The Lake district in England, and the south-west coast of Scotland, with an annual rainfall of 40 inches, correspond exactly to the Otway Forest and South Gippsland, where the rainfall just exceeds 40 inches. Over a very large part of the east coast of England and Scotland the rainfall is below 25 inches. The average for London is, for instance, 24 inches—*i.e.*, below the average for Victoria; and in one drought year, when agriculture in Essex and neighbouring counties suffered greatly, it was as low as 16 inches. A point of great importance is that in all the wettest parts of Great Britain the flora is of a special character, and limited to a few bog, humus, or hygrophilous types, whereas it is in the drier regions that the flora is more abundant and varied—that agriculture is of most importance, and the land most valuable.

In Victoria, owing to its warmer climate, a higher rainfall is required to reach the limit at which it becomes detrimental to agriculture, and at which bog, humus, and hygrophilous floras prevail. Although this limit is reached in parts of South Gippsland, the Otways, and on some of the higher mountain ranges, it is only over limited areas, which represent a relatively small portion of the total surface of Victoria. The conditions are, therefore, very different to those prevailing on the west coasts of Ireland or Tasmania, where, owing to the high rainfall, enormous tracts of land are quite unsuited for the ordinary practice of agriculture, though, naturally, not entirely useless. Even in Victoria, however, if the curves for rainfall and temperature coincided instead of being opposed—*i.e.*, if the rains of the south fell on the northern areas—the climate, flora and agricultural possibilities of the State would be enormously improved, and irrigation would be largely unnecessary.

As it is, there are over 2,000 species of flowering plants and vascular cryptogams in Victoria; and when the lower cryptogams—Algæ, Musci, Fungi, &c.—are added, the species total fully 5,000. England possesses about 1,200 flowering plants and ferns; but, owing to its relatively large expanse of coast and its more uniformly moist climate, Algæ, Musci, and Fungi are better represented.

A very interesting feature in distribution is afforded by the fact that many almost subtropical species from New South Wales or even Queensland (*Hakea dactyloides*, *Livistona australis*, *Callitris calcarata*, &c.) extend down the coast into Victoria. The neighbourhood of the sea maintains a more equable temperature, and keeps the air more uniformly moist. Plants in general suffer more from cold dry air, than from equally cold but moist air, so that under moist coastal conditions subtropical and even tropical plants can extend far to the south out of their proper geographical zones.

The climate of Victoria may be fairly compared with that of the south of France or Spain, but the flora is widely dissimilar as regards the species and genera, and even some of the orders (Proteaceæ) of which it is composed. A number of common British genera—*Hypericum*, *Stellaria*, *Cardamine*, *Drosera*, *Capsella*, &c.—are represented in Victoria, but mainly or entirely by distinct Australian species. A few cosmopolitans—*Spergularia rubra*, *Sagina procumbens*, *Myosurus minimus*, *Potentilla anserina*, *Oxalis corniculata*, *Portulaca oleracea*, *Polygonum hydropiper*, *Lemna minor*, *Potamogeton*, &c.—are, however, natives of Victoria, and they, with others, form a connecting link with the world's flora. Thus *Prunella vulgaris*, L., the "Self-Heal," and *Solanum nigrum*, the "Black Nightshade," are common English weeds, while native species of *Sida*, *Hibiscus*, *Anagallis*, *Heliotropium*, *Cyperus*, &c., also occur in Asia, Africa, and America. Such non-European plants as *Parietaria debilis*, *Dodonæa viscosa*, *Avicennia officinalis*, and *Tetragonia expansa* are especially interesting, since they connect our flora with that of the old and new worlds on the one hand and with that of New Zealand on the other.

The dominant general features of the Victorian flora are determined by the necessity of protection against periodic drought and intense sunlight. The latter affects, of course, exposed plants only, and is shown by the common presence of vertical leaves or phyllodia on so many of our forest trees, with the result that they yield relatively little shade, and at the same time transpire less actively than if horizontally expanded.

Various adaptations for surviving periods of drought are shown, such as the formation of reduced evaporating surfaces and fleshy leaves like those of the salt-bushes, by the transformation of branches which would bear leaves into thorns and prickles, such as *Acacia armata*, &c.

In addition, many herbaceous perennials in dry seasons or situations develop as annuals, surviving the dry period in the form of seed. The seeds of many Leguminosæ (*Acacias*, *Jacksonias*, *Viminaria denudata*, &c.) have impermeable cuticularized seed-coats when fully ripened, so that they may remain dormant in the soil for long

periods of years, germinating when brought to the surface and the coats softened by heat, by the alkaline ash of bush fires, or by mechanical abrasion.

A few introduced trees, such as the Moreton Bay Fig, Maple, and Plane, shed a portion of their leaves in drought so that the remainder may have a chance of surviving, and the same may be shown to a limited extent by some of the native trees, although the latter are nearly all evergreen, the leaves being shed irregularly all the year round without ever leaving the tree entirely bare. The prevalence of evergreens in the native flora is the result of our mild winters, but introduced deciduous trees flourish admirably and are largely used for tree planting.

The erect, branchless, lower stems and thick fibrous bark of so many of our Eucalypti are probably protective adaptations against bush fires, and this peculiarity often causes them to be unaffected by a fire which would completely consume a European pine forest under similar conditions. The frequently delayed dehiscence of *Callistemon*, *Hakea*, *Banksia*, &c., especially under moist conditions, is probably also an adaptation to drought conditions or to recurrent bush-fires, for both causes clear the land of existent vegetation to a greater or less extent, and, at the same time, excite the escape by dehiscence of the seeds which are to replace it, and the germination of those dormant seeds whose coats have been softened by the heat and ashes.

The coast scrub of Tea-tree (*Leptospermum* and *Melaleuca*) protects itself against wind and sand-drift by growing close together, the leaves, which demand a fair exposure to light, being found at the upper surfaces and edges of the scrub only and giving its interior a peculiarly gloomy character. Where the scrub is dense, no plants grow beneath; but where it is less dense, a few mosses, grasses, and such orchids as *Caladenia*, *Pterostylis*, &c., may be found, and an introduced *Polygala*, *P. myrtifolia*, L., is sometimes abundant. The Mallee scrub of the north-west (shrubby Eucalypti) affords an instance of similar adaptation, but in this case to inland conditions.

In spite of its close connexion with the rest of Australia, the barriers to migration in the past have sufficed to enable Victoria to retain a fairly large number of endemic species, at least 46, although possibly some of the latest-described plants may prove to be merely varieties or hybrids of species with a wider range. This appears especially to be the case with the genus *Pultenaea*, of which no less than five new species have been recently recorded, one of them, *P. Weindorferi*, Reader, being found comparatively near Melbourne. In any case, the comparison with England, which, in spite of its isolation as an island and larger area, has hardly any true endemic species, is very striking.

The endemic species of Victoria include *Eucalyptus alpina*, *Acacia tenuifolia*, *Pultenaea* (9 species), *Grevillea* (4 species), *Aster Benthami*, *Goodenia Macmillani*, *Prostanthera* (3 species),

Styphelia (2 species), *Thelymitra* (2 species), *Prasophyllum* (2 species), *Stipa* (2 species), *Poa* (2 species), *Lepidosperma tortuosum*, and many others. There is, however, a smaller percentage of endemic species in Victoria than in any other State of Australia, owing to the greater range of conditions within its boundaries and to the close connexion with neighbouring States, the northern and western boundaries of Victoria being political rather than geographical or botanical.

The genera with endemic species, and more especially *Pultenæa*, *Grevillea*, *Acacia*, *Eucalyptus*, *Thelymitra*, and *Prasophyllum*, may be regarded as especially adapted to Victorian conditions and as characteristic representatives of its flora.

The latter is, however, in a transitional condition, and is rapidly undergoing modification as the result of civilization.

The chief factors tending to the disadvantage of the native flora are—the progress of deforestation, the drainage of swamps and swampy localities, sheep pasturing and the spread of rabbits, the increase of the area under cultivation or irrigation, and the introduction of hordes of alien weeds and garden escapes, many of which are not merely more or less aggressive weeds of cultivation—*Senecio*, *Carduus*, *Centaurea*, *Anagallis arvensis* (Pimpernel), *Sonchus* (Sow Thistle), and Tares (*Vicia*), &c.—but also establish themselves on pastures and virgin ground, largely ousting the native flora. Such plants are the Gorse, *Ulex europæus*, Perennial Thistle, *Carduus arvensis*, Onion Grass, *Romulea cruciata*, Blackberry Bramble, *Rubus fruticosus*, Briar, *Rosa rubiginosa*, Ragwort, *Senecio Jacobæa*, St. John's Wort, *Hypericum perforatum*, Stinkwort, *Inula graveolens*, Boxthorn, *Lycium horridum*, Prickly Pear, *Opuntia monacantha*, and many others. The list of proclaimed plants of Victoria now includes no less than 42 species, of which only the Nut Grass, *Cyperus rotundus*, Chinese Scrub, *Cassinia arcuata*, the Mistletoes, *Loranthus celastroides* and *L. pendulus*, and the Prickly Acacia, *Acacia armata*, are native plants.

One striking peculiarity is to be noted—namely, that the introduced Pimpernel is ousting the two native Pimpernels, and the same applies in other cases also. Thus the native *Hypericum* is not particularly abundant, whereas the introduced *Hypericum*, or St. John's Wort, is spreading rapidly. The introduced Dodder, *Cuscuta epithimum*, L., seems to be more dangerous, especially to lucerne, than the native Didders; while the parasite *Cassytha* (Lauraceæ), sometimes mistaken for Dodder, hitherto has confined its attacks to native vegetation and left cultivated plants untouched.

One feature of the native flora is, as is usually the case, the small number of useful economic plants it contains. A few of the forest trees produce good timber, but the latter is, in many cases, too hard, heavy, and brittle when seasoned to be of much value, except for special purposes where durability is all-important and little working required; while the softer woods are for the most part not very

durable, or are very liable to warp and crack—at least under the methods of seasoning usually adopted here. It is for this reason that so much of the new forest planting has been confined to exotic trees; but, nevertheless, many native trees yield timber useful for beams, railway sleepers, piles, paving blocks, &c. Unfortunately, most of our native forests have been despoiled of their most valuable timber trees without any forethought to the future. The imports of timber into Victoria already reach a high figure, although a very large part is derived from timber trees which would grow equally well within the State. That there should be hardly any native fruits and no native cereal grains of any value as food for civilized man is hardly surprising when we consider that the commoner cereals and fruit trees are the result of ages of continual selection. Even the native fodder grasses and fodder plants are, with some notable exceptions, inferior in quality or objectionable on account of their armed fruits, inferior fertility, deficient nutritive properties, &c., and are being driven out by more suitable and adaptable introduced grasses.

All the Leguminosæ used as fodder (Clover, Trefoil, Vetch, Lucern, Sainfoin, Peas, &c.), are introduced, so that if we exclude the *Acacia*, with its wattle-bark, this important order contains hardly any native representatives of pronounced economic value. A large number of our native flowers would possibly be capable of great improvement under cultivation, and other native plants might be found to develop useful economic properties under selective treatment. The cultivated plants of the world are mainly the result of selective adaptations from the floras of Europe and Asia, and no one seeing the original wild mustard for the first time could have predicted, without long trial extending over generations, the series of useful cultivated plants (cabbage, cauliflower, rape, mustard, brocoli, Brussels sprouts, turnips, &c.) to which this one genus would give rise. If only such investigations are made before it is too late, although we may regret, on sentimental grounds, the shrinkage of the native flora and the probable ultimate extinction of many of its representatives, it can only be regarded as the inevitable result of the progress of settlement, while the spread of the different weeds of cultivation is the usual, though by no means an unavoidable, accompaniment of the same change.

The proper establishment of the National Park at Wilson's Promontory will render it possible to preserve many species which seem in danger of extinction—at least, until such time as their economic possibilities have been thoroughly ascertained; and it is sincerely to be trusted that none of our endemic species will be suffered to become absolutely extinct when a special harbor and sanctuary exists for them. A species once extinct cannot be revived by any means; and to allow plants to become extinct before all their economic possibilities have been thoroughly tested is a wanton wasting of the hidden treasures which Nature scatters lavishly around us.

PRINCIPAL EVENTS.

Principal events.

The following are the dates of some of the principal events which have occurred 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. 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.
- „ March 31st—Eleventh census of Victoria, and third simultaneous census of Australia and New Zealand.
- „ 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.
1903. 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.
- „ December 16th—Commonwealth elections. Female franchise exercised for the first time in Victoria.
1904. February 1st—The British Government decided on important changes in the British Army, including the establishment of an Army Council, on the lines of the Board of Admiralty.
- „ 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.
- „ April 8th—Signing of Convention adjusting foreign and colonial questions at issue between Great Britain and France.
1905. February 1st—Beginning of the poundage system in English mail contracts.
- „ April 25th—Royal Letters Patent for the Constitution of the Transvaal colony issued. There is to be a Legislative Assembly, to be re-elected every four years, the franchise being extended to every burgher of the late Boer Republic who was entitled to vote for its first Volksraad; and all white Britishers earning £100 per annum, or occupying a house with a rental of £10 per annum. Power of initiating taxation bills is withheld from the chamber. Members are to receive £2 per day during the session, but not more than £200 per annum. The House comprises the Lieutenant-Governor of the Transvaal, between six and nine official members, and between thirty and thirty-five elected members. The debates will be conducted in English, but, with the President's consent, the Dutch language may be used by members.

1905. May 16th—Agreement signed between the Butter Export Committee and the White Star, Lund, and Aberdeen lines of steamers, for the carriage of butter. The freight reduction effected by the contract is 50 per cent. on former rates, and the temperature of the butter in transit is not to exceed 20 deg.
- „ May 24th—Empire Day—first observation in Melbourne.
- „ August 12th—Treaty signed between Great Britain and Japan renewing, for ten years, the old treaty, and adding thereto.
- „ August 29th—Peace arranged between Japan and Russia.
- „ September 26th—Text of the English-Japanese treaty made public. The preamble states that the Governments have agreed upon articles having for their object:—First, the consolidation, maintenance, and general peace of the regions of Eastern Asia and India; second, the preservation of the common interests of all the powers in China, by ensuring the independence and integrity of the Chinese Empire, and the principle of equal opportunities in commerce and industry to all nations in China; third, the maintenance of the territorial rights of the high contracting parties, and the defence of their special interests, in the said regions.
- „ October 30th—Annexation under an Order-in-Council, of Town of North Melbourne and Borough of Flemington and Kensington, to City of Melbourne.
1906. January 1st—Importation of opium into Australia prohibited (other than for medical purposes).
- „ January 29th—Death of King Christian IX. of Denmark, father of the reigning Queen of England.
- „ February 9th—Government loan of £1,600,000, for the purpose of redeeming in part a loan falling due in London, floated with decided success in Melbourne.
- „ February 19th—Opening of the Imperial Parliament by His Majesty the King.
- „ February 22nd—Loss of the sailing vessel *Speke*, wrecked on Phillip Island.
- „ February 23rd—Tobacco Commission's report (a majority report) to Prime Minister. Nationalization of the tobacco industry favoured.
- „ March 14th—Death of Mr. G. S. Coppin, veteran actor, at the age of 86 years.
- „ March 18th—Death of Mr. Geo. Lansell, pioneer quartz miner of Bendigo, at the age of 83 years.
- „ March 19th—Mr. L. F. B. Cussen appointed to the Supreme Court Bench.
- „ April 18th—Great earthquake at San Francisco.
- „ April 23rd—Melbourne University jubilee celebrations commenced.
- „ April 29th—Census of New Zealand taken.
- „ June 10th—Death of the Right Hon. R. J. Seddon, Prime Minister of New Zealand.
- „ July 12th—Wireless telegraphy installed—Queenscliff (Victoria) to Devonport (Tasmania).
- „ September 1st—Papua Act came into operation by proclamation of the Governor-General.
- „ October 8th—Commonwealth free-trade instituted, by disappearance of the Western Australian special Tariff.
- „ October 12th—Hon. I. A. Isaacs, K.C., Attorney-General, and Hon. H. B. Higgins, K.C., appointed to the High Court Bench.

1906. November 1st—Strike in the building trade in Melbourne. About 1,000 men directly affected. The demand of the strikers was that 44 hours, instead of 48 hours, constitute a week's work at the current rate of wages. After being on strike for ten weeks, both sides agreed that the dispute should be submitted to Justice Cussen for arbitration, and he decided that the men should continue to work 48 hours per week, but receive an increase of wages.
- „ November 21st—Celebration of the first 50 years of Responsible Government in Victoria.
- „ November 30th—Conference of the Statisticians of the Australian States and New Zealand (with Mr. G. H. Knibbs, Commonwealth Statistician, president), convened for the purpose of securing uniformity in the compilation of statistical information, and of preventing overlapping between the Commonwealth and States.
- „ December 2nd—Judgment delivered by the Privy Council in *Webb v. Outtrim*, affirming the liability of members of the Commonwealth Public Service to pay State income tax.
- „ December 12th—Elections for the third Commonwealth Parliament held.
- „ December 12th—New constitution of the Transvaal Colony proclaimed.
1907. January 7th—Opening of the eleventh session of the Australasian Association for the Advancement of Science at Adelaide.
- „ January 14th—Earthquake in Jamaica, with terrible loss of life.
- „ January 19th—Cooktown (Queensland) wrecked by a hurricane.
- „ January 21st—Mr. Townsend MacDermott, "father of the bar" in Victoria, died at Ballarat, in the 89th year of his age.
- „ January 28th—Rev. Dr. John G. Paton, missionary of the Presbyterian Church, died at the age of 83.
- „ March 7th—Station and all cars destroyed by fire on the Brighton Electric Tramway line.
- „ March 13th—Buildings for Talbot Colony of Epileptics opened at Clayton by Lady Talbot.
- „ March 13th—Explosion on the French Battleship *Jena*, in Toulon Harbor, 118 deaths resulting.
- „ March 17th—The steamship *Suevic* wrecked on Lizard Head, coast of Cornwall, England. The passengers and crew were saved.
- „ March 26th—Opening of the Navigation Conference in London.
- „ April 15th—Opening of the Imperial Conference in London, at which the Commonwealth of Australia was represented by the Hon. Alfred Deakin, the Prime Minister, and the other self-governing British Dependencies by their respective Premiers. The results of the Conference were as follow:—The right to cancel the Naval Agreement was affirmed; the privilege of coining silver was conceded; favorable consideration was promised to schemes for facilitating cable and postal communication throughout the Empire; concessions were considered probable in regard to Suez Canal dues; and a secretariat was established to devote its time exclusively to Imperial affairs and to keep regular communication between Premiers.
- „ May 24th—Memorial to the late Queen Victoria unveiled in Alexandra-avenue.
- „ July 10th—Opening of telephone between Melbourne and Sydney.

1907. July 24th—Death of the Rev. John Watsford, first Australian to enter the Wesleyan ministry, aged 86.
- „ July 30th—Appointment of Mr. W. H. Moule to the County Court Bench, *vice* Judge Molesworth, deceased.
- „ July 30th—Resignation of Sir John Forrest, P.C., G.C.M.G., as Treasurer of the Federal Government.
- „ August 8th—New Tariff introduced into the Federal Parliament, providing generally for large protective increases in Customs duties.
- „ August 13th—Union Steam Navigation Company's steamer *Kawatiri* totally wrecked at Macquarie Heads, Tasmania, with a loss of six lives.
- „ August 14th—Colonel Stanley appointed State Military Commandant, *vice* Colonel Ricardo, deceased.
- „ August 14th—Allowances of members of the Federal Legislature increased from £400 to £600 per annum.
- „ September 17th—The committee of the Melbourne Hospital accept an offer of £100,000 by the trustees of the Edward Wilson Estate towards the erection of new hospital buildings.
- „ September 26th—The colony of New Zealand proclaimed a "Dominion."
- „ September 28th—Strike of bakers in Melbourne for an increase in wages from £2 10s. to £2 14s. per week. The request was eventually agreed to on the 2nd October.
- „ October 23rd—Opening of the First Australian Exhibition of Women's Work at the Exhibition Building, Melbourne.
- „ November 4th—Opening of a new Dental Hospital in Melbourne.
- „ November 13th—Coal strike in New South Wales—all the collieries in the Hunter River District remained idle till 21st November.
- „ November 30th—Wallach's Buildings, Elizabeth-street, Melbourne, destroyed by fire, the damage being estimated at £70,000.
- „ December 11th—Parliamentary Buildings, Wellington, New Zealand, destroyed by fire.
1908. January 1st—Commonwealth Meteorological Bureau opened.
- „ January 1st—Lieutenant Shackleton, with party, left Lyttelton, New Zealand, in the *Nimrod*, on an expedition to the South Polar regions.
- „ January 14th—Death of Mr. R. L. J. Ellery, C.M.G., Government Astronomer of Victoria for 42 years, aged 81.
- „ January 15th to 20th—Record stretch of hot weather, six days over 100 deg. in the shade.
- „ January 20th—Great fire at Newcastle (New South Wales), damages estimated at £150,000.
- „ February 1st—King of Portugal and Crown Prince assassinated at Lisbon.
- „ February 14th—Death of Mr. David Syme, proprietor of the *Age* newspaper, aged 81 years.
- „ March 1st—Death of the Marquis of Linlithgow, first Governor-General of the Commonwealth of Australia, at Pau, in the South of France.
- „ March 19th—Death of Mr. Howard Willoughby, a former editor of the *Argus* newspaper, aged 69 years.
- „ April 7th—Jubilee celebration of the Church of England Grammar School, Melbourne.
- „ April 8th—Mr. Asquith appointed to the position of Prime Minister in the Imperial Cabinet.

1908. April 20th—Disastrous railway accident at Braybrook Junction (Sunshine). A train from Bendigo ran into one leaving the Braybrook platform for Melbourne, 44 persons being killed, and 412 injured. Damages to the amount of £129,000 were awarded to the injured, and to the relatives of those killed.
- „ April 22nd—Death of Sir Henry Campbell-Bannerman, who, a few weeks previously, had resigned the position of Prime Minister of Great Britain.
- „ April 28th—Inter-State Conference of Premiers at State Parliament House, Melbourne.
- „ May 11th—Death of Mr. Chas. Cameron Kingston, first Minister of Trade and Customs in the Commonwealth Ministry.
- „ May 14th—Opening of the Franco-British Exhibition, in London, by the Prince of Wales.
- „ June 15th to 24th—Pan-Anglican Congress of the Church of England, held in London, when representatives (clerical and lay) from every diocese throughout the world assembled to discuss great questions bearing on the work of the church in all countries. The total offerings amounted to £333,208, which is to be devoted principally to missionary work.
- „ June 26th—Adverse decision by the High Court of Australia on the New Protection, by which the Commonwealth Parliament endeavoured to regulate the conditions of labour in the manufacture of agricultural machinery within the States.
- „ July 8th—Death of Sir Thomas Fitzgerald, C.B., the eminent surgeon, aged 70 years.
- „ July 24th—Strike of tramway employés at Sydney, New South Wales. The strike collapsed in six days, when the men resumed work.
- „ July 22nd—Tercentenary of Canada. Opening of the ceremonies connected with the three-hundredth anniversary of the landing of Samuel Champlain, French explorer, on the spot where Quebec now stands.
- „ July 27th—Arrival of Sir Thomas David Gibson Carmichael, Baronet, K.C.M.G., Governor-elect of the State.
- „ July 28th—Turkey having adopted a constitutional form of Government, the Sultan takes the oath of fidelity to the new constitution.
- „ August 29th.—Arrival of the United States fleet, composed of 16 battle-ships, in Hobson's Bay. The fleet, which was under the command of Admiral Sperry, remained one week in Victoria, and was received with great enthusiasm.
- „ September 9th.—Lord Dudley sworn in as Governor-General of Australia.
- „ November 3rd—Election of Mr. Taft as President of the United States.
- „ November 6th—Yass-Canberra, New South Wales, chosen by the Commonwealth Parliament, as the site for the Federal capital.
- „ November 10th—The Deakin Ministry defeated in the Commonwealth Parliament.
- „ November 13th—A Labour Ministry, with Mr. Fisher as Prime Minister, sworn in.
- „ November 14th—The *Falls of Halladale*, a four-masted barque, wrecked near Curdie's Inlet, Victoria, without loss of life.
- „ November 26th—Mr. G. H. Reid resigns the leadership of the Federal Opposition.
- „ December 7th—Dissolution of the State Legislative Assembly, and prorogation of Parliament.

1908. December 28th—Disastrous earthquake in Sicily, the coasts of Calabria and Eastern Sicily being devastated, and the City of Messina, and other smaller towns, almost obliterated. The deaths are estimated at over 200,000 persons.
- „ December 29th—General elections for the Legislative Assembly.
1909. January 1st—Old-age Pension Act came into force in the United Kingdom. Pensions are to be paid to all persons aged 70 years and upwards who have been British subjects for 20 years and have resided for that time in the United Kingdom, unless for any reason they are disqualified. The full amount of the pension is 5s. per week, and it is not payable to any person having an income of more than £31 10s. per annum.
- „ January 1st—Strike of miners at Broken Hill, New South Wales.
- „ January 5th—Pinnacle of H.M.S. *Encounter* run down in Sydney Harbour by steamer *Dunmore*. Fifteen bluejackets were drowned and many others injured.
- „ January 7th—State Parliament opened after the general election. A new Ministry formed under the Premiership of the Hon. John Murray.
- „ January 31st—The steamer *Clan Ronald*, wheat-laden, bound for South Africa from Port Adelaide, foundered in St. Vincent's Gulf, South Australia. Forty of the crew, including the captain, were drowned.
- „ February 4th—South African Constitution, providing for the federation of the various South African colonies, drafted by the National Convention.
- „ February 6th—The Commonwealth Government decided to proceed with the construction of two torpedo destroyers in Great Britain—the first instalment of an Australian navy.
- „ February 12th—The passenger steamer *Penguin* wrecked in Cook's Strait, New Zealand. Sixty of the passengers and crew were drowned.
- „ February 28th—Sailing ship *Forest Hall* wrecked off Cape Maria Van Diemen, New Zealand.
- „ March 4th—Mr. Taft inducted into office as President of the United States.
- „ March 5th—Premiers' Conference in Hobart, Tasmania. Representatives of States agreed among themselves on a scheme by which three-fifths of the total Customs revenue was to be returned to the States annually, with a minimum of £6,750,000.
- „ March 12th—Mr. Justice Higgins, President of the Arbitration Court, decided that the first condition in the settlement of the Broken Hill strike should be that a living wage be secured to the employes, this being fixed at 8s. 7½d. per day for unskilled, and 10s. per day for skilled labour.
- „ March 14th—Death of W. C. Kermot, M.A., Professor of Engineering at the Melbourne University, aged 63 years.
- „ March 21st—The New Zealand Government offered to present a Dreadnought to Great Britain.
- „ March 24th—Departure of Sir Harry Rawson, Governor of New South Wales, from that State.
- „ March 25th—The *Nimrod* returned to New Zealand from Antarctic regions. Sir Ernest Shackleton and three members of his party reached 88 deg. 23 min. south latitude, or a point within 112 miles of the South Pole, on 7th January, 1909, thus beating the best previous record by 400 miles. Professor David and two other members of the expedition reached the magnetic pole. Coal and large deposits of limestone were found as far south as 85 degrees.

1909. March 27th.—Death at Brighton, Victoria, at the age of 93 years, of R. H. Budd, one of the leading educationists in the State.
- „ April 6th.—Commander Peary, of the United States Navy, reached the North Pole.
- „ April 18th.—Death, at Sydney, of Dr. Saumarez Smith, Anglican Primate of Australia, at the age of 73 years.
- „ April 23rd.—The Commonwealth High Court decided that Mr. Justice Higgins had in some matters exceeded his jurisdiction in the Broken Hill labour dispute. It was held that the Arbitration Court was prohibited from proceeding to enforce its award in so far as the conditions relating to hours of work and overtime were more favorable to the employés at Port Pirie than those recognised before 31st December, 1908; also in so far as a limitation was placed on the setting of contracts. Partial resumption of work followed on this decision.
- „ April 27th.—Insurrection in Turkey. Deposition of the Sultan Abdul Hamid, and appointment of his successor Mohammed V.
- „ April 28th.—Death of Janet Lady Clarke.
- „ April 29th.—Death of Mr. Wm. H. Archer, ex-Secretary for Lands and Registrar-General, aged 85 years.
- „ May 11th.—New Victorian $3\frac{1}{2}$ per cent. loan of £1,500,000, with a minimum price fixed at 98, subscribed twice over in London.
- „ May 18th.—Death of George Meredith, novelist and poet, at the age of 81 years.
- „ May 19th.—Death in the Ballarat Benevolent Asylum of Francis Webster, one of the discoverers of the famous Welcome Nugget.
- „ May 23rd.—Collapse of the Broken Hill strike; miners return to work under the terms laid down by the Federal Arbitration Court, and limited by the High Court.
- „ May 26th.—“Fusion” party formed in Federal Parliament under the leadership of the Hon. A. Deakin.
- „ May 27th.—Defeat of the Fisher Ministry in the House of Representatives.
- „ May 28th.—Lord Chelmsford, Governor-elect of New South Wales, landed in Sydney.
- „ May 31st.—Death of the Hon. Thos. Price, Premier of South Australia, aged 57 years.
- „ June 3rd.—The Commonwealth Government offered a Dreadnought to Great Britain.
- „ June 7th.—Imperial Press Conference opened in London. It was attended by representatives of the principal newspapers in the British Dominions.
- „ July 23rd.—Sir Frederick Holder, Speaker of the House of Representatives, died suddenly at Parliament House.
- „ July 25th.—Bleriot succeeded in flying from France to England in his monoplane.
- „ July 26th.—The steamer *Waratah*, which left Melbourne on 1st July, for London, *via* Durban and Capetown, with 300 passengers and crew on board, sailed from Durban on this day, and has not been heard of since.
- „ July 28th.—Imperial Defence Conference opened in London; Colonel Foxton, Honorary Minister, Captain Creswell, Naval Director, and Colonel Bridges, Chief of Intelligence, represented the Commonwealth of Australia.

1909. August 13th.—Conference of Commonwealth Ministers and State Premiers *re* the financial relations of the Commonwealth and States opened in Melbourne. A scheme was adopted under which the Commonwealth was to pay to the States annually 25s. per head of population. In addition to this sum, Western Australia was to receive special annual payments commencing at £250,000 in 1910-11, and diminishing at the rate of £10,000 per annum, one half to be contributed by the Commonwealth, and the balance by the States on a *per Capita* basis. A sum not exceeding £600,000 was to be withheld by the Commonwealth from the moneys returnable to the States to provide for a deficiency in the Commonwealth finances for 1909-10.
- „ August 19th.—Railway accident at McCallum's Creek, between Clunes and Talbot. Train wrecked on a bridge which had been partly swept away by flood waters. Six trucks were destroyed, but no lives were lost.
- „ August 19-20th.—General floods throughout the country.
- „ September 12th.—Halley's comet discovered by Professor Wolf, of Heidelberg Observatory, Germany.
- „ September 14th.—Opening of the Seventh Congress of Chambers of Commerce in Sydney, under the presidency of Sir A. Spicer.
- „ September 17th.—Death of Sir Thos. Bent, at Brighton, aged 70 years.
- „ September 21st.—Defence Bill introduced in Commonwealth Parliament.
- „ October 8th.—Death of Miss Sutherland, philanthropist.
- „ October 23rd.—First order for new Australian silver coinage (£200,000) sent to British Mint by the Federal Treasurer, Sir John Forrest.
- „ October 26th.—Murder of Prince Ito, the distinguished Japanese statesman, in Korea.
- „ November 8th.—Strike of New South Wales coal miners commenced.
- „ Noyember 12th.—Third reading of the financial agreement, proposed by the Premiers' Conference in August, was carried in the House of Representatives.
- „ November 21st.—Violent storm throughout Victoria. Telegraphic and telephonic communication interrupted.
- „ November 30th.—House of Lords rejected Budget of Liberal Government by 350 votes to 75.
- „ December 4th.—Bowling, Brennan, and Burns, leaders of the strike of New South Wales coal miners, arrested by order of New South Wales Government.
- „ December 6th.—Grey and Lewis, two other leaders, also arrested.
- „ December 8th.—Order placed with British Admiralty for Commonwealth first-class cruiser.
- „ December 10th.—Queensland University opened in Government House Buildings.
- „ December 11th.—Death of Alderman C. J. Ham, old colonist, aged 73.
- „ December 15th.—Right Hon. Sir George Reid, P.C., accepted the position of High Commissioner for the Commonwealth, in London.
- „ December 17th.—Death of King Leopold of Belgium.
- „ December 20th.—Disastrous fire at Williamstown; all houses in one street burnt down. Damage estimated at £12,000.
- „ December 21st.—Lord Kitchener arrived at Port Darwin to commence a tour of inspection of the Australian military forces.